CLEVER CULTURE SYSTEMS

Automated environmental monitoring culture plate reading powered by A.I.

APAS INDEPENDENCE

Validated. Reliable. Scalable.

Artificial intelligence by microbiologists for microbiologists

The APAS® Independence is an automated instrument for imaging, analysis and interpretation of microbiology culture plates used in environmental monitoring. The cutting-edge instrument utilises advanced imaging and sophisticated artificial intelligence algorithms to identify and count microbial growth on culture media.

The APAS Independence supports your contamination control strategy, providing a greater level of consistency, traceability and data integrity to your environmental monitoring workflow.
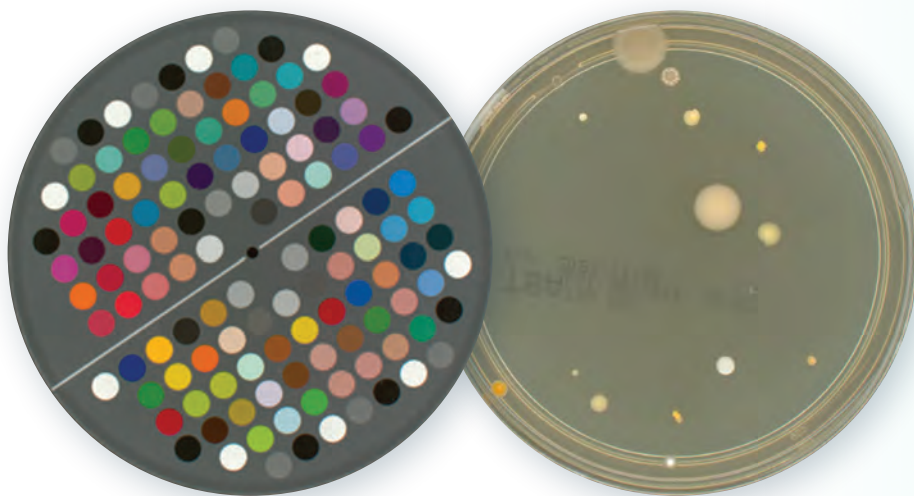
Cutting edge technology

- Uniform lighting creates images representing plate-in-hand

- Plate handling to minimise interference from image acquisition

- Every image checked for integrity enables consistent analysis for each plate

- Simple daily QC checks ensures system image chain remains within specification

- Artificial intelligence developed following proven machine learning processes

- The outcome is high-quality reproducible images suitable for AI image analysis and long-term storage

Challenges in environmental monitoring

Microbial quality control is an essential activity for monitoring critical production environments where sterility is required.

Contamination control processes generate a large volume of environmental monitoring data that must be reviewed and interpreted by skilled microbiologists.

Data integrity
Manual counting and recording processes subject to human error.

Operational inefficiency
Critical time spent performing repetitive labour-intensive tasks.

Variable results
Interpretation inconsistencies between microbiologists.

Time consuming
High volume of samples with no microbial growth (over 95%).

High regulatory requirements
Contamination control strategy and Annex I requirements.

Validation burden
Hurdles to implement new technologies and processes within controlled environments.

APAS environmental monitoring workflow

Environmental monitoring →

Incubation →

No growth — **Auto-validated reported to LIMS**

Bacteria or moulds present — **APAS count sent for review**

What does APAS Independence do for your lab?

Greater standardisation of results
Removes microbiologist variability and subjectivity of results.

Increased data integrity
Audit trail, digital record of results and plate images available for review.

Rapid high-throughput system
Minimal user interaction to read 200 plates/hour.

Integrated automation
Reports directly to laboratory information system to remove transcription errors.

No proprietary media
Compatible with all major media suppliers.

Flexible system
Instrument supports 90mm and contact plates.

Cost effective
Efficiently removes no growth plates from the workflow.

Improved staff satisfaction
Allows staff to focus on greater value add tasks within the laboratory.

QC proportion in-built
Configurable percentage of plates selected randomly for review.

Simple validation
Aligns with existing processes for environmental monitoring (no change to media used, incubation, etc).

Implementation and support

Installation
Simple on-site installation including IQ and OQ. Instrument has a small footprint, is on wheels and only requires a standard power and ethernet connection to run.

Training
User training performed in half a day, with detailed advanced user training available for supervisors.

Validation package
Primary validation methodology, data and support available to streamline your validation processes.

Maintenance
Minimal daily and weekly maintenance schedule. One preventative maintenance visit required per year.

Input
240 plate capacity

Output
Real-time sorting

Configurable stacks for positive stacks

Negative "No growth" plates released

High-throughput
200 plates per hour

Field support
Clever Culture Systems has developed a network of experienced and customer focused support engineers on both the software and the hardware aspects of the APAS Independence instrument to ensure quick, reliable, and effective field support.

Making a real difference in microbiology

Clever Culture Systems is a leader in microbiology technology driven by artificial intelligence, delivering modular automation solutions that maximise laboratory efficiency.

Our technologies are designed by microbiologists for microbiologists to ensure our products not only meet the needs of the laboratory but also seamlessly integrate within our customer's workflow. Our team are highly experienced in laboratory automation, diagnostics and microbiology.

Leveraging our history in clinical microbiology, where we have multiple global regulatory clearances (FDA, CE Mark, TGA) and more than 25 publications in leading academic journals, we have adopted the same robust scientific approach for environmental monitoring plate reading. We understand the importance of each result, and therefore follow our validated design and development process using proven machine learning processes.

For scientific information on the performance of the APAS technology visit our scientific library.

Clever Culture Systems is an LBT Innovations company.
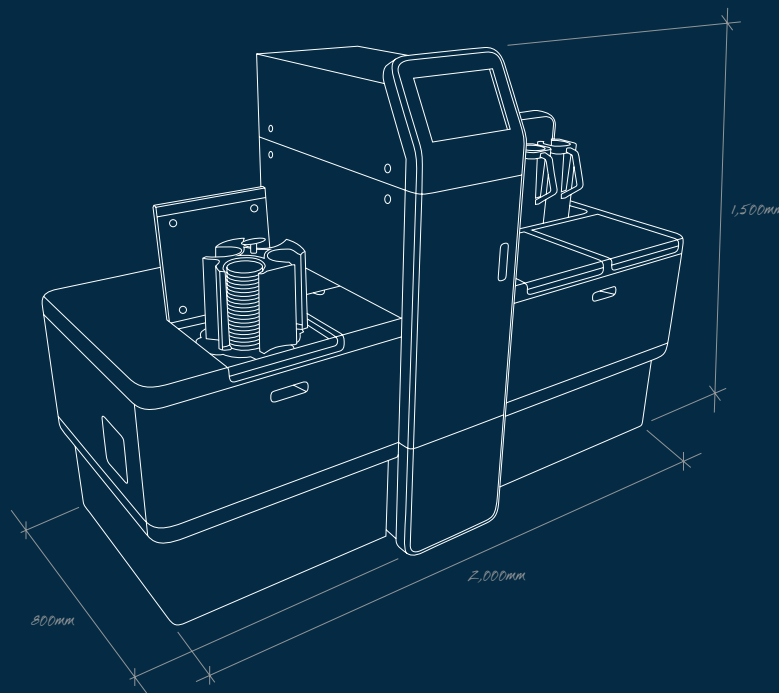
LBT INNOVATIONS

Physical Specification

General Description	APAS Independence is an Automated Culture Plate Reader	
Throughput	Up to 200 plates per hour	
Input Stack	4 cassettes / 60 plates per cassette	
Plate Compatibility	Full plates/bi-plates	
Dimensions (L x W x H)	2000mm x 800mm x 1600mm	78.74" x 31.5" x 62.99"
Configuration	Freestanding	
LIS Interface	HL7 Version 2	
Weight	330kg	727.5lb
Operating Environment	Ambient temperature range	15°C–27°C	59°F-81°F
	Humidity: 20%-80% (non-condensing indoor use)	
	Altitude: Sea level to 2000m	6562ft
Noise Specifications Noise level shall not exceed:	Continuous: 58dBA at 1m	3.3ft
	Peaks: 70dBA at 1m	3.3ft
Electrical Input	90-240V AC, 50-60Hz, 6 Amps	
Warranty	12 months from date of commissioning	

Compliant with the following standards ISO 13485:2003, IEC 62304: 2006, UL 61010-1: 2004; 3rd edition, 2002/96/EC, 2011/65/EU.