AutoTest 4
Automatic Tablet Testing System

Precise measuring of weight, thickness, diameter, hardness
Reliable orientation of all tablet shapes
Fast and intuitive operation
Ideal for professional QC and IPC environments

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Dr. Schleuniger®

Swiss Quality

High quality components paired with Swiss precision engineering provide for a long product life and minimize costly machine downtime. In order to ensure maximum reliability of your AutoTest 4, all instruments are tested according to strict internal quality standards before they leave our factory.

Hardness Testing

With more than 35 years of experience and more than 15'000 testers in the market, Dr. Schleuniger® hardness measuring technology is a safe investment. Like all our hardness testers, the AutoTest 4 offers consistently accurate test results and fully complies with current USP (chapter 1217, tablet breaking force) and EP (2.9.8, resistance to crushing of tablets) requirements.

Quality matters.

AutoTest 4

The AutoTest 4 is a modular tablet testing system that offers highest precision and exceptional flexibility. Besides the obvious labour saving advantages, it provides real-time, accurate test data that can be identified and evaluated immediately – resulting in increased productivity, efficiency and ease of regulatory compliance. Its outstanding quality and proven reliability have made the AutoTest 4 the preferred choice of laboratories, quality control departments and production facilities of leading pharmaceutical companies all over the world.
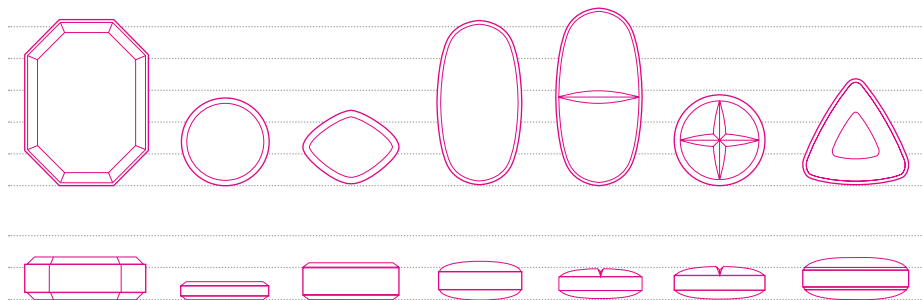

→ AutoTest 4
Automatic tablet testing system

Flexibility

The AutoTest 4 is capable of testing a wider variety of tablets shapes than any other automatic tester on the market. Practically any imaginable design, including oblong, diamond, hexagon and other special shapes are automatically positioned to measure weight, thickness, diameter and hardness.
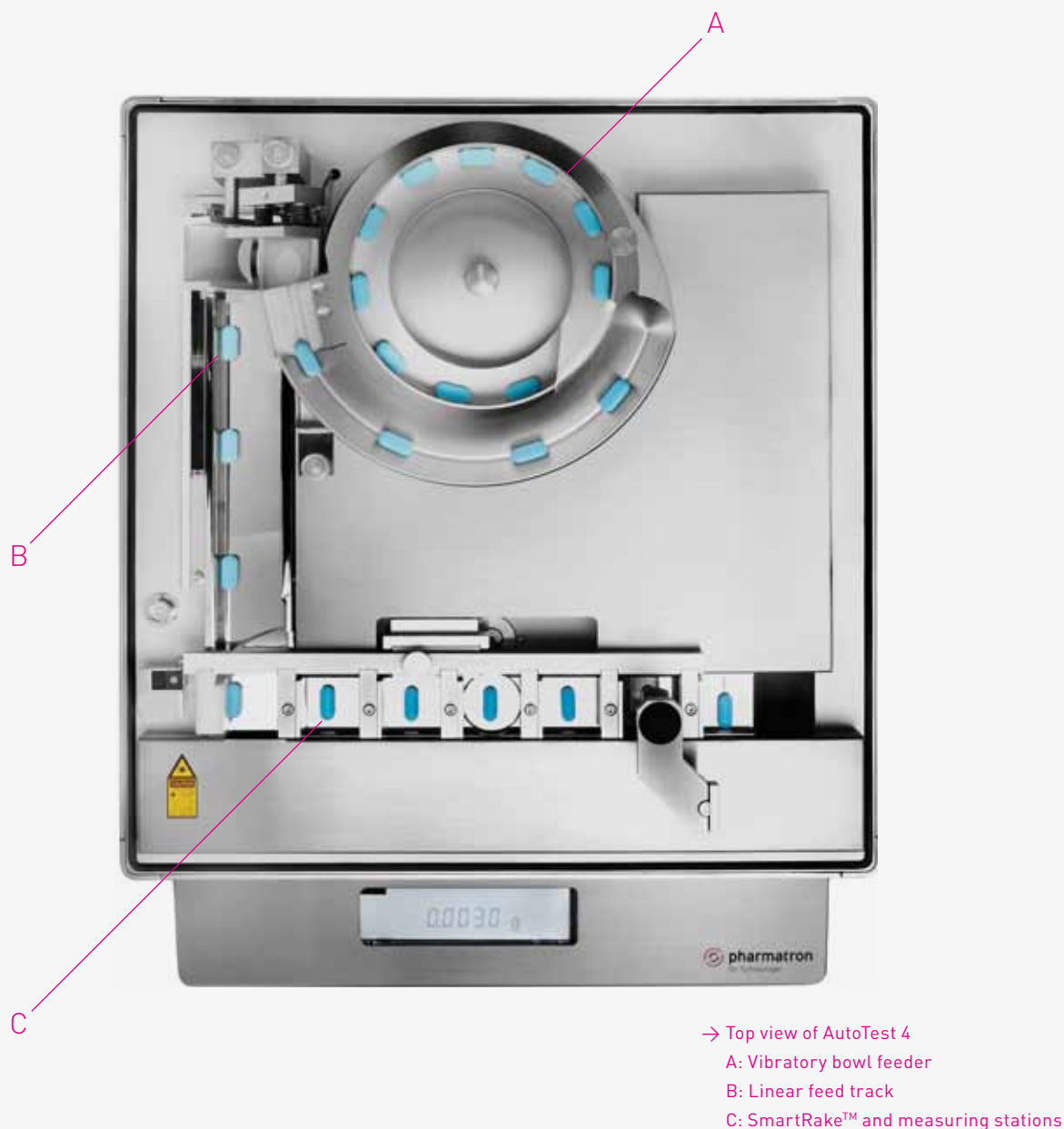
The linear movements of the patented SmartRake™ system in combination with a linear feed track guarantee reliable tablet orientation at all times. All standard round, oblong and oval tablet shapes are accurately oriented without any modifications or adaptations of the AutoTest 4. Even special forms can be reliably positioned by quickly exchanging the standard rake with a custom SmartRake™. The complete change-over is easily executed within seconds and doesn't require any tools. Even cylindric shapes, capsules and test samples that tend to roll during transport can be tested as the AutoTest 4 fea-

tures exchangeable chutes with and without grooves (that prevent round materials from rolling). The modular design of the AutoTest 4 also permits easy customization of your tester according to individual requirements. Choose from a wide range of standard accessories and options to tailor your machine to specific R&D, quality control or integrated IPC demands. Our experts with years of experience in testing even the most unusual shapes and materials are looking forward to providing you with competent advice.

→ Automatic testing of virtually all tablet shapes
   and sizes with the AutoTest 4

→ Top view of AutoTest 4
    A: Vibratory bowl feeder
    B: Linear feed track
    C: SmartRake™ and measuring stations

Precision

The solid and vibration-resistant construction of the AutoTest 4 guarantees reliable test results at all times. Its unique SmartRake™ system with combined linear feed track ensures correct orientation of each test object. Precision measuring technology provides for highest accuracy.

Only the combination of quality components, state-of-the-art measuring technology and correct tablet orientation gives you test results you can rely on in everyday operation. Dr. Schleuniger® hardness measuring technology complies with all current USP and EP requirements and offers consistently accurate results. Tablet hardness is measured using a precision S-beam load cell with a linearity of 99.95% over the entire measuring range. Balance problems due to vibrations known from other testing systems are virtually non-existent with the AutoTest 4. The unique mechanical integration of a high-quality weighing module makes it exteremly resistant to any kind of vibration - whether the tester is positioned on a laboratory table or on the production floor next to a tablet press.

User-friendliness

Operating a tablet tester has never been easier. The intuitive icon-based touch screen user interface «TabStat™ ProTouch» for the AutoTest 4 sets new standards for fast and user-friendly control. An integrated PC with large 12" display combines the benefits of conventional PC software with fast and ergonomic touch screen operation directly at the machine.

From executing simple tests to programming complex test plans with T1/T2/PL limits, alarms and predefined re-testing procedures everything is available at the touch of a button. Intuitive icon-based navigation and logical menu structures with intelligent operator assistance provide for fast test setup, short training times and prevent erroneous data entries from happening.

Depending on your individual reporting needs and quality control processes, test data is stored electronically and test reports with statistical analysis can be printed anytime. Data export functions, central data management and network integration with other data handling systems (e.g. LIMS) allow for fully paperless reporting and maximum traceability with your AutoTest 4.

All 21 CFR, Part 11 requirements, particularly those pertaining to electronic records such as a complete audit trail, electronic signatures and password-protected user access levels are fulfilled.
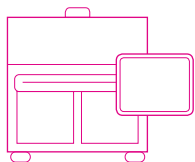
→ Operation with touch screen
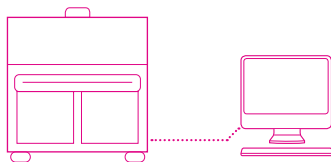
→ Operation with PC

TabStat™ ProTouch
All product, method and batch specifications can be saved and easily retrieved for fast test setup. Measured results and test reports are automatically stored in a local database. All reports are available anytime for printing and can be exported as PDF or in Microsoft Excel® compatible format. Networking one or multiple AutoTest 4 units for central data handling can be realized anytime by integrating with the TabStat™ DataCenter.

TabStat™ EasyTouch
This simple version of TabStat™ ProTouch incorporates all basic functionalities. Test reports that are accepted by international regulatory authorities are automatically printed after a test has been completed.

PC software
Alternatively, the AutoTest 4 can also be operated from a conventional PC or laptop with either TabStat™ Pro software or PH21 software. All data management and reporting functions required for professional quality control including test plans, batch reporting and data export functions are available.

TabStat™ IPC
If you are planning to integrate your AutoTest 4 with a tablet press for automatic in-process control, TabStat™ IPC displays current measurement results during production and allows for simple stand-alone tests (e.g. to quickly verify tablet quality before starting production). Use the convenient touch screen interface to perform regular calibration and verification routines without requiring a connection to the tablet press.

W | Result | 101.6 mg | Mean 102.1 mg | Nominal 100.0 mg
8 | | | Srel 0.49 % |

T | Result | 2.04 mm | Mean 2.12 mm | Nominal 2.00 mm
8 | | | Srel 3.77 % |

D | Result | 5.07 mm | Mean 4.99 mm | Nominal 5.00 mm
8 | | | Srel 1.6 % |

H | Result | 78.5 N | Mean 79.2 N | Nominal 79.0 N
8 | | | Srel 0.88 % |

CurrentView   Results   Messages

Test running

Test Setup / IPC / CurrentView   Operator   Status: IPC-mode, test running   14.05.2011   15:05.23

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→ Professional data management
and paperless reporting
with TabStat™ software products

TabStat™

Stand-Alone Operation

Equipped with a magazine feeder, the AutoTest 4 provides for a variety of up to 12 different products to be loaded concurrently. Testing proceeds automatically including generation of a test report after completion of each individual test. One tester can be shared by an entire team in the QC lab to streamline processes or among a group of press bays in production.

As the AutoTest 4 is capable of testing a great variety of tablet shapes and sizes without requiring any modifications, it is ideally suited for the automatic execution of a whole series of tests. After each test, a test report with statistical analysis and individual measurement results is printed automatically. Individual alarm functions can be used to alert laboratory personnel or the press operator in case of limit violations or if a test has failed. Connection of an optional status light or custom devices for audible alarms is also possible. All options, including the modular 12-magazine feeder, can also be retrofitted to existing machines anytime.

→ AutoTest 4 equipped with 12-magazine feeder

In-Process Control

To take full advantage of modern high-capacity presses requires compatibly automated in-process tablet testing. The AutoTest 4 can be operated fully integrated with a great variety of tablet presses from different manufacturers. Measured test results are sent in real-time to the software of the tablet press to automatically adjust production parameters, initiate a re-test routine or alert the operator.

→ AutoTest 4 with air transport system and brake cyclone

→ AutoTest 4 with mounted diverter

→ AutoTest 4 with stand-alone diverter
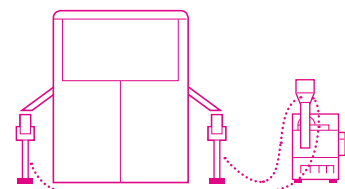
→ The air transport system allows integration of the AutoTest 4 with a single- or double-sided tablet press

Often referred to as «lightly attended operation», the combined system of tablet press and tablet tester provides for maximum efficiency and reliability as tests are executed automatically at preset intervals without any operator interaction required.

Air transport system
A venturi-powered system transports tablets from the outlet(s) of a tablet press directly to the AutoTest 4. It allows positioning of the tester at a distance of up to 10m (33 ft.) from the tablet press and connecting multiple press outlets. To minimize physical stress on tablets, the optional brake cyclone gently slows down test samples before they fall into the vibratory bowl feeder.

Diverter
If your tablet press is not equipped with a sampling gate to automatically feed tablets for testing, a diverter that is controlled by the AutoTest 4 can be placed directly under the press outlet. Also available in combination with air transport system.

Modular Design

Customize the AutoTest 4 to your individual needs! A great variety of standard options and accessories allow you to tailor functionalities to your specific requirements. From exchangeable chutes, magazine feeder and air transport system to models with integrated sample collector and belt feed.

L-Model with linear feed track
For direct tablet press integration with single tablet feeding capability, the AutoTest 4-L without vibratory bowl feeder reduces overall test cycle time. Single tablets are fed directly onto the linear vibratory feed track for sequential measuring. Also available with integrated sample collector.

B-Model with belt feed
For custom applications (e.g. integration with a third party handling system), the AutoTest 4-B is equipped with a belt feed. Feeding is activated by the external device after a test sample has been placed on the belt. The belt feed can also be used for tablet presses with single tablet feeding capability.

Sample collector
The integrated sample collector with 12 collection bins is used to collect tablets from different test runs or at preset intervals. Collection methods can be programmed. Depending on your requirements, different models with sample collector in front or in drawer are availble.

Exchangeable chutes
Chutes with or without groove at the measuring stations. Grooves prevent round test samples (e.g. capsules) from rolling during transport. Fast change-over including balance plate.

Custom SmartRake™
Quick-change transport rake with customized paddles for special tablet shapes. Complete change-over within seconds and without tools. Retro-fitting is possible anytime and doesn't require modifications of the AutoTest 4.

12-magazine feeder
Allows setup of up to 12 different products to be loaded concurrently. Retro-fitting possible for all models with vibratory bowl feeder.
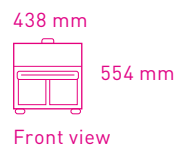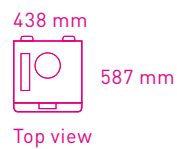
Air transport system / Diverter
For automatic IPC in combination with a tablet press. Allows tests to be started during production without operator interaction. Retro-fitting possible for all models with a vibratory bowl.
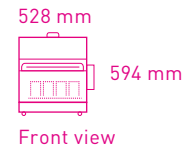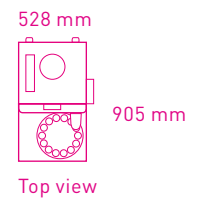
Models

Six basic AutoTest 4 models have been pre-configured to meet most common QC and IPC requirements. Additional accessories and options to further extend their capabilities are available for all models. Ask your local representative for more details.
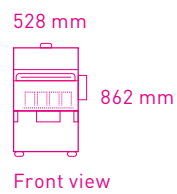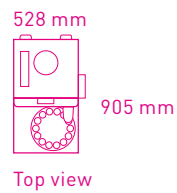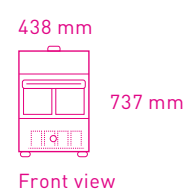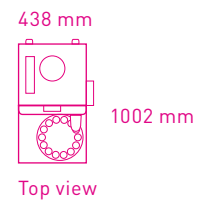
Standard-Model

438 mm
587 mm
Top view

438 mm
554 mm
Front view

SC-Model

528 mm
905 mm
Top view

528 mm
594 mm
Front view

RC-Model

528 mm
905 mm
Top view

528 mm
862 mm
Front view

HC-Model

438 mm
1002 mm
Top view

438 mm
737 mm
Front view

L-Model

438 mm
632 mm
Top view

438 mm
542 mm
Front view

B-Model

438 mm
678 mm
Top view

438 mm
542 mm
Front view

Technical Specifications

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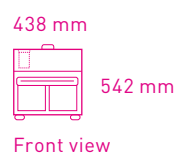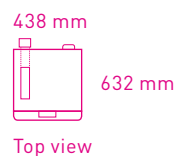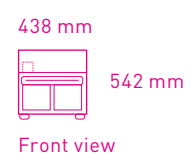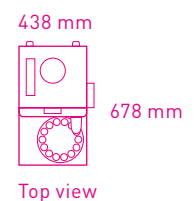
		All AutoTest 4 models
Weight	Measuring range	0.1 mg – 100 g
	Resolution	0.1 mg
	Units of measure	mg / g
Thickness	Measuring range	0–15 mm (0–0.6")
	Resolution	0.01 mm (0.00039")
	Units of measure	mm / inch
Diameter	Measuring range	0–25 mm (0–1.0")
	Resolution	0.01 mm (0.00039")
	Units of measure	mm / inch
Hardness	Measuring range	Standard: up to 400 N; Optional: 50 N / 500 N / 800 N
	Accuracy	Better than +/- 1 N
	Units of measure	N, Sc, Kp, programmable user-defined factor (based on N)
Power supply	EU-Standard	230 V / 50 Hz
	US-Standard	115 V / 60 Hz
	Special (on request)	230 V / 60 Hz or 115 V / 50 Hz
CE Conformity		All AutoTest 4 models fully comply with all CE and EMC equipment guidelines relative to mechanical and electrical safety and electromagnetic compatibility.

		Standard	SC	RC	HC	B	L
Configuration	Vibratory bowl feeder	●	●	●	●	—	—
	Linear feed track	●	●	●	●	—	●
	Belt feed	—	—	—	—	●	—
	Sample collector	—	●	●	●	○	○
Weight	(without packaging)	ca. 80 kg (176 lbs)	ca. 100 kg (220 lbs)	ca. 115 kg (253 lbs)	ca. 105 kg (231 lbs)	ca. 75 kg (165 lbs)	ca. 77 kg (170 lbs)
Dimensions	Width	438 mm (17.3")	528 mm (20.8")	528 mm (20.8")	438 mm (17.3")	438 mm (17.3")	438 mm (17.3")
	Height	554 mm (21.8")	594 mm (23.4")	862 mm (33.9")	737 mm (29")	542 mm (21.3")	542 mm (21.3")
	Depth	587 mm (23.1")	905 mm (35.6")	905 mm (35.6")	587 mm (23.1")	632 mm (24.8")	678 mm (26.7")
Software	TabStat™ EasyTouch	○	—	—	—	—	—
	TabStat™ ProTouch	○	○	○	○	—	—
	TabStat™ Pro	○	—	—	—	—	—
	TabStat™ IPC	○	○	○	○	○	○
	PH21-LE «Light»	○	—	—	—	—	—
	PH21-SE «Standard»	○	○	○	○	—	—
	PH21-AE «Advanced»	○	○	○	○	—	—
Options	12-magazine feeder	○	○	○	○	—	—
	Air transport system	○	○	○	○	—	—
	Transport trolley	○	—	○	○	○	○
	Integrated rack (R)	○	—	●	—	○	○
	Integrated wheels (S)	○	●	○	○	○	○
	Exchangeable linear chutes	○	○	○	○	○	○
	Custom SmartRake™	○	○	○	○	○	○

● included   ○ optional   — not available

Technical specifications are subject to change without prior notice. Products illustrated in this brochure may include options or modifications not fitted as standard. No liability for errors and omissions.

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