Celldiscoverer 7 – automated widefield system

Technical Specifications

- Zeiss Celldiscoverer 7 automated widefield microscope with environmental control, automated lens correction, autofocussing and active focus stabilization.
  - Zeiss Axiocam 506 ccd camera, 14 bit, 1920x1404 pixels, 4.54 micron pixels
  - Zeiss Axiocam 702 cmos camera, 14 bit, 1920x1216 pixles, 5.86 micron pixels
- Suitable for plate, dish, slide scanning and long term imaging.
- Novel phase gradient contrast adapts to vessel characteristics and uses Transmitted light IR LED.
- Autocorrect lenses adapt for vessel thickness and additional magnifiers (0.5x, 1x, 2x) extend range of magnifications to 2.5-100x.
- LED modules and multi-band filter cubes for 385, 420, 470, 520, 567, 590 and 625nm excitation.
- Scanning stage for multi-position acquisition and tiled imaging.
- Automated water dispenser for 50x immersion objective.
- Holders for multi-well plates, 6x 35mm dishes, 60mm dish, 2 standard slides or 2xLabTek chamber slides
- Motorised Z-drive for stack acquisition suitable for deconvolution.

Filters for visual inspection

	Excitation lines	Dichroic mirror	Emission filter
90HE	385/470/555/625	RQBS 405/493/575/653	QBP 425/30, 514/30, 592/25, 709/100
91HE	420/520/590nm	RTBS 450/538/610nm	TBP 467/24, 555/25, 687/145nm
92HE	385/470/590nm	RTBS 405/493/610nm	TBP 425/30, 524/50, 687/145nm
93HE	470/555nm	RDBS 493/575nm	TBP 514/32, 605/50, 730/60nm (3rd NIR EM for transmitted light)

Lenses

Lens	Numerical aperture at 1x	Other mags with mag changer	Dry/ imm	Phase gradient contrast	Working distance in water (mm)	Axiocam 506 pixel width in microns at 1x binning and 1x mag changer	Axiocam 702 pixel width in microns at 1x binning and 1x mag changer
5x	0.25	2.5x (0.12NA) 10x (0.35NA)	Dry	Yes	~ 5mm	0.916	1.183
20x	0.7	10x (0.35 NA) 40x (0.7 NA)	Dry	Yes	1.33 (0.17mm base) 0.4 (1mm base)	0.239	0.307
20x	0.8	10x (0.5 NA) 40x (0.95 NA)	Dry	Yes	0.4 (0.17mm base)	0.239	0.307
50x	1.2	25x (1.2 NA) 100x (1.2 NA)	Water	Yes	0.4 (0.17mm base)	0.091	0.117