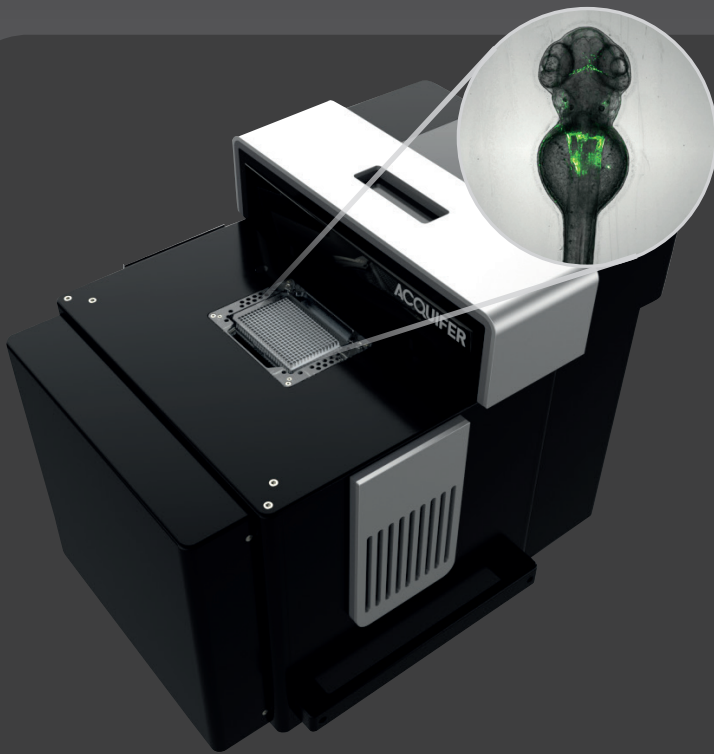


Imaging Machine

High Content Screening Tool with Enhanced Precision and Reproducibility



- Ultimate Reproducibility with production line engineering
- Fixed sample mounting for imaging non-adherent samples
- Fast Imaging Speed for X,Y,Z and multichannel
- LED Illumination with 6 channel light hub
- Precise Control of position, illumination and environment

Designed specifically for imaging specimens sensitive to movement, Imaging Machine incorporates a fixed sample holder and moving optical unit to avoid sample perturbation, shear stress or distortion. Bright illumination is provided through an LED hub allowing fast widefield imaging of up to six channels of epifluorescence alongside brightfield.

The optical unit moves in X, Y and Z with high precision, high speed and high reproducibility. All functions, including light intensity, are fully encoded.

Temperature can be controlled from below ambient to the 40 °C range – cooling and heating is designed to ensure minimal gradients across the plate. An optional gas controller is available too.

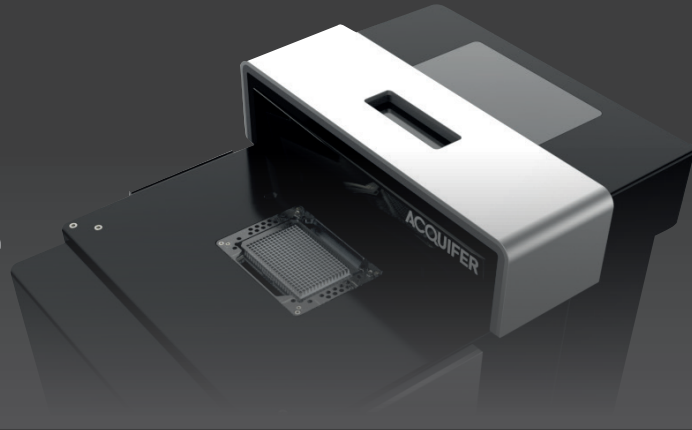
The unique and standardized hardware configuration allows you to easily obtain reproducible image data on several machines without concerns about major recalibration.

Originally developed with specific specimen types in mind, the easy-to-use machine control and assay configuration allows for a large variety of specimens to be imaged including:

- Zebrafish
- Spheroids
- Stem cells
- Drosophila
- Organoids
- Cell monolayers
- Yeast

Imaging Machine

Technical Specifications



Production Engineered Hardware Design

- Friction free linear motor technology providing maximal precision and reliability
- XY-optics movement with ≈ 1 nm absolute encoder resolution / ± 1 μ m repeatability
- Precision Z-focus with long range 30 mm z-travel / 80 nm repeatability

Integrated Benchtop System Design

- No manual controls at the device, preventing unwanted changes
- Fully controlled via a single user-friendly ACQUIFER Imaging Application

Advanced Hardware Control

- Embedded real-time controller to ensure lag free operation and performance optimized experiments

Objectives

- Up to 4 objectives selected from:

Objective	Mag	N.A	W.D
CFI P-Achromat UW 2X	2x	0.06	7.5
CFI Plan Fluor 4X	4x	0.13	17.2
CFI Plan Fluor 10X	10x	0.3	16.0
CFI S P-Fluor ELWD 20xC	20x	0.45	8.2 - 6.9
CFI S P-Fluor ELWD 40xC	40x	0.6	3.6 - 2.8

Illumination

- Maintenance and adjustment free LED fluorescence light source with up to 6 channels selected from:

385 nm, 1000 mW (DAPI)	505 nm, 200 mW (YFP)
405 nm, 500 mW (DAPI)	505 - 600 nm, 800 mW (for TRITC)
425 nm, 500 mW (CFP)	595 nm, 250 mW (mCherry)
470 nm, 400 mW (GFP)	625 nm, 500 mW (Cy5 und Alexa 647)

- Lifetime: 16000 h with temperature stabilized environment for spectral stability
- Brightfield LED array for transmitted illumination

Proprietary Autofocus^{plus} Technology

- Software autofocus
- Infrared hardware autofocus
- Custom software autofocus for yeast assays

Sample Centered Approach

- Optimal imaging conditions for sensitive specimens and long term observations
- Static stage, no forces applied to sample due to movements – built for non-adherent samples
- Unblock optical design moves to your sample while your sample remains stationary
- Incubation option for environmental control (active element 20 - 40 °C) $\pm 0,2$ °C homogeneity over whole plate and over time

ACQUIFER Remote Desktop (LoQin)

- Remote Access User Interface to setup and control experiments

Open Source Ready

- Remote control via many open-source and third-party software packages

Smart Imaging

- Imaging workflow control based on "On-the-Fly" decisions

Added Flexibility

- Robot-ready with motorized lid
- Gas (CO₂) handling via external (third party) modules

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