



Transforming microbiology. Improving laboratory outcomes.

BD Kiestra™ ReadA and Imaging Applications.
Standardise incubation, imaging and result interpretation.

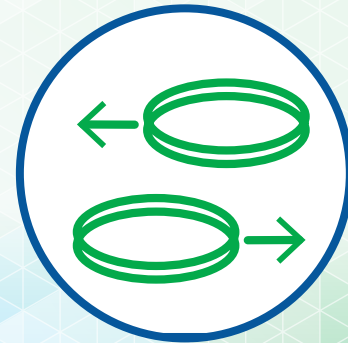
Closed door incubation and high throughput imaging delivers results efficiently and in a timely manner.



Improve operational efficiency by automating routine plate management tasks

Plates are automatically delivered to the appropriate incubator to begin the incubation and imaging protocol. When ready, plates are sorted to waste or dedicated, user-defined locations.

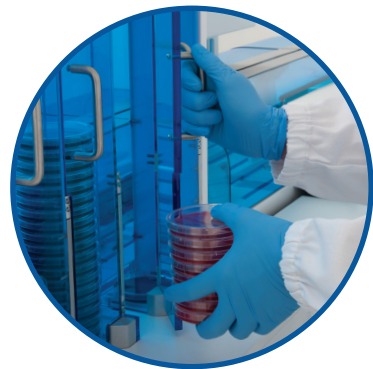
- Streamlines workflow by reducing the time spent sorting plates.
- Ensures quality through reliable plate tracing and standardised, protocol-driven incubation times.
- Images and digitises externally incubated plates in an efficient manner.



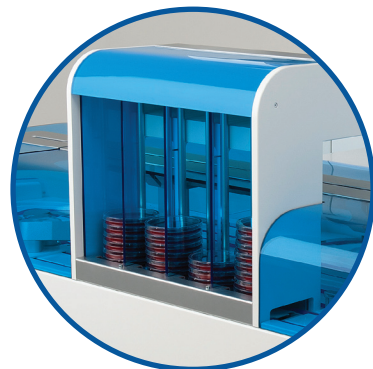
Enhance bacterial growth by standardising incubation times and conditions

BD Kiestra™ ReadA may increase bacterial isolation by up to 46% compared to traditional microbiology^{1,*}

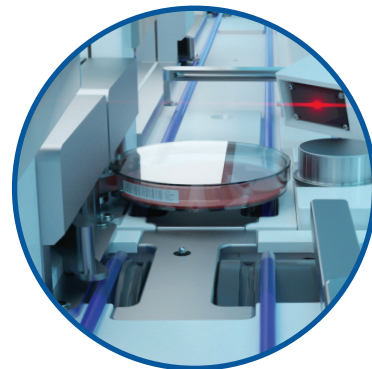
- Helps to enhance operational efficiency through time to result.
- Provides constant incubation conditions, using a closed environment, which enhances the growth of all bacteria including rarely isolated organisms.¹
- Provides the flexibility to set-up incubation protocols according to your Standard Operating Procedures.



- Four input stackers to manually load plates
- Load stacks of inoculated plates
- Connect to track solution to automatically move plates to and from the incubator



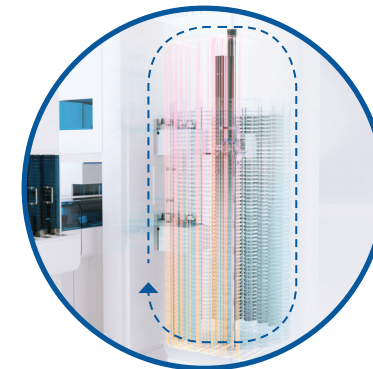
- Each incubator comes with four output stackers
- Each stacker can be configured to specific tasks, such as:
 - Waste handling
 - Follow-up work
 - External incubation



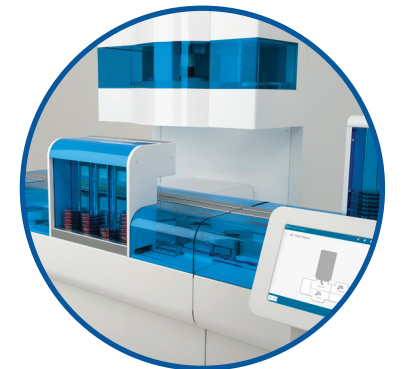
- Barcoded for full traceability
- The plate protocol will direct:
 - Incubation condition
 - Incubation duration
 - Imaging times



- All plates are stored individually and are easily accessible
- Dedicated and single purpose lanes for plate infeed, outfeed and imaging to prevent bottle necks
- Rapid plate delivery or imaging upon user request



- Closed door incubation enables constant temperature and stable O₂ or CO₂ levels
- Laminar air flow to help prevent plate dehydration
- Removable plate racks for easy cleaning



- User safety through closed lid incubation and transportation
- HEPA filtered camera area to reduce risk of (cross) contamination
- High throughput imaging (up to 300 plates per hour)

^{*} Based on studies of urine cultures with selected organisms.

Deliver accuracy through standardised image acquisition

BD Kiestra™ has been designed to capture images in a standardised manner to help reducing variability and improve the consistency of the result.

- Determine follow-up work in a timely and efficient manner using standardised plate images.
- Detect and identify colonies earlier and enable faster results through shorter imaging cycles^{2,*}.
- Minimises image variation and instrument variability to ensure compatibility with future upgrades and applications.



Provide access to the right information anywhere, anytime

BD Synapsys™ Informatics Solution provides a patient summary overview to optimise culture interpretation for lab staff.

In addition, multiple BD Kiestra™ Imaging Applications can assist you for plate reading, managing negative and positive cultures.

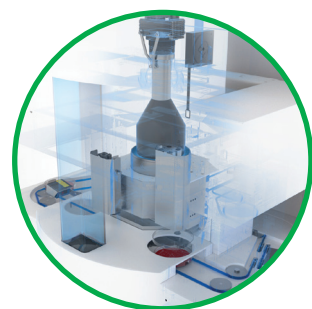
- Assisted decision making and flexible worklists to support staff effectiveness
- Growth notification and complete culture overview consolidated per patient to take informed decisions
- Personalise informatics to organise laboratory processes and staff specific tasks

Powered by
BD Synapsys™
Informatics
Solution



Combine high-speed performance and standardised image acquisition to enable diagnostic imaging

See details invisible to the human eye



BD Kiestra™ ReadA contains a 25-megapixel camera with a telecentric lens and ensures plates are oriented for consistency of images over time.



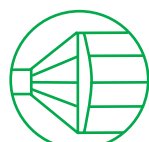
Improve colony detection and reduce image variability



BD Kiestra™ Optis technology acquires up to 22 images of each plate and determines the optimal value for each pixel using three light sources: top, bottom and side.



Megapixels



Telecentric lens



Per hour



Automatic plate orientation

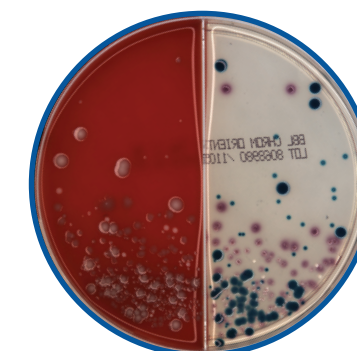


Expertise



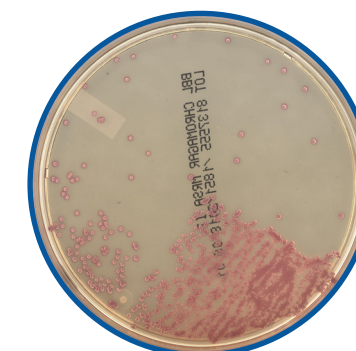
BD Synapsys™ Informatics Solution single user interface performs culture reading to provide lab staff with key information.

- Anywhere anytime access
- On demand actionable insights
- Secure instrument connectivity
- Integrated workflows



BD Kiestra™ Urine Culture app

- Allows for automatic* / batch reporting of no growth or non-significant results
- Notifies if growth is detected between 10 to 14H
- Quantitates growth in five different CFU/mL ranges
- Indicates presumptive ID (when BD Chromagar® Orientation is used)
- Groups growth in Pure, Predominant and Mixed growth categories
- Sort positive cultures into insightful worklists



BD Kiestra™ Methicillin-resistant *Staphylococcus aureus* (MRSA) application

- Growth / No growth analysis
- Directed detection of mauve colonies indicating MRSA strains
- Allow for batch reporting of negative culture without need to re-incubate

* In combination with Maldi ToF Technology

* Auto reporting not available in the U.S.



1

Imaging station

- 25 MP camera
- Telecentric lens
- HEPA filtered area
- 300 images / hour
- Three light sources; side, top and bottom
- Two different backgrounds; black and white

3

Outfeed stackers

- Four individual outfeed stackers per incubator
- Can be configured to support your workflow

5

Incubation unit

- Holds 1,152 plates
- O₂ or CO₂ capabilities
- Temperature range 30°C–40°C ± 1°C
- Connect up to three incubators in one configuration

2

Plate track

- Transports plates from the infeed stacker to the incubator and output stackers

4

Infeed stackers

- Continuous plate loading
- Random and unsorted plate loading

6

Operator screen

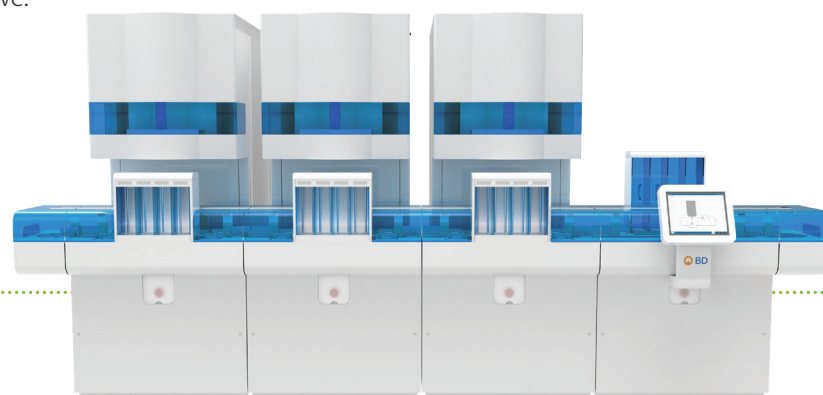
- Ergonomic, easy access instrument control panel



BD Kiestra™ Standalone Solutions

automate your laboratory's most challenging processes and expand your automated solution as your needs evolve.

Connect up to three
incubators in one
configuration

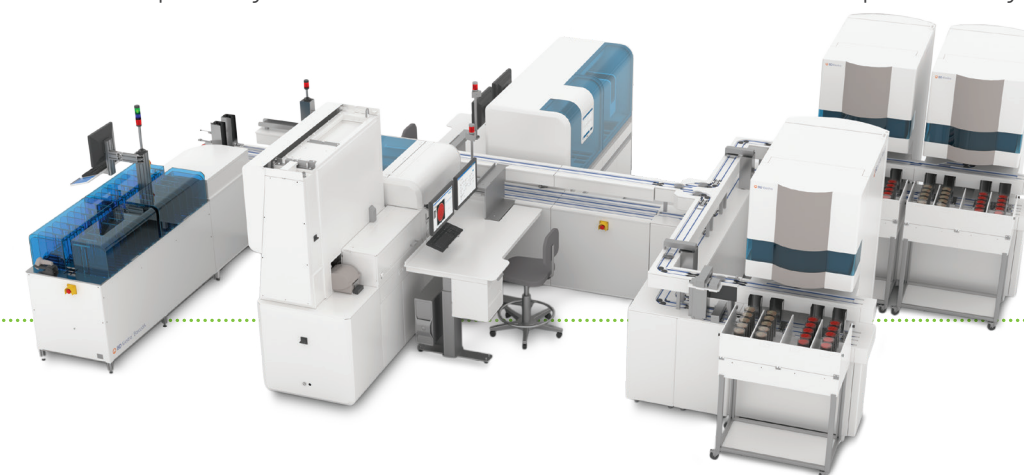


BD Kiestra™ ReadA

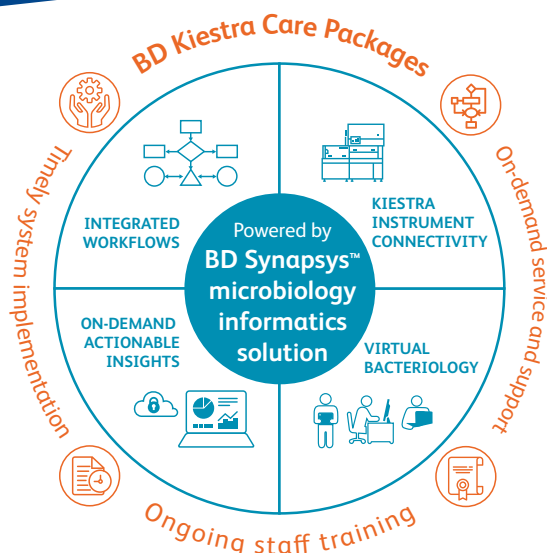
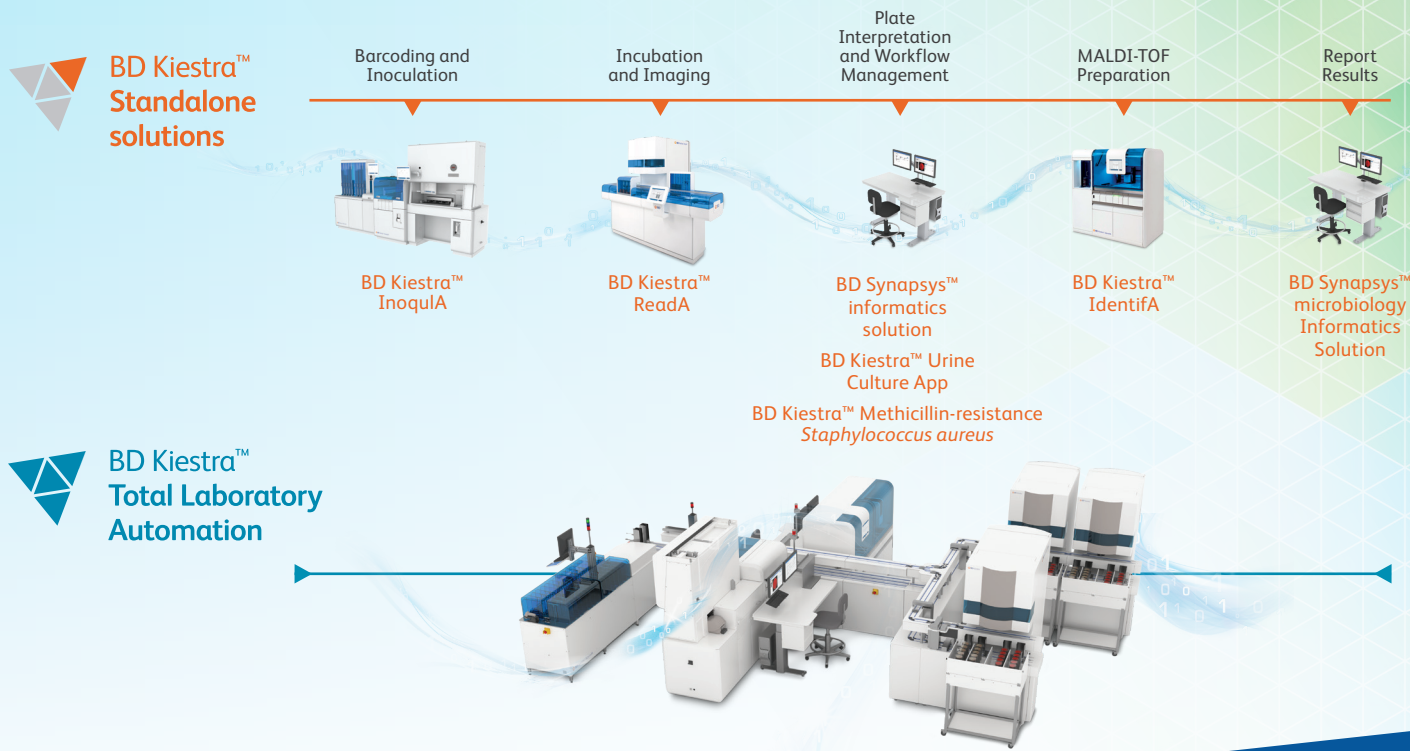


BD Kiestra™ Total Laboratory Automation

provides you with a scalable solution to automate either the entire process or only the tasks you select.



Advance your laboratory through scalable, customised automation



BD Kiestra™ Laboratory Automation Solutions

- ✓ Enhance laboratory operations³
- ✓ Maximise financial efficiencies²
- ✓ Advance laboratory outcomes⁴

References:

1. Klein et al, Significant increase in cultivation of *Gardnerella vaginalis*, *Alloscariova omnicolens*, *Actinotignum schallii*, and *Actinomyces* spp. in urine samples with total laboratory automation, *European Journal of Clinical Microbiology & Infectious Diseases* (2018) 37:1305-1311.
2. Theparee T et al. Total laboratory automation and matrix-assisted laser desorption/ionization–time of flight mass spectrometry improve turnaround times in the clinical microbiology laboratory: a retrospective analysis. *J Clin Microbiol.* 2018;56(1):1-8.
3. Yue P, Zhou M, Zhang L, et al. Clinical Performance of BD Kiestra Inoqua Automated System in a Chinese Tertiary Hospital. *Infect Drug Resist.* 2020;13:941-947. Published 2020 Apr 1. doi:10.2147/IDR.S245173
4. Croxatto A et al. Comparison of inoculation with the Inoqua and WASP automated systems with manual inoculation. *J Clin Microbiol.* 2015;53(7):2298-2307.

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