

## **Optimal's SciYbotic range of quality assurance equipment represents a paradigm shift in tablet testing**

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**Revolutionising the quality control of tablets, the Optimal Group has developed the SciYbotic range of oral solid dose (OSD) Quality Test Machines for high-speed, at-line operations. Available as part of the SciY platform of vendor-agnostic software and automation technologies, the SciYbotic tablet testing (TT) series enhances quality, reduces test cycle times and maximises the profitability of both batch and continuous production operations.**

SciY products offer the ability to digitise all aspects of pharmaceutical production, from the laboratory to manufacturing. As part of this, the SciYbotic TT range combines accuracy, repeatability, traceability and speed for OSD quality control. User-preferred laboratory methods, models and instruments can be directly applied to the system, ensuring exceptional flexibility and expedited product testing. To further extend the capability of the machine, it can be built for assay only or full testing, including weight, thickness, hardness and assay.

Designed to be easily integrated with both new and existing pharmaceutical production lines, the system employs a systematic and precise method of tablet pick-up, movement and placement. It features a six-axis robot, vision systems, an analyser and MVA modelling package that can be selected by the user to match their laboratory testing techniques and synTQ process analytical technology (PAT) software. Each tablet is identified by the vision system and picked by the robot for

quality checking, where it may be analysed for weight, content uniformity and, if applicable, thickness and hardness. The characteristics of each tablet are derived by Optimal's synTQ platform, which holds the analytical method, including the predictive chemometric model. Test data is also stored by synTQ, allowing easy access to historical results. Following testing, tablets are placed into individual, uniquely marked trays for full traceability and easy post-testing access by technicians. Multiple trays are held in the machine, nominally allowing for 12 hours of operation, and the 'stack' can be quickly swapped out when full.

As well as offering a significant improvement over the traditional vibrational approaches for tablet positioning, more accurate systematic techniques using robotics, vision and code-reading capabilities ensure the entire process is carried out quickly and precisely. The SciYbotic TT-A60 for assay testing has been designed to process 60 tablets per hour, so can inform the tablet press of the tablet attributes once per minute. This response is much faster than previous systems with most of the time being taken by the CU analysis time. Having flexibility in choosing the analytical instrument means that the pre-existing validated analytical method in your laboratory, including the model, can be taken to this at-line machine. This minimises analytical re-validation, but of course the analytical method can affect the overall processing time.

Available as assay only or full tablet testing, the TT machine is highly customisable and can be integrated with your batch or continuous manufacturing system. Additionally, it can run in standalone mode with tablets being manually fed.

Martin Gadsby, Chairman at the Optimal Group, said: "The SciYbotic TT range of Quality Test Machines showcases the multi-faceted development capabilities of the Optimal Group, combining the robotics engineering expertise of Optimal Industrial Automation with the market-leading synTQ PAT software from Optimal Industrial

Technologies. More than that, we are excited to offer this solution on the SciY platform, providing our customers with a highly versatile system that is ready for Pharma 4.0 quality control applications.”

The SciY platform offers a wide range of vendor neutral digital solutions encompassing laboratory, manufacturing and automation applications. Focused on enabling and streamlining digitalisation in life sciences, the platform features a range of PAT and automation products from the Optimal Group and other companies.

Watch this video to see the SciYbotic TT in action: <https://www.youtube.com/watch?>

**Image captions:**



**Image 1:** The Optimal Group has developed the SciYbotic range of oral solid dose (OSD) Quality Test Machines for high-speed, at-line operations.

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### **About Optimal Industrial Automation (OIA)**

Optimal Industrial Automation has more than 30 years' experience building, integrating and optimising manufacturing automation systems for challenging and highly regulated industries. Projects are typically for the pharmaceutical, life science, chemical, aerospace, green energy, food & beverage and other high-value process sectors. The company's primary aim is to deliver measurable reductions in production costs, while finding substantial improvements in productivity, product quality and business sustainability. Part of its capability in achieving this aim is experience in the implementation of Optimal's print and inspect system product – synTI®, plus sister company Optimal Industrial Technologies' leading PAT based process management software platform synTQ.

The company employs a large technical team qualified in software, electrical, electronic, vision and control hardware disciplines. The team has built and developed individual machines and process skids to meet regulations such as FDA 21 CFR Part 210/211 – Pharmaceutical Industry GMPs, and FDA 21 CFR Part 11 – Electronic Records and Signatures. It is also ISO accredited and has years of experience working within GAMP guidelines.

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