



# TD 1 Tap Density Tester

Full compliance with all USP, EP, ASTM and DIN EN ISO requirements  
One single cylinder station for all measurement methods  
Simple handling with "easy to lock" cylinders and SingleButton™ operation  
Automatic calculation and print-out of test results  
Professional reporting and data management

# TD 1

The flexible TD 1 tap density tester with one single measurement station excels in user-friendly operation while complying with all USP, EP, ASTM and DIN EN ISO requirements. The TD 1 has been designed for optimized and efficient operation. Easy operation allows tests to be run using a pre-defined EP / USP method – reducing setup time to a minimum while ensuring that tests are performed according to specifications.

Operating the TD 1 is simple: The SingleButton™ navigation allows users to quickly start tests and navigate through the menu. Method parameters such as strokes per minute and number of taps can be defined individually or easily set to comply with different standards. Weight measurements before a test are either transferred automatically from a connected standard laboratory balance

or alternatively entered manually. To ensure ease of regulatory compliance, the TD 1 automatically compares the test results with regulatory requirements (e.g. acceptance criteria) and automatically guides the user through the complete test procedure. Test reports including starting volume and tapped volume are conveniently printed directly from the tester.



→ TD 1  
Tap Density Tester

## Full regulatory compliance

The TD 1 tap density tester complies with all relevant regulatory requirements:

- USP 1 / 2 (chapter <616>)
- EP 1 / 2 (chapter 2.9.34.)
- ASTM B 527
- DIN EN ISO norm 787-11 and ISO 3953

To ensure ease of regulatory compliance, the device is equipped with various automatic detection, calculation and reporting features.



→ Single measurement station with "easy to lock" cylinder

## User-friendly handling

The TD 1 is equipped with only one cylinder station for all test methods – different cylinders can be loaded onto the "easy to lock" holders which allow for free rotation of the cylinders and, hence, horizontal powder surface for clear reading precision. The device also features a built-in sensor that can detect the presence of an adapter piece (spacer) which automatically sets the device to comply with the correct test method (e.g. with adapter → USP 2; without adapter → USP 1).

Operating the TD 1 with the SingleButton™ feature is extremely user-friendly – tests can be started very quickly and navigating through the menu is simple.



→ User-friendly SingleButton™ navigation

## Professional reporting and data management

The TD 1 compiles the results automatically, including method parameters, calculation as Tapped Density, Compressibility index and Hausner ratio. The last 20 reports are saved in the instrument memory and can be printed out either on a local or network printer. Test data can also be managed professionally with q-doc (optional), a user-friendly PC software for reporting and data management in full compliance with 21 CFR Part 11 requirements. All test data can be stored in a database enabling harmonized and detailed reporting of individual test runs as well as batch results for trend observation. Comprehensive test and batch reports including statistical analysis are automatically generated in formats that are readily accepted by regulatory authorities. All test results are stored electronically in an SQL database – locally or in a networked environment – and can be retrieved flexibly at any time.

## Easy validation and qualification

The qualification procedure is fully menu-guided, step-by-step, and finished off with a printed validation report. The user can also define and set the validation intervals in the TD 1 firmware.

The built-in validation platform simplifies and guarantees a reliable qualification process.

Qualification results are automatically saved in the device and are printable at any time.

# Technical Specifications

Test methods	USP 1 / EP 1, USP 2 / EP 2 / ASTM, DIN EN ISO or user-defined		
No. of stations	1 station (suitable for different size glass cylinders)		
Strokes / min.	<ul style="list-style-type: none"> <li>• 300 strokes (for USP 1 / EP 1)</li> <li>• 250 strokes (for USP 2 / EP 2 / ASTM)</li> <li>• 50 – 300 strokes for user-defined methods</li> </ul>		
Stroke height	<ul style="list-style-type: none"> <li>• 14 mm ± 2 (for USP 1 / EP 1)</li> <li>• 3 mm ± 0.2 (for USP 2 / EP 2 / ASTM)</li> </ul>		
No. of taps	1 – 3'000 taps		
Balance connection	Yes (with optional balance)		
Balance interface	RS-232		
Printed test report	Yes (with optional printer)		
Printer interface	RS-232, Ethernet LAN		
PC software	q-doc (optional)		
Qualification	Menu-guided, incl. report		
Noise-absorbing cabinet	Optional (to reduce noise emission)		
Level of noise emission	With noise-absorbing cabinet	58 dB (A)	
	Without noise-absorbing cabinet	78 dB (A)	
Voltage	110 – 230 V, 50 – 60 Hz		
Dimensions	TD 1	Width	230 mm
		Depth	300 mm
		Height	270 mm
	Noise-absorbing cabinet	Width	540 mm
		Depth	500 mm
		Height	790 mm
Weight	TD 1	9 kg	
	Noise-absorbing cabinet	22 kg	

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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