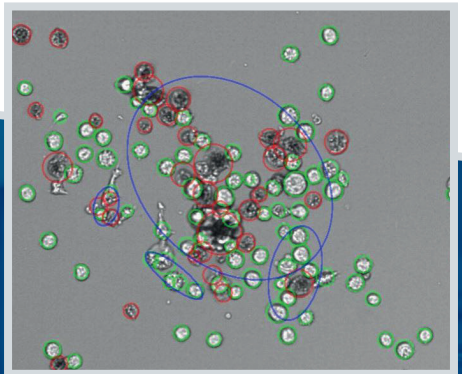
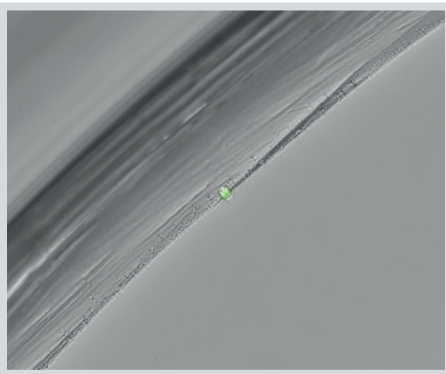


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TECHNICAL INFORMATION
4K LINE



CELLAVISTA

NYONE

CELLAVISTA® & NYONE®

Technical Specifications

Technical Specifications					
Imager		CELLAVISTA 4K		NYONE 4K	
Version		Basic	Highend	Basic	Highend
Illumination	Brightfield (LED 50.000 hour life time)	✓	✓	✓	✓
	max. 6 fluorescence channels	-	✓	-	Opt.
	max. 4 fluorescence channels	-	-	Opt.	✓
Resolution	2x (NA 0.08, Resolution ~ 3.3 µm ppx)	Opt.	Opt.	Opt.	Opt.
	4x (NA 0.2, Resolution ~ 1.3 µm ppx)	✓	✓	Opt.	✓
	10x (NA 0.3, Resolution ~ 0.9 µm ppx)	✓	✓	✓	✓
	20x (NA 0.5, Resolution ~ 0.53 µm ppx)	Opt.	Opt.	Opt.	✓
	40x (NA 0.75, Resolution ~ 0.35 µm ppx)	Opt.	Opt.	Opt.	Opt.
	Upgrade possible	✓	-	-	-
	Alternative objective lenses				
	10x (NA 0.45, Resolution ~ 0.59 µm ppx)				
	20x (NA 0.75, Resolution ~ 0.35 µm ppx)				
	extensive Nikon lens selection available				
Method of measurement	Digital image recognition				
Culture system	Microwell plates (SBS formats 6, 12, 24, 48, 96 and 384), Microscope slides and Culture dishes				
Camera	Type	Progressive Scan CMOS			
	Pixel density	5440 x 5440		4496 x 4496	
	Resolution	29.6 MP		20.2 MP	
	Pixel size	3.2 x 3.2 µm		2.74 x 2.74 µm	
	Full well (saturation) capacity	~ 9.3 ke- (1x1)			
	Dark noise	1.9 e-		2.1 e-	
	Dynamic range	65.4 dB		70.8 dB	
	Quantum efficiency	~57 %		~66 %	
	Digital output	8 bit			
	Pixel output	Mono			
	Refresh rate	15 fps		18 fps	
	Measurement time	96-well, full well scan, brightfield, 4x objective	2 minutes		4 minutes
384-well, full well scan, brightfield, 4x objective		3 minutes		6.5 minutes	
Operating temperature	20°C - 28°C (68°F - 84.4°F)				
Operating humidity	50 - 85 % relative humidity (Non-considering)				
Dimensions (height/width/depth)		407 / 625 / 530 [mm]		350 / 310 / 620 [mm]	
Weight		61 kg (134 lbs)		35 kg (77 lbs)	
Energy requirements	100 - 240 V AC, 50 - 60 Hz, 295 W maximum				

CELLAVISTA® & NYONE®

Image Capabilities

Imaging Capabilities

4K	CELLAVISTA 4K Basic	CELLAVISTA 4K HighEnd	NYONE 4K BF	NYONE 4K FL	NYONE 4K HighEnd
Whole well imaging	Yes	Yes		Yes	Yes Yes
Illumination/ Fluorescence	White light	White light and 6 fluorescence excitation/ emission channels	White light	White light 4, (4) fluorescence excitation sources, up to 6 fluorescence emission channels	White light 3, (4) fluorescence excitation sources, up to 6 fluorescence emission channels
External Barcode Reader	Option	Option	Option	Option	Option
API (Plate Stacker)	Yes	Yes	Yes	Yes	Yes
Batch Processing	Option	Option	Option	Option	Option
Autofocus System	1000 fps	1000 fps	500 fps	500 fps	500 fps
Illumination System	Electronically switched	Electronically switched	Electronically switched	Electronically switched	Electronically switched
Special Features	<ul style="list-style-type: none"> Improved harmonic motion for imaging without agitation during plate scan Ultrafast multiplex imaging Redesigned highly sensitive fluorescence optics HCS-grade lenses 3 times more sensitive: shorter exposure times, faster measurements (high throughput), less bleaching Autofocus performance twice as fast as CELLAVISTA RS 				
	<ul style="list-style-type: none"> Laser autofocus system Image analysis during measurement Combination of brightfield and fluorescence analysis Automation friendly design 				

SYNENTEC High Throughput Systems

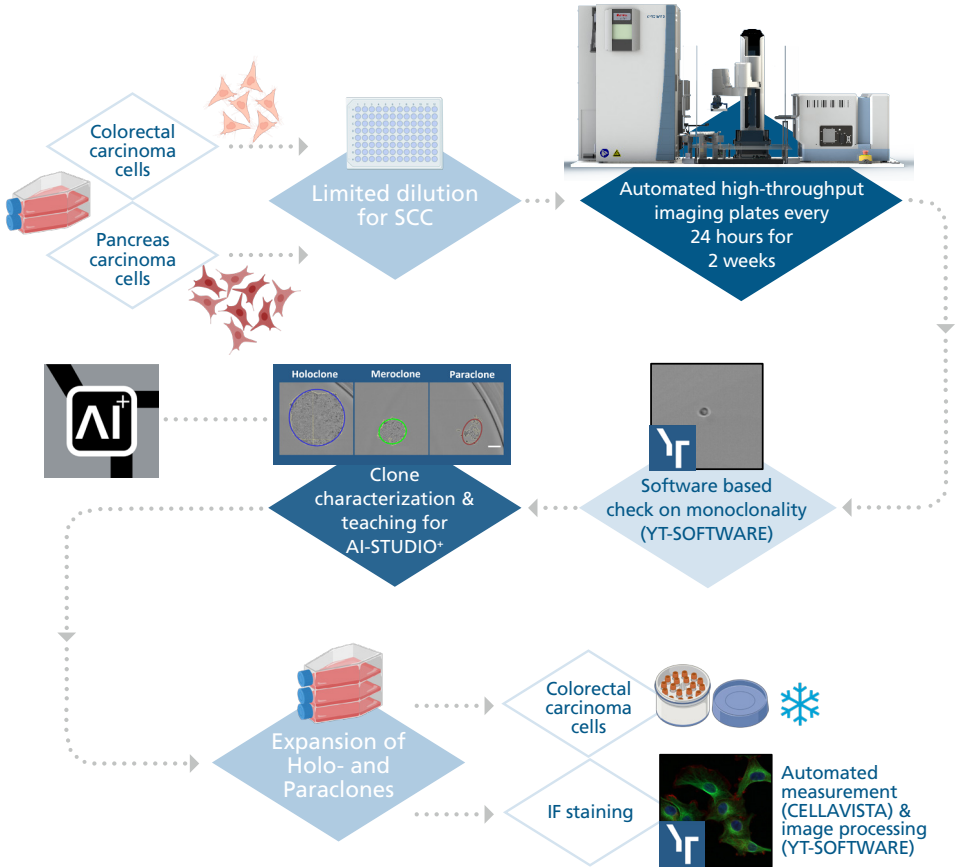
Automation and Batch Processing Features

	Automation Server	Batch Processing Server	Batch Processing Client
		Optional high performance PC	
General purpose	Automated measurements using third party software	High performance image processing and exporting increasing throughput of automation	Control module of batch processing server
Interface (Protocol)	IP-Address/ Port	IP-Address/ Port	IP-Address/ Port
Connection	GigE	GigE	GigE
Features	<ul style="list-style-type: none"> • Measurements • Image processing • Exporting 	<ul style="list-style-type: none"> • Parallel processing of measurements • Live Folder • Automation client • Reprocessing of old experiments • Updating IP-settings • Processing of third party images 	<ul style="list-style-type: none"> • Detailed control of Batch processing server • Reprocess • Export • Process and export • General setup • Remote control of CELLAVISTA & NYONE



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Example Assay setup for Automation



SYNENTEC High Throughput Systems

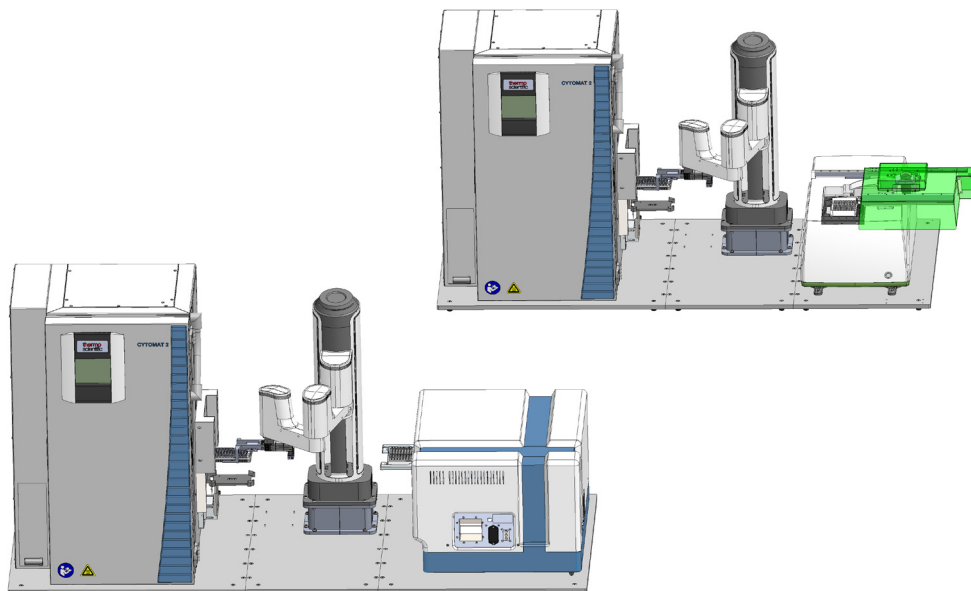
Plate Handler Capabilities - SYBOT-1000

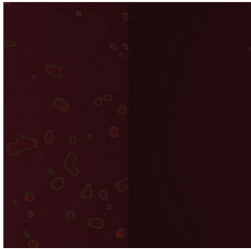
Integrated in YT-Software

(Run-) Campaigns

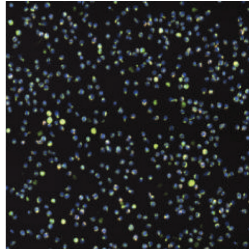
Date handling and evaluation of multiple plates

Capacity	42 plates
Handling time	30 seconds
Compatible Systems	CELLAVISTA & NYONE
Racks	2 racks in Cytomat 2 C-LiN (exchangeable)
Supported carries	SBS format plates, lidded plate supported
Assays	All applications

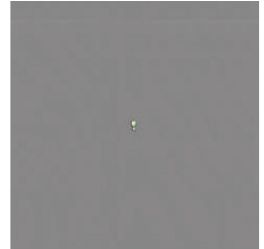




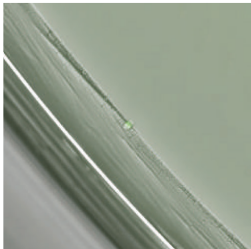
Antibody Binding



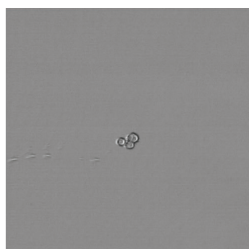
Apoptosis



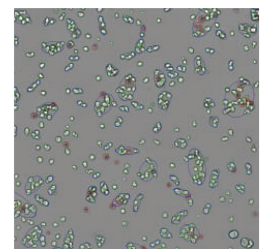
CRISPR/Cas9



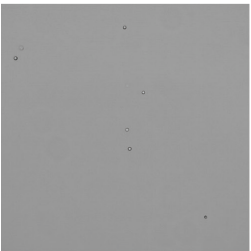
FASCC



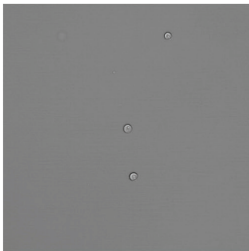
Single Cell Cloning



Trypan Blue Viability



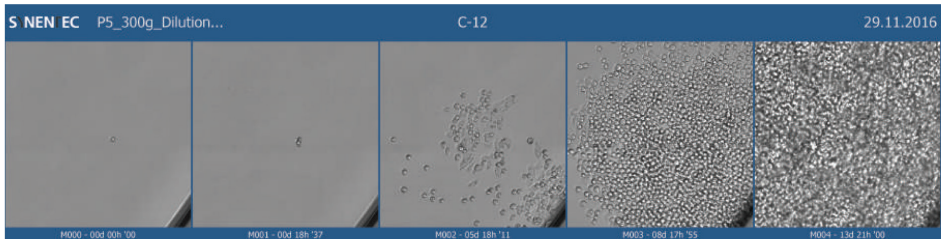
4x @ 1.3 µm/px



10x @ 0.9 µm/px



20x @ 0.53 µm/px



Clone Gallery

- CRISPR/Cas9 Gene Editing
- Single Cell Cloning (SCC/ FASCC)
- mAb-Aggregate Screening (mAbregation-Kit®)
- Nuclei Count/ Organell Characterization
- CD-Antigens
- iPS-Cell Detection
- Toxicity Studies
- Trypan Blue Viability (Trypan Blue-Kit®)
- Apoptosis Monitoring
- ICC (Multiplex Imaging)
- Transfection Efficiency
- FASC Seeding Control
- IgG (Fc/Fab) Quantitation (PAIA-Assay®)
- Total Well Intensity
- Wound Healing
- Suspension Cell Count
- Confluence
- FISH Imaging

