SmartTest 50
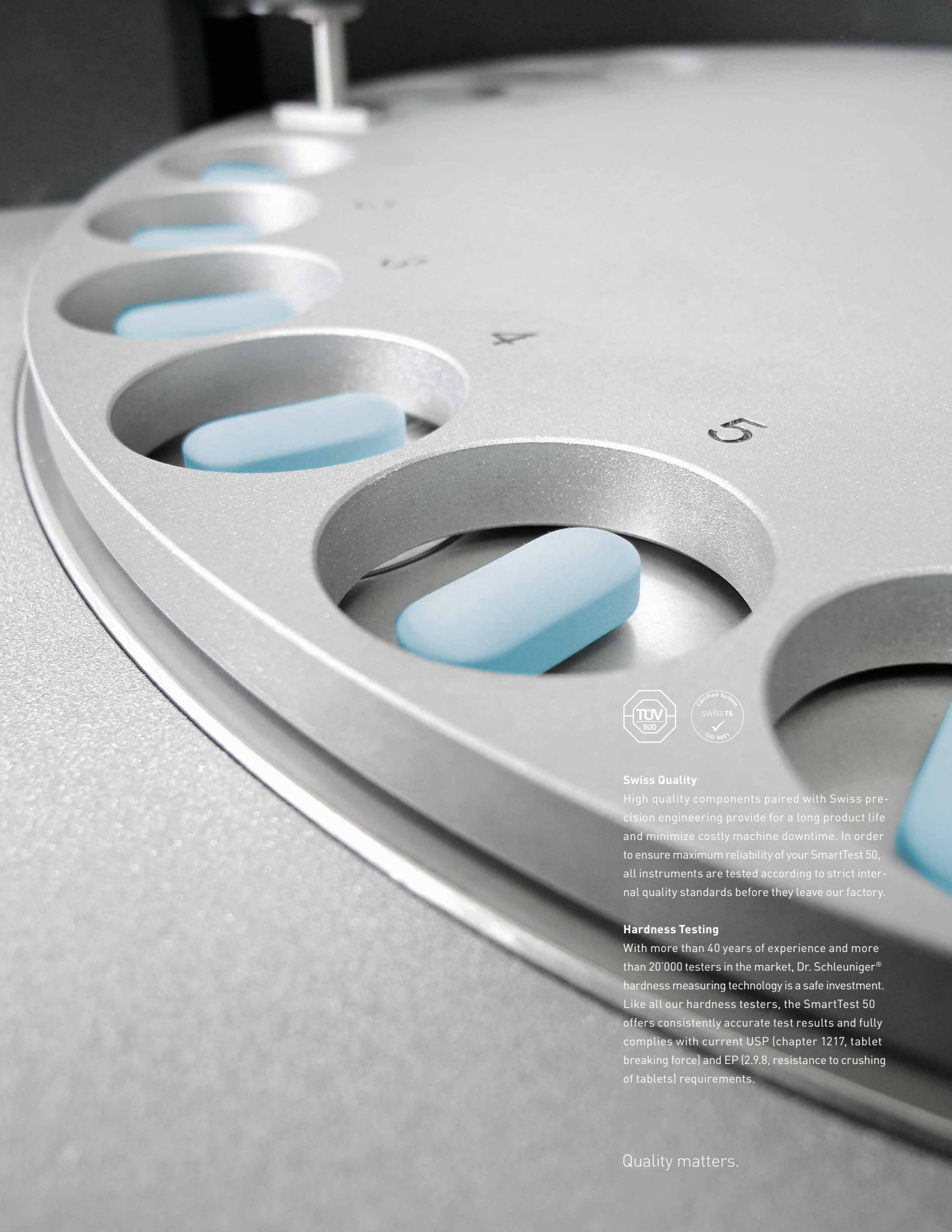# Semi-Automatic Tablet Testing System

Precise measuring of up to 5 parameters
Reliable orientation of all tablet shapes
Fast and intuitive touch screen operation
Professional reporting including statistics

pharmatron
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 SmartTest 50, all instruments are tested according to strict internal quality standards before they leave our factory.

Hardness Testing

With more than 40 years of experience and more than 20'000 testers in the market, Dr. Schleuniger® hardness measuring technology is a safe investment. Like all our hardness testers, the SmartTest 50 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.

SmartTest 50

The SmartTest 50 sets new standards in fast and efficient semi-automatic testing of up to five physical parameters. Weight, thickness, width, diameter/length and hardness of virtually all tablet shapes can be tested in full compliance with current Pharmacopeia requirements. Proven Dr. Schleuniger® hardness measuring technology guarantees accurate and highly reliable test data that can be evaluated immediately. An integrated color touch screen with simple icon-based navigation makes operating the SmartTest 50 very intuitive consequently reducing operator training time to an absolute minimum. Perfectly suited for both laboratory and production environments, the SmartTest 50 has been designed to optimize efficiency of your quality control process without limiting the range of possible applications.
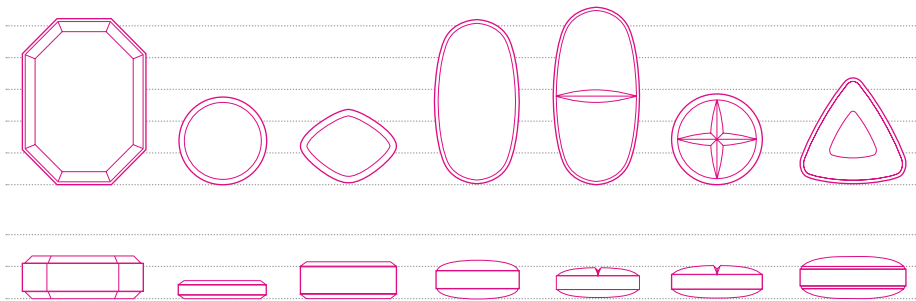

→ SmartTest 50
Semi-automatic tablet testing system

Smart, Smarter, SmartTest 50

The SmartTest 50 is capable of testing virtually all tablet shapes and can easily be programmed to meet your individual testing requirements. Tablet samples are placed in a feeder carousel by the operator and all further testing is done automatically. The patented SmartAlign™ system guarantees reliable orientation of samples in the integrated measuring stations and automatically turns both oblong and oval shapes for width and length measuring prior to hardness testing.

Especially when it comes to testing oval, oblong or other shapes, the SmartTest 50 combines maximum flexibility with reliable tablet orientation for high precision results. The integrated single-flap SmartAlign™ system ensures correct positioning of test samples at all times. As a standard, the SmartTest 50 first measures the width of tablets and then quickly re-positions them for precise length and hardness measuring – all in the same integrated measuring station. If width measuring is not required, tablets are immediately oriented for combined diameter (length) and hardness measurement.

After each measurement, an integrated cleaning function removes debris and broken tablet fragments from all contact surfaces of the hardness station for trouble-free operation. Short cycle times are maintained at all times. To «future-proof» your investment, the SmartAlign™ system does not limit the application range of the SmartTest 50 in any way. From small to large tablet sizes – almost all shapes can be tested in standard configuration. When equipped with a custom feeder carousel, there are no limits for testing even the most complex special tablet shapes.

→ Semi-automatic testing of virtually all tablet shapes and sizes with the SmartTest 50
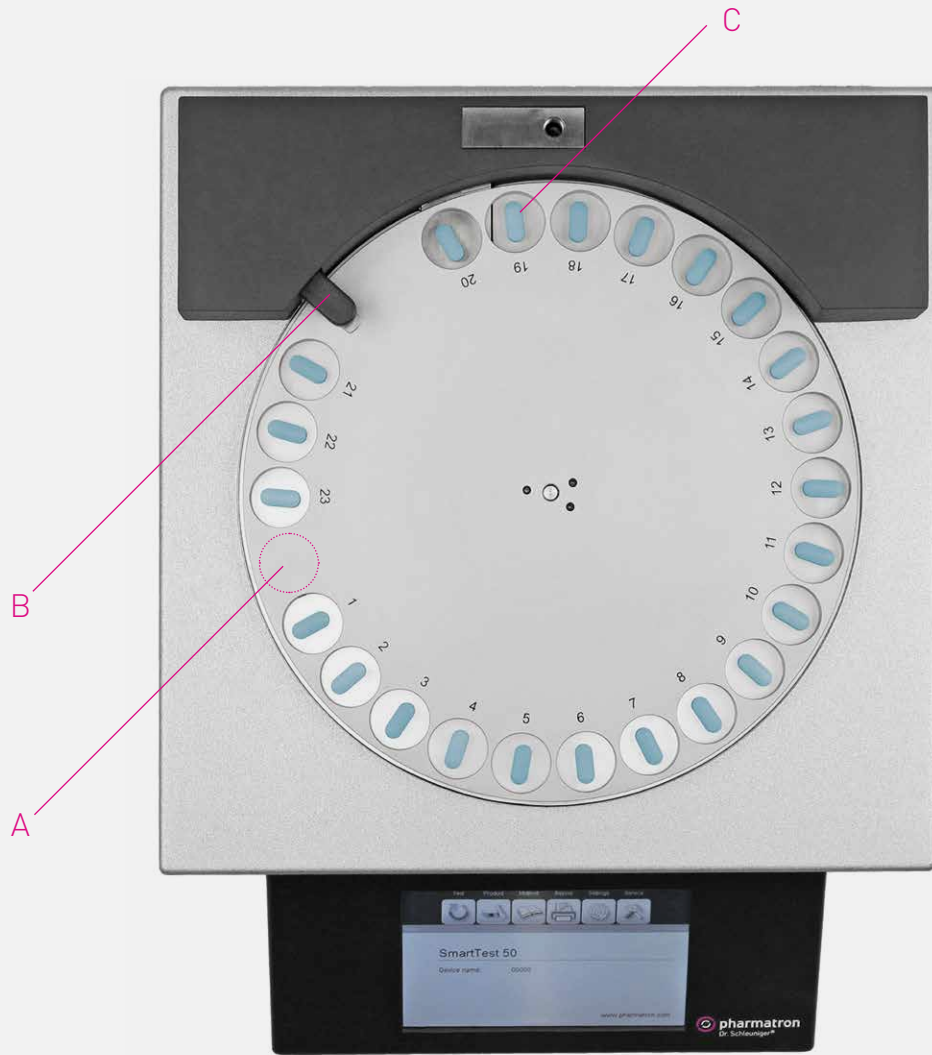

→ SmartAlign™ to measure diameter & hardness

→ SmartAlign™ to measure width

→ SmartAlign™ to measure length & hardness

→ Top view of SmartTest 50
   A: Integrated balance (depending on model)
   B: Thickness measuring station
   C: Width/Length (Diameter)/Hardness measuring station
      with integrated SmartAlign™ system

Flexibility and Precision

Accommodating for most standard testing needs, up to 23 tablet samples are measured in one test run. If testing larger sample sizes is required, results from several test runs can be combined in a single test report – with the push of a button.

Only the combination of quality components, state-of-the-art electronics and correct tablet orientation provides test results you can rely on. The SmartTest 50 with proven 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 line-arity of 99.95% over the entire measuring range. Featuring innovative light-weight construction, the integrated thickness gauge is extremely precise and applies only minimal pressure on tested tablets. To ensure stable test conditions – particularly for the integrated balance – the SmartTest 50 can be equipped with an anti-static safety cover protecting all measuring stations.

User-friendliness

Operating a semi-automatic tablet testing system has never been easier. The intuitive icon-based touch screen user interface sets new standards for fast and user-friendly control. Three test modes allow using the SmartTest 50 according to individual reporting requirements.

From executing simple tests to programming products with T1/T2/PL limits and methods – everything is configurable using the touch screen menu. Intuitive icon-based navigation and logical menu structures with intelligent operator assistance provide for fast test setup, short training time and error-free data entry.

Different views can be selected while test runs are executed, allowing the operator to display currently measured value, complete series of measurements and even graphical hardness curves. Professional reports are automatically printed at completion of a test run.

For paperless reporting and central data management in full compliance with 21 CFR, Part 11 requirements, the SmartTest 50 can be networked with the TabStat™ DataCenter.

→ Fast and intuitive icon-based
  touch screen operation

"FullTest" mode

All product and method specifications can be pre-programmed and easily retrieved for fast test setup. Up to 100 products including nominal values and T1/T2/PL limits for all test parameters are conveniently stored directly on the SmartTest 50. On completion of each test run, a comprehensive report is printed automatically. The report shows all product and test parameters, calibration data and individually measured values along with statistical analysis.

"EasyTest" mode

For tests without T1/T2/PL limits, the EasyTest mode allows direct setting of nominal values and sample sizes for each parameter. No programming of product or method specifications required. The same reporting functionsas in the "Full-Test" mode are available.

"SingleTest" mode

To quickly measure single tablets without printing a report, simply activate the parameter(s) you would like to test and press start.

Networking

All SmartTest 50 tablet testers can be networked with TabStat™ DataCenter software for 21 CFR, Part 11 compliant electronic data management. Product and method specifications are administrated centrally and simply loaded to individual testers via Ethernet when setting up a new test. Measured results and test reports are automatically stored in a central database. All reports are available anytime for printing and can be exported either as PDF or Microsoft Excel® compatible format.
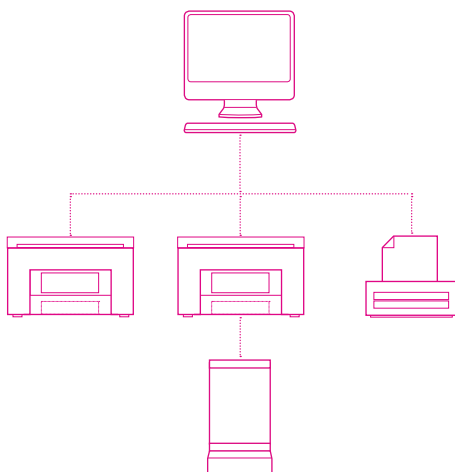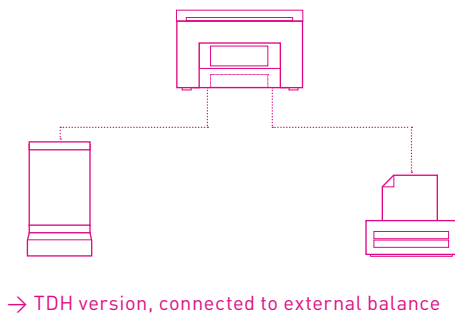
Models

→ TDH version, connected to external balance

→ Example: TabStat™ DataCenter with 2 x SmartTest 50
   (TDH version and WTDH version)

The SmartTest 50 with external balance interface (instead of being equipped with an integrated weighing module) has been designed for alternative testing requirements.

The operator first measures the weight of samples individually on a connected external balance and then places them in the SmartTest 50 feeder carousel. Measured results are automatically transferred to the tester. As soon as the required sample size has been reached, testing of thickness, width, diameter/length and hardness parameters proceeds automatically. Upon completion of the test, a report with all results – including manually measured weight values – is automatically generated.

Technical Specifications

		SmartTest 50, Tablet testing system
Weight	Measuring range	0.1 mg – 50 g
	Resolution	0.1 mg
	Units of measure	mg/g
	Type of external balance	MettlerToledo®, Sartorius® (applies to TDH version only)
	Type of integrated balance	Sartorius® weighing module (applies to WTDH version only)
Thickness	Measuring range	0 – 15 mm (0 – 0.59 inch)
	Resolution	0.01 mm (0.00039 inch)
	Units of measure	mm / inch
Diameter / Length / Width	Measuring range	0 – 25 mm (0 – 0.98 inch)
	Resolution	0.01 mm (0.00039 inch)
	Units of measure	mm / inch
Hardness	Measuring range	Up to 800 N
	Accuracy	Better than +/- 1 N
	Units of measure	N, Sc, Kp, programmable user-defined factor (based on N)
Hardness measuring principle	Constant speed	0.05 – 5 mm/sec, programmable
	Linear force increase	10 – 200 N/sec, programmable
Program capacity		100 products / 20 methods
Interfaces		Ethernet, USB, RS232
Printer type		PostScript® network printer (LAN), PostScript® USB printer, serial printer
Power supply		100 – 230 V, 50 – 60 Hz
CE Conformity		All SmartTest 50 versions fully comply with all CE and EMC equipment guidelines relative to mechanical and electrical safety and electromagnetic compatibility.

		TDH	WTDH
Configuration	Hardness	●	●
	Diameter/Length	●	●
	Width	●	●
	Thickness	●	●
	Weight (integrated)	—	●
	Weight (external)	●	—
	Safety cover	○	●
Weight	(without packaging)	approx. 30 kg (66.5 lbs)	approx. 32 kg (70.5 lbs)
Dimensions	Width	395 mm (15.6 inch)	395 mm (15.6 inch)
	Height	256 mm (10.1 inch)	260 mm (10.3 inch)
	Depth	505 mm (19.9 inch)	505 mm (19.9 inch)
Software	TabStat™ DataCenter	○	○
	TabStat™ DataManager	○	○

● included   ○ optional   — not available

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