

PyroTec[®] PRO System

Automated precision:
The future of endotoxin testing



Enhance your laboratory's efficiency with our advanced automated endotoxin testing solution: PyroTec® PRO System. Our innovative use of automation technology aims to provide a seamless integration of robotic liquid handling with a proprietary dynamic control system that offers intuitive ease-of-use combined with maximum flexibility for high throughput sample processing that other systems have not achieved.

Integrated with WinKQCL® Analysis and Detection Software, the Lonza PyroTec® PRO Robotic System can help streamline the methods, devices, training, data management, auditing, trending and servicing of your complete endotoxin testing program for the long run.

Benefits

Improve quality

Enhanced QC control: The PyroTec® PRO System empowers you with precise control, helping you ensure the highest quality standards.

Minimize manual errors: Automation reduces the risk of human mistakes and sample variability, which can help provide more reliable and consistent results.

Boost reproducibility: Designed to achieve improved levels of reproducibility in your tests, creating a robust foundation for your laboratory's success.

Prepare for the future

Scalability: Adapts to your business growth and changing demands.

Efficiency redefined: Your staff can now handle more samples with ease and precision.

Sustainability: Compatible with a sustainable test method that aligns with your sustainability goals.

Save precious time

Streamlined training: Reduce training as PyroTec® PRO System simplifies complex processes into intuitive automation.

Error reduction: With real time automated data transfer your team can work with ease and confidence.

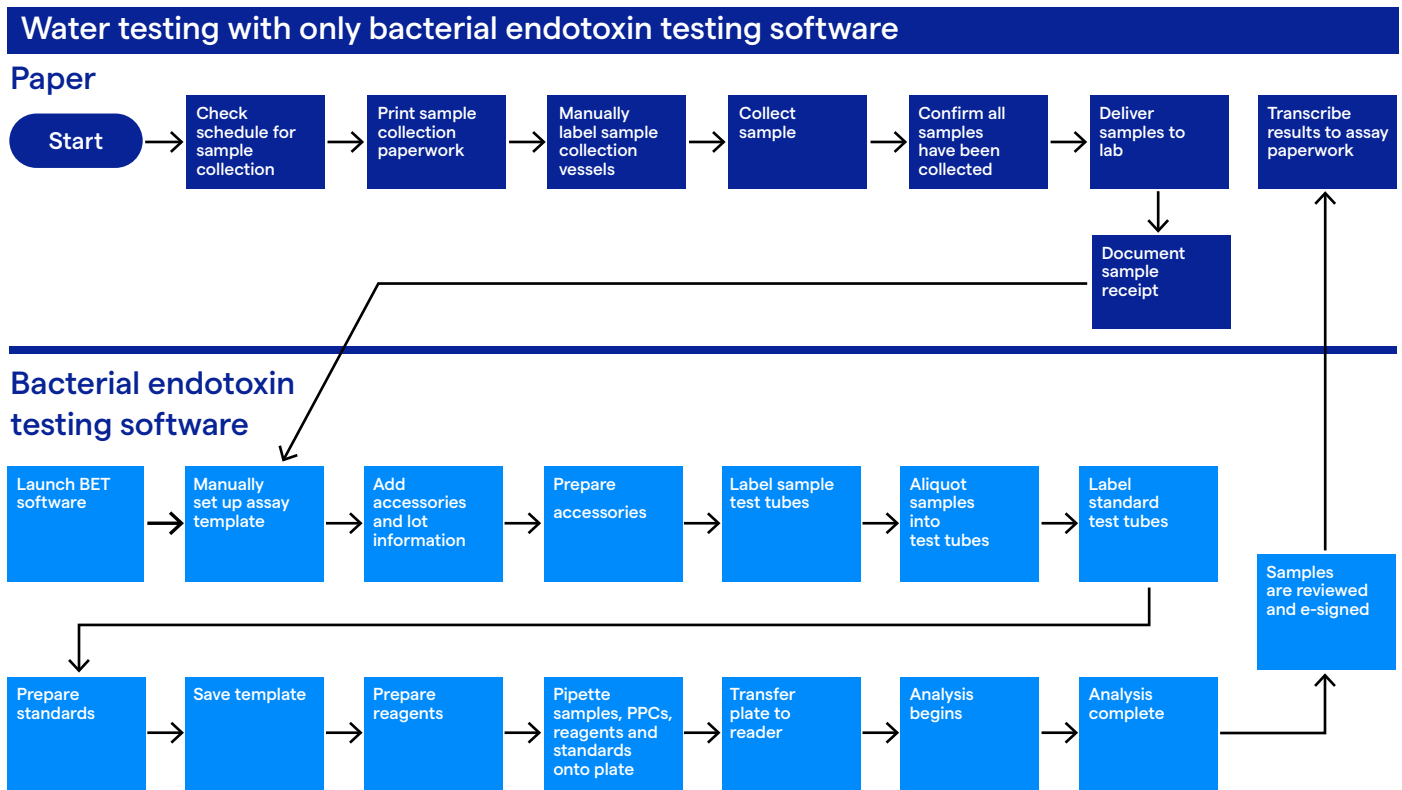
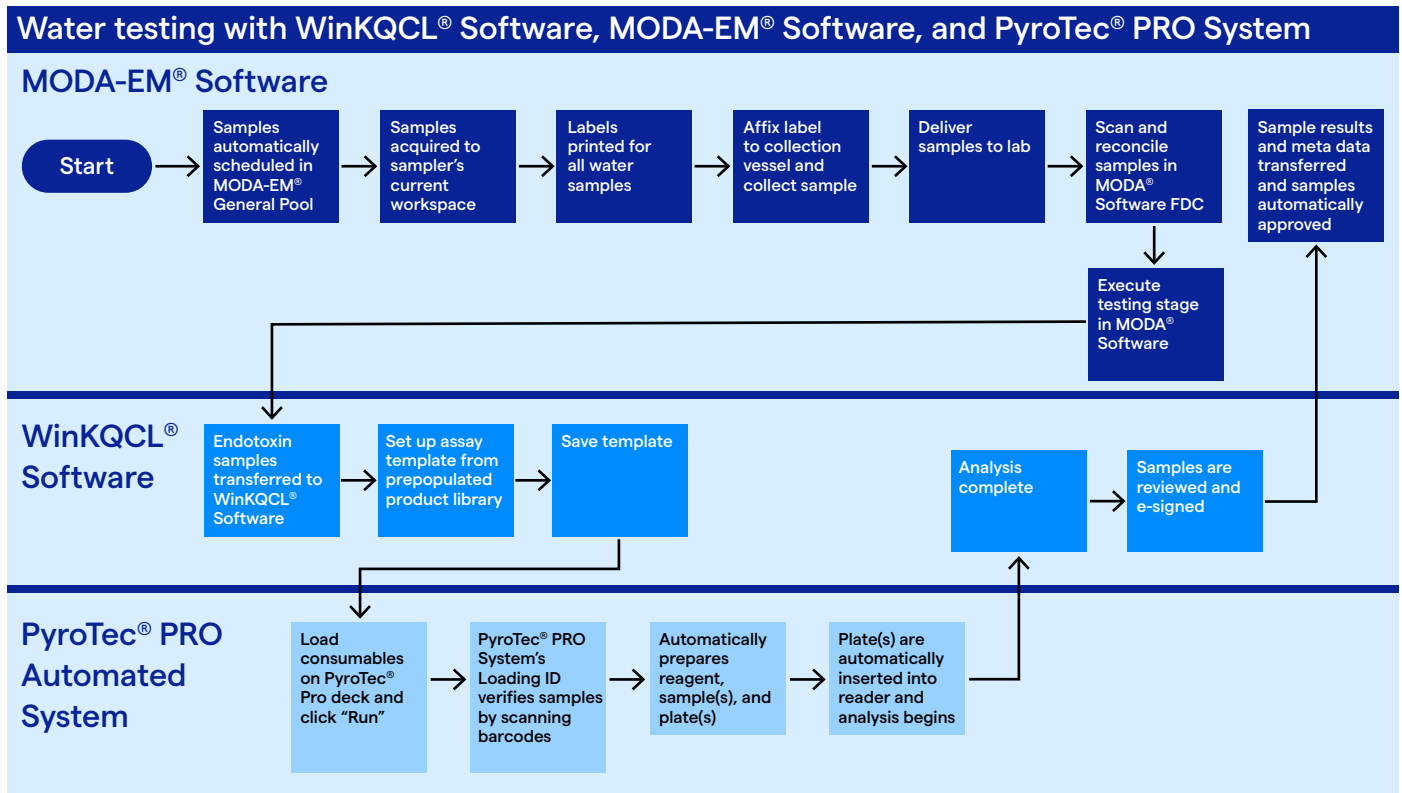
Boost productivity: Free up your team's valuable time for more critical tasks while PyroTec® PRO System efficiently handles repetitive tasks.

Transform a manual benchtop workflow to an automated system

Our microplate readers and robotic solutions are enhanced to work seamlessly with our world-class WinKQCL® Endotoxin Detection and Analysis Software. Customers can now implement a robotic workstation solution without the need to learn the robotic software and how to write scripts. The system includes a pre-defined platform size to accommodate tips, reagents, diluents, samples and preparation tubes, and 96-well plates. The robotic arm picks up tips, prepares standards, samples and reagents, dispenses them to 96-well plates and ultimately places the plate in the microplate reader for assay execution and final analysis. When the microplate setup is complete, the WinKQCL® Software drives the plate reader to run the appropriate assay, automatically collates the read data, and saves the results to the database.

How it Works: Reimagining the QC Testing Workflow

The PyroTec® PRO Robotic Solution can significantly reduce manual user intervention. To illustrate, a typical water for injection (WFI)/endotoxin testing workflow using the new solution is summarized below.



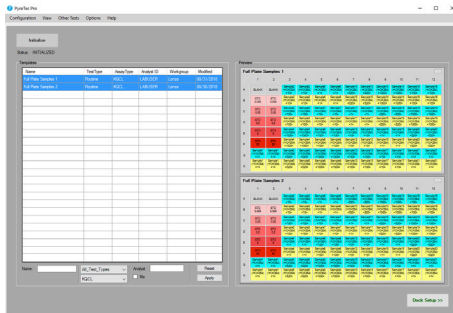
Side-by-side illustration of QC testing workflow with and without the integrated Lonza solution, highlighting where manual steps occur in each.

Process workflow in three simple steps

The only manual interventions throughout the optimized QC testing workflow are:

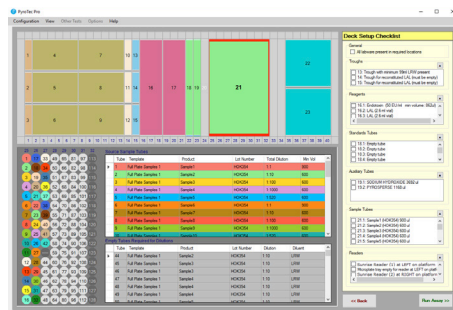
Step 1

Select the template



Step 2

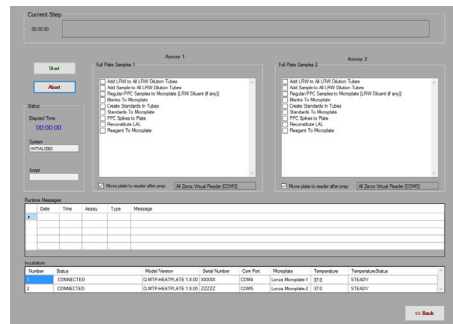
Set up and confirm the robot deck



According to the deck layout instructions generated dynamically by WinKQCL® Software based on the template selected

Step 3

Initiate the assay



Technical specifications

Description	Answer
Throughput per run	42 (21 per plate in duplicate w/ duplicate PPC) with five point standard curve with two negative controls
Sample handling	Yes
Prepares sample dilutions	Yes, 80 (includes sample tubes). All 80 tubes are available to make simple to complex dilution schemes
Prepares auxiliary dilutions	Yes, for dilutions requiring other than liquid reagent water, i.e. Beta-Glucan blocker
Reconstitution of RSE/CSE	No
Vortex of reconstituted RSE/CSE	No
Prepares endotoxin standards	Yes, flexibility to make up to eight standards per assay (most common is five)
Prepares positive product controls	Yes
Prepares negative controls	Yes
Incubates plate	Yes
Reconstitution of LAL reagents	Yes
Pipettes LAL to plate	Yes
Places plate in incubator	Yes
Barcode scanner	1D barcode; LoadingID on deck automated barcode scanner. 2D barcode; various standard formats supported. Barcodes are entered on the template in WinKQCL® Endotoxin Detection and Analysis Software
Ancillary accessories	Tips, sample tubes, reagent reservoirs, and microplates supplied by Lonza certified down to 0.005 EU/mL
Deck setup time	Fully loaded plate: 5 minutes minimum
Preparation of plate	Fully loaded plate: 40 minutes minimum
Runtime in reader	Approximately 1 hour
Total time to result including preparation and run	1 hour 50 minutes for 21 samples tested neat
Sample test volume	100 µL per well; Minimum sample volume – 600 µL for samples to be diluted; 800 µL for samples to be tested neat
Methods supported	Kinetic chromogenic, kinetic turbidimetric, and Recombinant Factor C
Dimensions	145 cm wide (199.39 cm with PyroWave® Extension), 78 cm deep and 87 cm tall, 57" wide (78.5" with PyroWave® Extension), 30.7" deep, 34.3" tall
Weight	187-200 kg / 412.26 – 440.9 lbs

Data integrity benefits

- Ability to capture the meta-data from the automated preparation in the software with traceability into tracking, trending and audit controls
- Remove transcription/input error by integrating with LIMS or MODA® Solution to be fully paperless
- Strengthen compliance with standard operating procedures by reducing workflows and steps prone to manual errors
- Reduced OOS and OOT deviations, improving overall metrics within the lab
- Full traceability of sample lifecycle with LIMS integration

Automation efficiencies

This table illustrates the estimated time-savings, reduction in repeat testing rate and consumables cost savings for a laboratory testing 20,000 water samples per annum using a manual kinetic chromogenic plate-based method including interference controls (positive product control, PPC) with each sample. The Return on Investment for this example is 1.9 years, well below the typically targeted 3 year ROI.

Automation Efficiencies	
Touch time manual testing	93 minutes
Touch time with automation PyroTec® PRO	14 minutes
Touch time savings	79 minutes
Manual testing repeat rate	6%
Automation repeat rate	1%
Samples saved/year	1,000
% labor savings	85%
% reagent/consumables cost saving	4%
ROI	1.9 years

Lifecycle services



Lonza's highly trained service professionals can deliver installation, qualification and preventive maintenance designed to keep your instrument qualified and available for your functional requirements. Our services can include consultation with Lonza's Global Subject Matter Expert(s) and access to our Global Scientific Support team for assistance with testing and troubleshooting assay issues.

PyroTec® PRO system service support

- PyroTec® PRO IOPQ service
- Annual service agreement
- Ad-hoc troubleshooting services

Unlocking the future of pharmaceutical QC testing, today

Ready to simplify and streamline your QC testing programs? Contact one of our QC testing experts to learn more about how the PyroTec® PRO Robotic System can support transformation of processes in your QC lab.

Contact us

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