TIRA Werkstoffprüftechnik
Material Testing

Tensile, Compression and Bending Tests

TIRA Material Testing

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The company was **founded in 1947 as Thüringer Industriewerk Rauenstein**, renamed as TIRA Maschinenbau in the 80s and later in TIRA GmbH.

In **more than 65-years experience** TIRA can refer to several thousand plants and systems for various industries. TIRA machines are used worldwide. The destructive testing as the oldest branch of material testing has gained importance through the incorporation of the latest technologies.

The **main application areas** of the TIRA material testing can be found in the following areas: automotive, aviation and aerospace industry, Building materials industry, research and development.

Qualified, highly motivated and dedicated staffs ensure the excellent quality of products for industry and science. Our products fulfill the strict requirements of ISO 9001 and allowing tests according to national and international regulations.

MANUFACTURING AND DELIVERY PROGRAM

- Tensile-, Compression- and Bending test with spindle drive, up to 1,5 MN
- Tests at specified temperature and climate conditions
- Software for Universal Testing Machine
- Modernization of all Brands
- Maintenance and calibration of testing machines of all manufacturers through our laboratory DAkkS
- Special testing machines

BENEFITS OF TIRAtest MATERIAL TESTING MACHINES

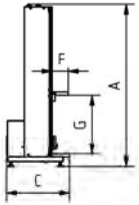
Either simple and complex tests or special solutions depend on the customer‘s requests

- They can be used in research, teaching and quality control of the production of metals, plastics, textiles, building materials, wood, ceramics, composites, components, etc.
- They are **effective and reliable** through modern digital data processing and use of high quality components
- They are **easy to operate** through a graphical user interface under Windows ®
- They are **upgradeable** through modular systems

Test Equipment – overview of technical data

SINGLE SPINDLE TABLETOP FRAME

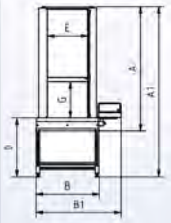
Types	28025	28025 short	2805C
Max. test force (N)	2500	2500	5000
Test area: Width (E) (mm) Depth (F) (mm) Height (G) (mm)	- 90 980*	- 90 540*	- 90 980*
Max. stroke (mm)	900*	480*	900*
Total height (A) (mm)	1250	730	1250
Total width (B) (mm)	460**	460**	460**
Total depth (C) (mm)	500	500	500
Weight (kg)	70	55	85
Crosshead resolution	<0,1 µm	<0,1 µm	<0,1 µm
Max. test Speed (mm/min)	1200	1200	750
Power consumption (Watt)	200	200	200

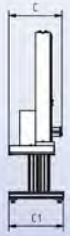


* Without force transducer and coupling ** Including EDC controller

TWIN-SPINDLE TABLETOP FRAME

Types	2803	2805	2810	2820	2850
Max. test force (kN)	3	5	10	20	50
Test area: Width (E) (mm) Depth (F) (mm) Height (G) (mm)	390 - 1030*	450 - 1100*	450 - 1080	450 - 1100*	450 - 1100*
Max. stroke (mm)	960*	1000*	1000*	1000*	1000*
Total height (A) (mm)	1250	1410	1410	1430	-
Total width (B) (mm)	630	720	720	720	720
Total depth (C) (mm)	430	600	600	600	600
Working height with Sub-frame (D) (mm)	-	680	680	700	720
Total height with Sub-frame (A1) (mm)	-	1950	1950	1950	2000
Total width with controller (B1) (mm)	-	980	980	980	980
Total depth with Sub-frame (C1) (mm)	-	610	610	610	610
Weight without Sub-frame (kg)	85	175	175	225	-
Weight with Sub-frame (kg)	-	200	200	250	480
Crosshead resolution	<0,1 µm	<0,1 µm	<0,1 µm	<0,1 µm	<0,1 µm
Max. test Speed (mm/min)	750	750	750	800	500
Power consumption (Watt)	200	200	400	700	1500





* Without force transducer and coupling

FLOOR STANDING

Types	28100	28300	28500	28600	281300
Max. test force (kN)	100	300	500	600	1300
Test area: Width (E) (mm) Depth (F) (mm) Height (G) (mm)	580 - 1250*	650 - 1400*	750 - 1700*	750 - 1850*	700 - 2550*
Max. stroke (mm)	1100*	1250*	1550*	1750*	2300*
Total height (A) (mm)	2050	2250	2550	2800	3700
Total width (B) (mm)	1050	1250	1500	1550	1750
Total depth (C) (mm)	700	900	1050	1050	1300
Working height (D) (mm)	600	650	600	700	800
Total width with controller (B1) (mm)	1270	1500	1750	1800	2000
Cabinet Width (mm) Height (mm) Depth (mm)	600 900 400	600 900 400	600 900 400	600 900 400	800 1600 500
Weight without Cabinet (kg)	720	1550	3350	3550	6500
Cabinet Weight (kg)	80	80	80	80	120
Crosshead resolution	<0,1 µm	<0,1 µm	<0,1 µm	<0,1 µm	<0,1 µm
Max. test Speed	500	200	200	200	200
Power consumption (Watt)	3000 3~400V	3000 3~400V	6000 3~400V	6000 3~400V	10000 3~400V

* Without force transducer and coupling

Control | Operation | Evaluation

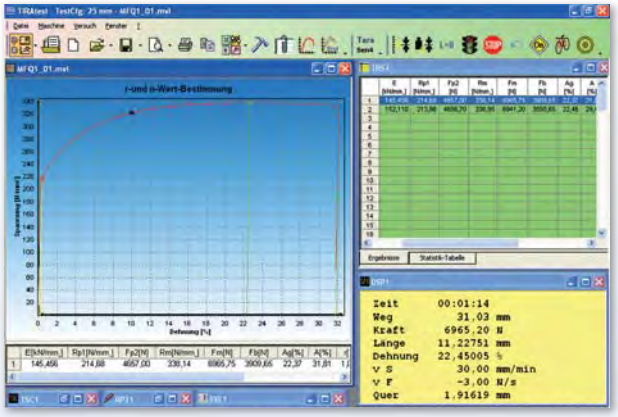
MATERIAL TESTING SOFTWARE

In the **PC mode**, we offer a modern and easier using Program package under Microsoft ® Windows. Our permanent increasing Program library contains a wide range of user programs for standard (e. g. DIN, EN, ASTM, ISO) and customer-specific tests. The software is available in different languages (German, English, French, Spanish, Russian, Czech and Polish).

The **main menu window** shows clearly the measurement values diagrams, the numerical test results and the statistics in tabular form. Menu, toolbar and all software functions are easily and quickly accessible (setup, configuration, test report etc.)

In case having questions, you will get the right answers from **TIRAsoft help**.

In addition to the Path, force, length amendment, stress and strain even **further parameters can be defined** by the user. Therefore we have developed the simplest programming language for TiRAscript to operate TIRAtest testing machines, whereby even their own testing and evaluations for any desired test procedures can be programmed.



Material testing software

Further information about TIRAtest-Software could be obtained on the following web site: www.tira-gmbh.de

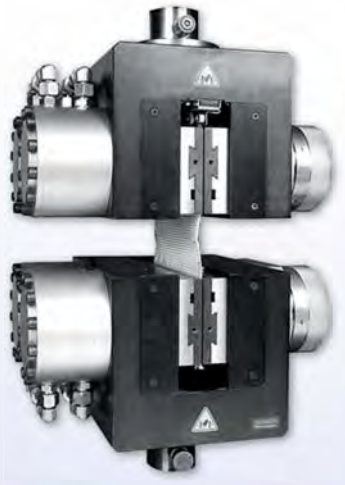
MEASUREMENT AND CONTROL

Testing machines of 2800 series are equipped with powerful, intelligent measurement and control electronics, thus a precise experimental control and high measuring accuracy is guaranteed.

Model	2800 / E22	2800 / E58
Load resolution	180.000 digit	200.000 digit
Crosshead resolution	Incremental / < 0,1 µm	Incremental / < 0,1 µm
Control loop frequency	max. 1 KHz	max. 5 kHz
Input/output	Serial interface for sensors, each with 8 digital input/output	Serial interface for sensors, each with 8 digital input/output
Extension – Slot	2 options slots	7 options slots

Accessories – Models and options

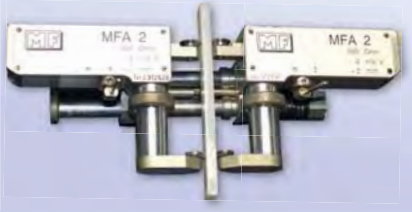
CLAMPING TOOLS



CLIMATE CHAMBERS

Climate chambers: temperature range -70 °C up to + 300 °C

STRAIN SENSORS

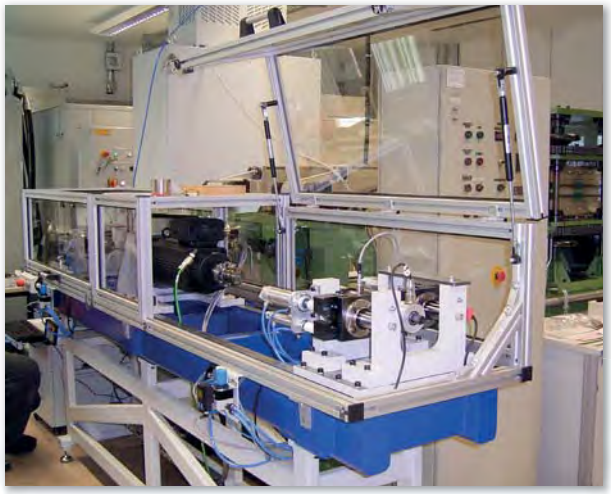


FURNACES

Hinged **HT Furnaces** are used for material testing under high temperature.

- temperature range up to + 1200°C

Test Equipment – Special applications according to Customer's request



Torsion - Vibration Testing Machine 100 Nm, Test frequency 10 Hz

Hot Set Tester

Modernization of TIRAtest 2300 to TIRAtest 28100

Testing Machine for High Voltage Cables

ATT ANGELANTONI TESTTECHNOLOGIES | TIRA Werkstoffprüftechnik Material Testing

TIRA GmbH | Eisfelder Straße 23/25 | 96528 Schalkau
www.tira-gmbh.de | Tel.: 00 49 (0) 3 67 66 / 280 - 0 | Fax.: 00 49 (0) 3 67 66 / 280 - 99 | e-Mail: wpt@tira-gmbh.de