

InsightSSI™

Solid State Illumination

High Performance Light Technology

Solid state illumination utilizes several light source technologies for optimal performance:

- Increased power across all wavelengths results in decreased exposure times
- Uniform illumination across the channel with no spectral drift improves illumination consistency and experiment repeatability
- Discrete channels of illumination eliminates UV leakage and dramatically increases cell viability

Flexible Wavelength Options

Available in three different options to meet your most complex imaging needs:

- 4 Color Standard unit
- 4 Color Fluorescent Protein unit
- 7 Color Combined unit for the ultimate flexibility

Related Products: Live Cell Speed Option
Environmental Chamber

Faster Performance

Electronic control of the *InsightSSI* enhances operation on three levels:

- Instant on/off mechanism eliminates downtime spent waiting for bulbs and lasers to stabilize
- Microsecond switching between wavelengths for rapid multicolor sequential imaging to capture events faster
- Novel electronic shuttering eliminates stray light leakage that decreases cell viability



Acquisition Speeds

The *InsightSSI* collects images almost twice as fast as an arc lamp by eliminating mechanical shutters. Images were collected using an arc lamp with a mechanical shutter and the *InsightSSI*.

Acquisition Speed (frames per second)

	Arc Lamp		<i>InsightSSI</i>	
	512 x 512	256 x 256	512 x 512	256 x 256
Single Channel	8.9	14.5	15.6	24.5

Based on 5 msec exposure times, Single Z plane, CoolSnapHQ2








The Live Cell Speed Option uses a dual-band pass emission filter to eliminate all motorized parts for the fastest DeltaVision imaging ever.

Acquisition Speed (frames per second)

	Arc Lamp		<i>InsightSSI</i> Live Cell Speed Option	
	512 x 512	256 x 256	512 x 512	256 x 256
Two Color Imaging Rate	4.2	5.1	15.1	23.1

Based on 5 msec exposure times, Single Z plane, CoolSnapHQ2





7 Color Combined Set

Wavelengths (nm)	Fluorescent Proteins	Suggested Fluorophores
 381-399	BFP	DAPI, Hoechst, Alexa Fluor® 350, Dylight™ 350, CF® 350, Cascade Blue, Lucifer Yellow, AMCA, CellTracker® Blue, all Qdot® nanocrystals
 426-450	CFP	Pacific Blue™
 461-489	GFP, EGFP	FITC, Alexa Fluor® 488, Dylight™ 488, CF® 488, Oregon Green 488, Calcium Green, Fluo-3, Fluo-4, CellTracker® Green, Rhodamine 123, MitoTracker® Green, LysoTracker® Green
 505-515	YFP	Alexa Fluor® 532
 529-556	OFP, RFP, DsRed	TRITC, Cy3®, Alexa Fluor® 546, Alexa Fluor® 555, Alexa Fluor® 568, Dylight™ 549, CF® 555, MitoTracker® Orange
 563-588	mCherry	Alexa Fluor® 568, Alexa Fluor® 594, Dylight™ 594, Mitotracker® Orange, Mitotracker® Red, LysoTracker® Red, CellTracker® Red, CellTracker® Red
 621-643		Cy5®, Cy5.5, APC, Alexa Fluor® 647, Alexa Fluor® 635, Alexa Fluor® 660, Dylight™ 633, Dylight™ 649, CF® 633, CF® 647, MitoTracker® Deep Red

4 Color Standard Set

Wavelengths (nm)	Suggested Fluorophores
 381-399	DAPI, Hoechst, Alexa Fluor® 350, Dylight™ 350, CF® 350, Cascade Blue, Lucifer Yellow, AMCA, CellTracker® Blue, all Qdot® nanocrystals
 461-489	FITC, Alexa Fluor® 488, Dylight™ 488, CF® 488, Oregon Green 488, Calcium Green, Fluo-3, Fluo-4, CellTracker® Green, Rhodamine 123, MitoTracker® Green, LysoTracker® Green
 529-556	TRITC, Cy3®, Alexa Fluor® 546, Alexa Fluor® 555, Alexa Fluor® 568, Dylight™ 549, CF 555, MitoTracker® Orange
 621-643	Cy5®, Cy5.5, APC, Alexa Fluor® 647, Alexa Fluor® 635, Alexa Fluor® 660, Dylight™ 633, Dylight™ 649, CF® 633, CF® 647, MitoTracker® Deep Red

4 Color Fluorescent Protein Set

Wavelengths (nm)	Fluorescent Proteins	Suggested Fluorophores
 426-450	CFP	Pacific Blue™
 461-489	GFP, EGFP	FITC, Alexa Fluor® 488, Dylight™ 488, CF® 488, Oregon Green 488, Calcium Green, Fluo-3, Fluo-4, CellTracker® Green, Rhodamine 123, MitoTracker® Green, LysoTracker® Green
 505-515	YFP	Alexa Fluor® 532
 563-588	mCherry	Alexa Fluor® 568, Alexa Fluor® 594, Dylight™ 594, Mitotracker® Orange, Mitotracker® Red, LysoTracker® Red, CellTracker® Red, CellTracker® Red

Power Chart

Wavelengths (nm)	Average Power (mW)
381-399	55
426-450	85
461-489	54
505-515	22
529-556	85
563-588	89
621-643	48