



CLEVER CULTURE  
SYSTEMS

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

**APAS** INDEPENDENCE

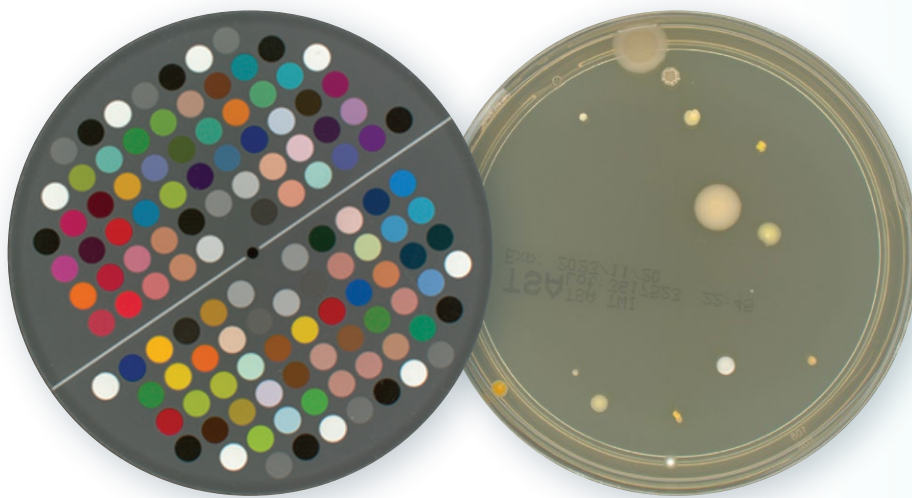
*Validated. Reliable. Scalable.*



# 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.



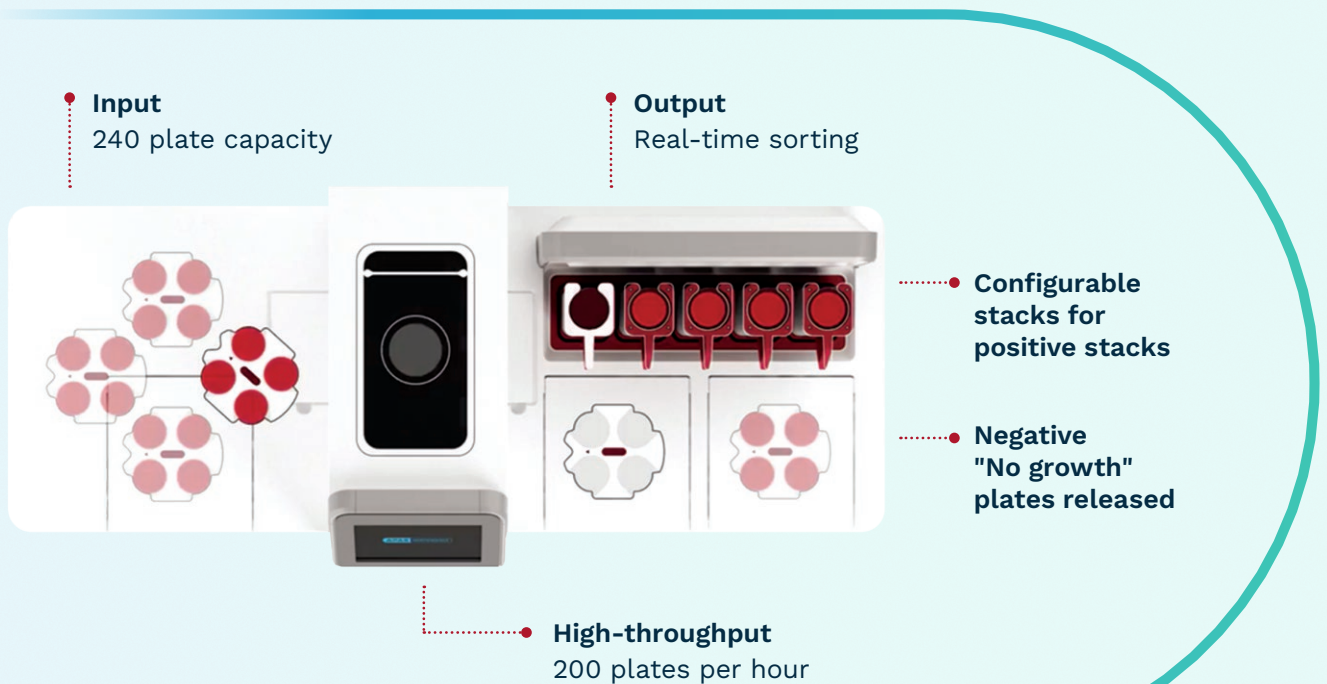
## Validation package

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.



## 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

**Contact us to find your local distributor.**

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[cleverculturesystems.com](http://cleverculturesystems.com)

## 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.

