

## Product Information

### Modernization of Static Materials Testing Machines of any Manufacturer



Modernized Zwick 1475 with *testControl*



Modernized MTS 1S with *testControl*

#### **Modernizations maintain your „valuables“ and look after your budget**

Modernization is a good investment and offers an attractive price performance ratio compared to the purchase of a new testing machine, particularly for large capacity testing frames which are still in good mechanical condition.

Over the last 15 years Zwick has modernized thousands of static screw driven, and servo-hydraulic static testing systems from over 40 different manufacturers worldwide.

Testing systems which have been modernized by Zwick can be supported by the Zwick Roell Groups global support network, ensuring that you are connected to the worlds most focussed organization for materials testing systems.

The latest technology data processing systems guarantee improved data transfer rates from testing machine to PC, allowing important test results to be captured and analysed in full. Using the latest digital electronics permits you to maximize performance and productivity through increased accuracy, precision and process control.

Using the same technology as used in standard production, Zwick offers an „off the shelf“ solution for the modernization or retrofit of most brands of testing machines and guarantees that they can be supported anywhere in the world for at least the next ten years.

The existing load cells, grips, extensometers and tooling can be retained in order to save initial investment costs. In the longer term Zwick's extensive range of accessories, including its state of the art digital extensometry can also be added in order to improve the versatility and flexibility of your testing system.

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#### Advantages / Features

- Guaranteed spare parts supply
- Renewed long-term service guarantee
- Retaining of expensive components such as extensometers and specimen grip systems
- Allows validation of the testing machine according to the latest quality standards
- Employment of the intelligent testing software *testXpert® II*
- Integration of the testing machine into new IT worlds

Zwick recommends that all electrical and electronic parts are replaced including the drive system in order to fully comply with the latest CE / VDE / EMC and other safety regulations. Although initially higher in cost, this is outweighed by the improvements in drive performance and long term reliability and reduced downtime due to state of the art digital drive controllers which meet and exceed all requirements of the latest international Testing Standards.

#### Modernization step by step



UTS 100 modernized with *testControl*

- The control cabinet is replaced by new digital electronics and commercially available PC, without additional cards.
- The old drive is replaced by a new AC-drive
- Existing load cells are adapted.
- The users are briefed in the use of the testing software *testXpert® II*.
- Finally, load cells are calibrated.



New hydraulic power pack

New ACdrive

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#### Modernization Packages for Static Materials Testing Machines

##### ZMART Zwick Modernization and Retrofit Technology

Electromechanical and hydraulic testing machines of different design and make are technologically updated using the modernization package *testControl*.

The modernization packages consist of following components:

- Digital measurement and control electronics
- Testing software *testXpert*® II
- Maintenance-free AC drives
- Proportional or servo-operated valves as well as hydraulic power packs for hydraulic materials testing machines



Before modernization



After modernization

Detailed information regarding *testControl* electronics and *testXpert*® II testing software can be found in our product information "Modular Modernization Components with *testControl* and *testXpert*® II".

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Special features or properties	Zwick ZMART.PRO <i>testControl</i>		
	M	H	I
Application field			
• Electromechanical testing machines	•	-	-
• Quasi static hydraulic testing machines	-	•	•
<b>Measurement value logging and display</b>			
• Test load and crosshead path or piston travel	•	•	•
<i>Further connectivity:</i>			
• 500 Hz	•	•	-
• Manual analog extensometers (inductive)	•	•	•
• Manual analog extensometers (strain gage system)	•	•	•
• Manual incremental extensometers	•	•	•
• Automatic Zwick extensometers	•	•	-
• Several load cells (switchable via <i>testXpert</i> )	•	•	•
<b>Data storage and processing</b>			
• Display of strain at maximum load and path when reaching the end-of-test criterion (without PC)	•	•	-
• Optional display of test load or tension, path or deformation or elongation (with PC only)	•	•	•
• Output of XY curves with the coordinates force vs. tension, path or deformation or elongation (with PC only)	•	•	•
• Automatic determination and documentation of the material characteristics and statistic data (PC only)	•	•	•
<b>Test sequence control and speed control</b>			
• Automatic end-of-test detection (specimen breakage, limit value of force, path or time or number of test cycles reached)	•	•	-
• Automatic stop at end of test or return to start position	•	•	-
• Automatic speed change according to the test program selected (with PC only)	•	•	-
• Control of test speed depending on the force measured or deformation („closed-loop“ control, with PC only and corresponding program)	•	•	-
<b>Monitoring of safety limit values</b>			
• Test load	•	•	-
• Crosshead path or piston travel	•	•	-

**M = Mechanical machine**

**H = Hydraulic machine**

**I = Information / recording**