Test AND Measurement

A & D's Testing, Measurement & Control Equipment Lineup

Judder Testing Machine

This testing machine can measure friction characteristics such as temperature, friction force, and sliding speed, and evaluate wet clutch steel plates, friction materials, AFT, and additives.

[Specifications] Maximum pressure force: 5 kN, Pressure setting: Any step can be pressurized, Slip speed: 1 to 500 R.P.M, Sliding speed setting: Arbitrary step speed possible, frictional force: 50 N·m, temperature 200℃, heating method: Indirect/direct heating, operation pattern: JASOM349, [Industry/Standard] JASO M349-01, Automatic transmission oil shudder prevention performance test method.

High Ambient Pressure Friction & Wear Testing Machine

This testing machine evaluates sliding characteristics in a pressure vessel. You can evaluate the friction characteristics of refrigerants, oils, sliding materials, etc., of compressors, etc. In addition, the friction force can be measured accurately by placing the load cell in the pressure vessel.

[Specifications] Maximum pressure force: Up to 8 kN, Rotation speed: Up to 8000 rpm, measurement range: 5 N·m, environmental pressure: Up to 5 MPa [Industry/Standard] Compressor, oil material

Reciprocating Friction & Wear Testing Machine

This testing machine evaluates the surface condition of materials, including sliding surfaces, by measuring frictional force.

[Specifications] Pressurized load range: Variable from 100 g to 5 kg, Friction coefficient measurement range: 0.01 to 1,Sliding distance: Approximately 10.0 to 30.0 mm, sliding speed: 6 to 600 mm/min.[Industry/Standards] Sliding objects, painted surfaces, coating films

Seat/Bed Durability Testing Machine

This testing machine is a durability testing machine for seats and beds. It can also be used as a compression testing machine.

[Specifications] Durability test, Stroke: 0 to 150mm, Large load: 1.5kN, repeat speed: 160 times/min, measurement point: Can be tested while automatically changing the measurement point of the bed, compression test, test speed 1 to 500 mm/min, maximum load 2 kN [Industry/Standard] Sheet/bed/mat/urethane

Bearing Friction & Wear Testing Machine

This testing machine evaluates the friction characteristics of radial bearings, etc. Lubricating oil is appplied by adopting a circulation method, enabling heating up to 80℃.

[Specifications] Pressure force 15 kN, Rotation speed up to 10000 rpm, with printed safety equipment [Industry/Standards] Radial bearings, lubricating oils, sliding materials

Friction Testing Machine (EFM-3 Type)

A friction testing machine that complies with the JIS K7218 slip wear test method.

[Specifications] Maximum pressure force: 5 kN, pressurization setting: Arbitrary step pressurization possible, sliding speed: 1 to 400 /sec, slip speed setting: Arbitrary step speed possible, frictional force: 100/200 N switching, temperature measurement: Maximum 3cH (op) [Industry/Standard] Rigid/semi-rigid molding resin, JIS K7218, plastic slip wear test method.

Large Testing Machine for Wood

This testing machine is for performing 3-point and 4-point bending tests on wooden pillars. For easy adjustment between fulcrums, it is equipped with rails attached to the foundation and a trolley for transporting samples.

[Specifications] Maximum load: 300 kN, lower fulcrum distance: 400 to 8100 mm, height to fulcrum: Approximately 400 mm, 4-point curve fulcrum distance: 200 to 2700 mm [Industry/Standard] Test method for wood materials and JIS Z2101 (JAS) wood materials such as pillars and squares.

Automatic Tensile Testing Machine

This testing machine is a device for determining the tensile properties of plastics and plastic composites. When the sample is attached to the feeder section, it is automatically measured and tested. Highly accurate elastic modulus measurement is possible.

[Specifications] Maximum load: 10 kN, maximum number of tests: 100 pieces, sample mounting method: Pallet or stocker, number of measuring points: Width and thickness 3 points each. [Industry/Standards] Hard/semi-hard molding resin, JIS K7161 (ISO 5271) Plastic tensile property test method

Semi-automatic Tensile Testing Machine

With this testing machine, simply by mounting the sample, the controller of the testing machine applies an appropriate initial load to the sample and automatically installs an extensionmeter between the marked lines, enabling highly reproducible tests.

[Specifications] Maximum pressure force: 10 kN, test speed: 0.05 to 1000 mm/min. [Industry/Standard] Tensile test of rubber material, tensile test of plastic material by exchanging factory options JIS K7161 (ISO 0527) elastic modulus measurement.

* Appearance and specifications are subject to change without notice for improvement.
* Windows 10 Professional is a registered trademark of Microsoft Corporation.

⚠ Safety Precautions ● Please read the instruction manual carefully before using the product.

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● The contents of this catalog are current as of September 2021.
RTH/RTI-ADCC-00-AD1-21a000

A&D Company, Ltd.

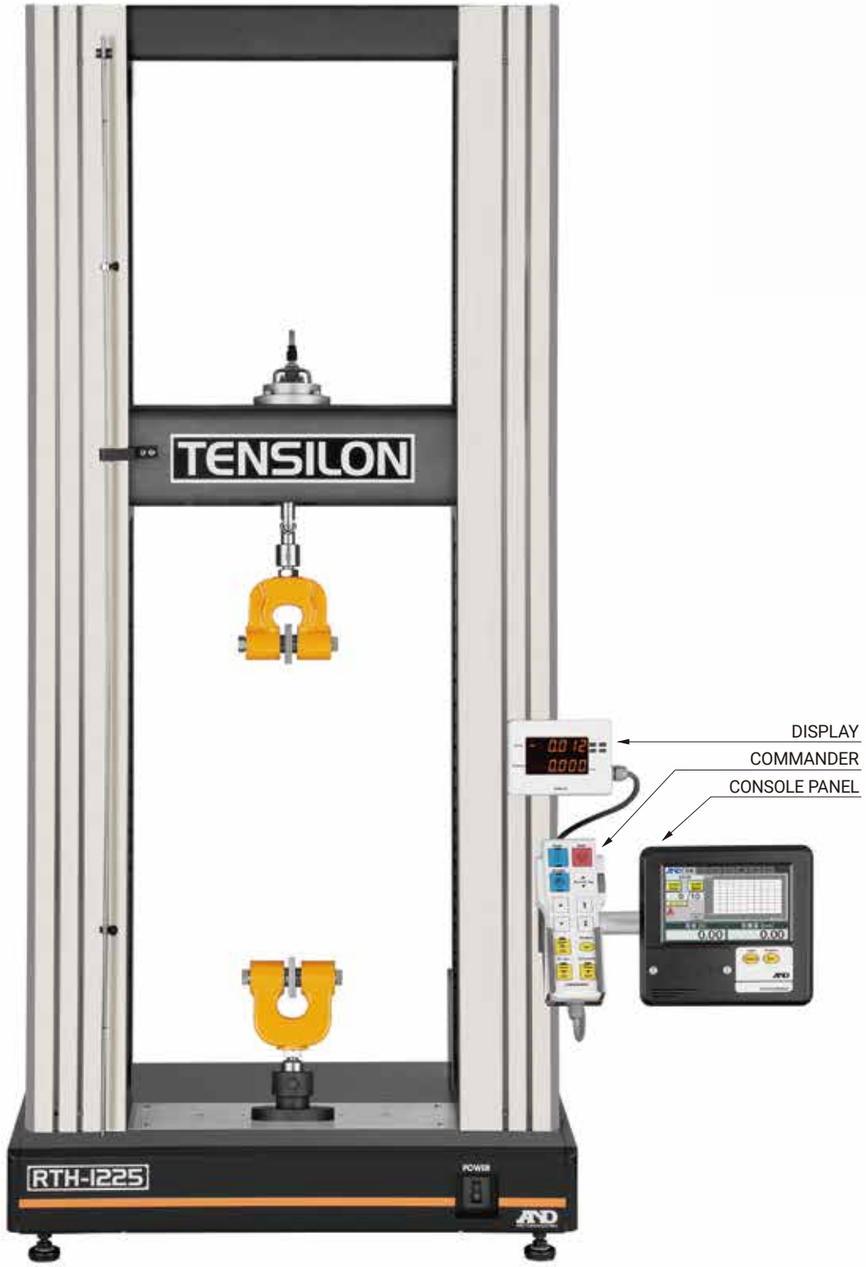
TENSILON Universal Testing Machine

TENSILON

RTH•RTI Series

Discover Precision

Next Stage



A&D’ s “TENSILON Universal Testing Machine”
has been favored by many companies and laboratories
and has become a byword for “testing machine”, thanks to its
use of the best technology available at the time in the fields of
“force sensor technology” and “measurement/control
technology” used in connecting sensors to machines.

History

A&D's “TENSILON Universal Testing Machine" has been around for 60 years since its creation as the first load cell type Universal Testing Machine in Japan.
It incorporated the latest electrical components and control technology of the time.
Since then, it has been favored by many companies and laboratories and has become a byword for "testing machine”, thanks to its use of the best technology available at the time in the fields of force sensor technology and measurement/control technology used in connecting sensors to machines.

Sensor

Our sensors are used in many industries as essential components of electronic balances, factory equipment, and engine measurement systems. They have also been adopted in equipment designated as the national standard, and continue to maintain specifications that can be said to be the industry standard.
Our measurement and control system, which can be said to be the core of the testing machine, has the world's highest level of accuracy and is capable of ultra-fast calculation. We have also further refined the “ease of operation” aspect by making the interface more intuitive.

Performance

The TENSILON brand has accumulated the trust of many customers and have continued to adapt our products to accommodate their demands.
The “TENSILON RTH/RTI Series" has evolved further and is equipped with many outstanding functions. You can easily maximize test performance by using the optimized data processing system, "TACT". In addition to being able to process a diverse number of input signals, a variety of measurement methods can be implemented thanks to the Calculation function, allowing our product to adapt and respond flexibly to various tests.

High Performance

RTH SERIES

The "Tensilon RTH Series" retains the functions of the well-established conventional models.
It also retains the specifications of the standard models, such as a testing machine grade of 0.5, ultra-high precision measurement with extremely high frame rigidity, and improved operability.
The mission of the trusted brand "Tensilon" is to continue to evolve.
The RTH series, which has matured further , aims to embody the next era of testing machines.

RTH-2430
RTH-2410

RTH-1350

RTH-1310

RTH-1225

For tests conducted in upper area space.

Unmatched High Performance
Next stage in evolution of TENSILON RTH/RTI Series.
Lineup including both High Precision and Standard Precision models.

Lineup by accuracy

Lineup of High Precision and Standard Precision models

RTH SERIES

Test Force Accuracy

High	0.3%: 1/1 to 1/100 0.5%: 1/100 to 1/1000
Standard	0.5%: 1/1 to 1/1000 1%: 1/1 to 1/1000 (RTH-2430)

Speed range Wider

Wider speed range

RTH SERIES

0.0001 to 1500 mm/min: RTH-1225
0.0001 to 1200 mm/min: RTH-1310
0.0001 to 1000 mm/min: RTH-1350
0.0001 to 1000 mm/min: RTH-2410
0.0001 to 500 mm/min: RTH-2430

Return speed 1650 mm/min

Increased measurement efficiency due to faster return speed

RTH SERIES

1650 mm/min: RTH-1225
1200 mm/min: RTH-1310
1200 mm/min: RTH-1350
1200 mm/min: RTH-2410
600 mm/min: RTH-2430

Color

7 inch color touch panel

Admin function User management and usage restrictions can be configured by ID.

Low noise

Consideration to usage environment.

A&D comparison
40% down
when speed is 1000 mm/min

0.2 msec

High-speed sampling (When using TACT)
Tracks even momentary changes in force.

High Performance

RTI SERIES

Versatile Testing Machine with Excellent Cost Performance
The "Tensilon RTI Series" achieves a high level of accuracy beyond its class.
It has established its position as the Standard model for testing machines and aims to embody the next generation of testing machines.

RTI-1310

RTI-1225

Lineup by accuracy

Lineup of High Precision and Standard Precision models

RTI SERIES

Test Force Accuracy

High	0.5%: 1/1 to 1/500
Standard	1%: 1/1 to 1/500

Speed range Wider

Wider speed range

RTI SERIES

0.001 to 1200 (1500) mm/min

NOTE: Value in brackets is for RTH-1225

Return speed 1650 mm/min

Increased measurement efficiency due to faster return speed

RTI SERIES

1200 (1650) mm/min

NOTE: Value in brackets is for RTH-1225

Color

7 inch color touch panel

Admin function User management and usage restrictions can be configured by ID.

Low noise

Consideration to usage environment.

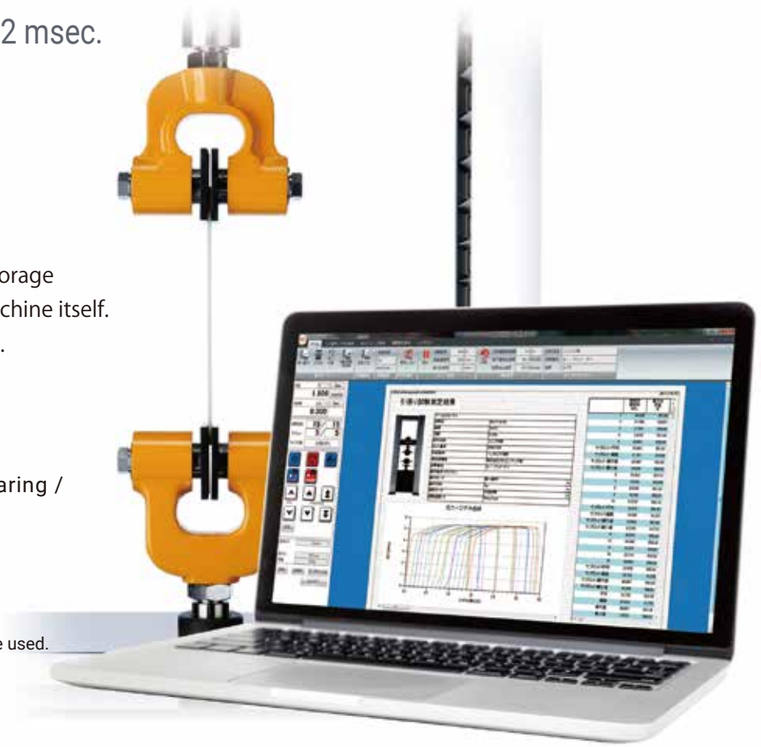
A&D comparison
40% down
when speed is 1000 mm/min

0.2 msec

High-speed sampling (When using TACT)
Tracks even momentary changes in force.

TACT TENSILON Advanced Controller for Testing

"TACT" data processing system, optimized for TENSILON.
Capable of industry's fastest sampling speed of 0.2 msec.
Maximizes RTH/RTI performance.



TACT-SERIES

The TACT series has excellent data analysis, calculation, and data storage functions in addition to the enhanced operability of the testing machine itself. You can choose from 4 types of TACT according to the test content.

TACT-STD

Standard Test

Tension / compression / bending / peeling / tearing / friction / stress relaxation / creep

TACT-CYC

Cycle Test

Tension/compression/bending cycles

* If the reciprocating test speed is different, TACT-CNT should be used.

TACT-CNT

Program Control Test

Programmable setting control of the operation of the main testing machine

TACT-PRO

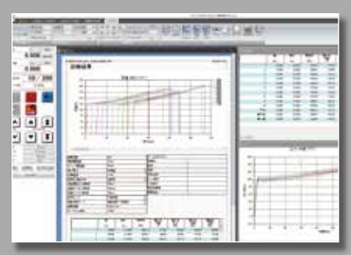
Standard Test + Cycle Test + Program Control Test

[TACT-STD] [TACT-CYC] [TACT-CNT]

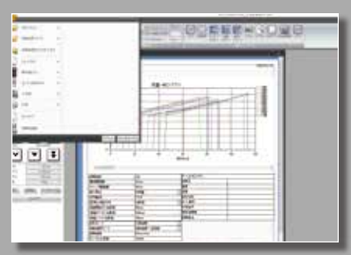
Measurement condition setting	Easy to set up with either the Setup Wizard method or the latest Ribbon Control method.
Guidance function	When you bring the mouse pointer close to each operation button or setting item, the meaning of that operation item and its setting method will be explained in a popup balloon detailed with pictures and text.
Condition file	The condition files are listed together with the screen display image, making it much easier to finding your desired condition file.
View panel	You can freely set the screen display layout and print layout. You can have up to 8 graph windows displayed and also paste company name logos and images.
Multi-function calculation	In addition to multi-channel measurement, the arithmetic channel enables the use of a variety of measurement methods.
Analysis results	You can select an analysis item from the graph image by dragging and dropping. In addition, you can easily set detailed conditions via graph image guidance.
Lot Data	With the thumbnail function, you can view an image of list measurement status under the conditions with an image.
Reanalysis and recalculation functions	Measurement results can be recalculated, and graphs analyzed from lot data.
Graph display and placement	The graph can be displayed in up to 8 windows, and analysis can be performed from various angles. In addition, the layout of each window can be arranged freely.
PC operating environment	OS: Windows10 Professional (32/64bit) CPU: Intel Core i7 2.8GHz or higher (Intel Core i5 3.0GHz or higher for OS 64bit) Memory: 8 GB or more Graphics: SXGA 1280×900 dots or more USB: Occupies one port compatible with Ver2.0/3.0

Screen Image

Measurement screen

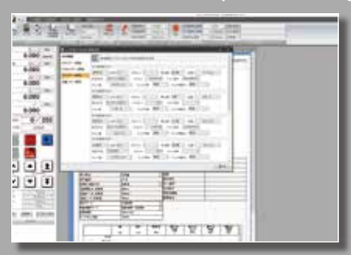


Icon menu

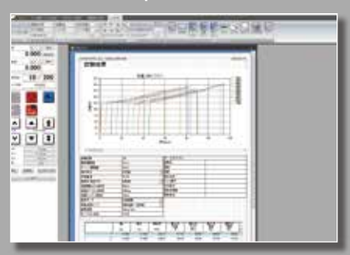


Data search and thumbnail display

Multi-channel input setting



Print view panel



Universal Testing Instrument Controller

The RTH/RTI Series uses a 7 inch color touch panel for the user interface, greatly improving visibility and operability.

7 inch color touch panel
Visibility and operability have been greatly improved.

Easy & immediate operation
Testing machine can be operated without having to startup the data processing system.

Panel angle adjustment
The panel can be adjusted to an angle that is easy to operate.

Log extraction
You can retrieve the test use log.

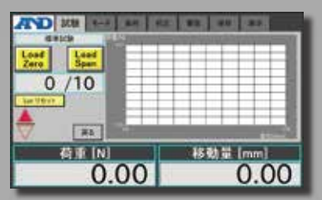
Usage restrictions / admin privileges
An ID and Password is required on startup, and the operations/functions you can use are restricted according to your assigned user level.

If the ID and Password do not match, the testing machine will not startup, preventing it from being operated.

Screen Image

Startup screen

Display during test



Condition setting screen

During measurement
Displays of test force / displacement and S-S curve

Graph display settings
You can set the axes of the S-S curve.

Setting conditions
Various measurement conditions can be saved and loaded.

Calibration screen
Calibration of load cells, extensometers, etc., can be done with a touch. When an abnormal stop occurs, you can check the details of the alarm screen.

Backup and startup of measurement conditions		The measurement conditions immediately before the power is turned off are automatically backed up. The next time the power is turned on, it will start up with the backed up measurement conditions, so measurement can be started easily.
Abundant test speeds		Standard constant crosshead speed (mm/min) Constant load speed (N/min) and constant elongation speed (mm/min) come as standard (extensometer is optional).
Test Modes		Standard Test (tensile/compression/bending) Mode, Cycle Test Mode, Creep / Stress Relaxation Test Mode, Program Test Mode (20 steps)
Load Verification Mode equipped		Load inspection can be performed by combining this product with the A&D AD1661 Load Cell Loop Force Meter (sold separately).
Displacement/load table display resolution		Displays up to 1/1000.
Operability		The position of the touch panel can be set to any height by sliding it up and down. Can be fixed to either the left or right column.
Color display	Data	The touch panel displays a digital display of load displacement and a load/displacement curve.
	Operation button	Buttons are distinguished by using colors and symbols to prevent operational mistakes.
	Setting items	Input items and confirmation items are distinguished by their background color to prevent operational mistakes.
	Selection items	Windows style pull-down selection menu (▽).
Analog style		XY analog recorder / recorder for testing machine (R-61 or AR-6600 series) can be used.
Digital style		Load/displacement data can be digitized and saved in a commercially available USB memory.
Measurement condition memory		Up to 10 measurement condition files can be saved. By registering frequently used measurement conditions, you can start measurements easily.

09

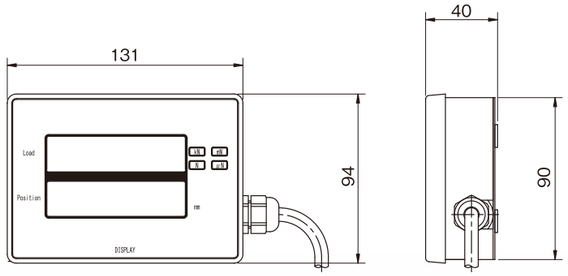
DISPLAY & COMMAND ER

User interface with excellent operability

DISPLAY

Detachable force/displacement digital display.
This display is fitted with magnets so it can be attached to any position on the testing machine. This is very convenient when mounting samples, attaching testing jigs and conducting tests as you can adjust the position of the display accodingly.

Fixing method	Magnetic attachment method
Display data	Test force / displacement
Load display digits	000.000 digit display (minimum 1/1000 display). The display unit is automatically selected from 4 types, “kN, N, mN, µN". Peak hold display possible. (Selected in console and data processing)
Displacement display digits	000.000 digit display (minimum 1/1000 display)



The display can be moved to a more convenient/accessible postion.

COMMANDER

A handheld controller used to operate the testing machine.
The color and size of the operation buttons are ergonomically designed for superior ease-of-use.
The popular jog dial is positioned on the side with the dial rotation direction matching the direction of the crosshead, so you can operate it intuitively.

START

This button starts the test. The indicators at the top/bottom of the button light up according to crosshead movement.

RETURN

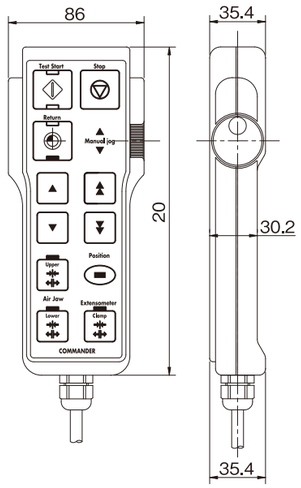
This button returns the crosshead to the starting position. Movement slows down around this point to stabilize and provide an accurate return.

STOP

This button stops the test. When you press this button, the touch panel / TACT ends data measurement.

Manual Jog

Makes minute adjustments to the movement of the crosshead.



Moving crosshead position adjustment

UP
Fine adjustment upward

UP (fast)
Rough adjustment upward

Down
Fine adjustment downward

Down (fast)
Rough adjustment downward

Air Jaw (Upper)

Open or closes the upper jaw when using the air jaws.

Position Zero

Sets the current position as the starting position.

Air Jaw (Lower)

Opens or closes the lower jaw when using the air jaws.

Extensometer (Clamp)

Opens or closes the contacts of the contact type extensometer between gauge marks (GL).

APPLICATION

Abundant variety of applied products diversify TENSILON measurement capabilities

Applied test jigs for strength measurement

Screw action jaws

Applicable load 1 N to 5 kN

These are screw action jaws, which are tightened by hand and suitable for use with low-/mid-capacity tests. Various types ovf jaw faces are available depending on the size and shape of the test sample.

Compression test jig

Applicable load 25 N to 10 kN

This jig is composed of a compression anvil mounted onto the base of a testing machine and a load cell sensitive plate mounted onto a load cell. It is designed to correspond to testing machine and load cell capacities.

Air jaws

Applicable load 50 N to 10 kN

These are screw action jaws suitable for use with low-/mid-capacity test. Various types of jaw faces are available depending on the size and shape of the test sample.

* A tire cord air jaw (RTH-10-AIR) is available separately for samples such as cords and threads.

Compression type bending test jig

Applicable load 1 kN to 10 kN

This bending testing jig conforms to various test standards (JIS, ISO, ASTM, etc.).

Air jaw controller

Required when using the air jaw. Since it is attached to the pillar of the testing machine, it is easy to adjust and check the air.

Compression cage

Applicable load 50 N to 5 kN

This jig converts tension force into compression force.

Applied testing devices for elongation measurement

- SG type extensometer for measuring distance between gauge marks (for plates and rods)
- Contact type extensometer for measuring between gauge marks: U-4310D
- Non-contact type extensometer for measuring between gauge marks: U-4410

SG series strain gauge device for measuring distance between gauge marks

This compact and lightweight strain gauge extensometer is attached to a test sample, which measures the elongation between gauge marks. Various types of SG are available depending on the distance between gauge marks or the volume of the extension.

* Separate RTF-04 is required

Non-contact extensometer for measuring distance between gauge marks

U-4410

This is an electronic optical/detecting system extensometer that makes high-precision measurement of the distance between gauge marks possible without any contact.

Frame

Category	Width		Depth		Height
RTH-1350	897	×	650	×	460
RTH-1225/1310 RTI-1225-1310	710	×	555	×	630

Applied testing devices for temperature/environment tests

- Constant temperature/humidity testing devices
- High temperature testing devices
- Ultra-low temperature testing devices
- High temperature in gas atmosphere testing devices
- High temperature in vacuum testing devices
- Dipping testing devices

Constant temperature/humidity test equipment

Category	Temperature range			Remarks
TKC	R.T +20℃	to	+270℃	
TLF	-35℃	to	+270℃	Refrigerator cooling
TCF	-60℃	to	+270℃	Liquid CO_2 cooling
TCLF	-60℃	to	+270℃	Refrigerator + Liquid CO_2
TLF_2	-65℃	to	+250℃	2-stage refrigerator
TNF	-150℃	to	+250℃	Liquid N_2 cooling
TLF-HS	-35℃	to	+270℃	Refrigerator with cooling and humidity control

RTH SERIES

Load Accuracy 0.3%: 1/1 to 1/100
0.5%: 1/100 to 1/1000

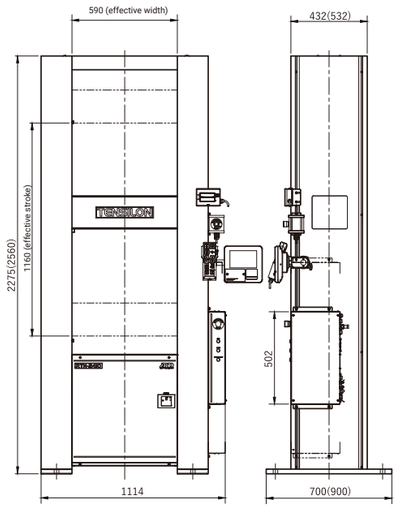
Model		RTH-2430	RTH-2410	RTH-1350
Loading system		Closed-loop microcomputer controlled digital servo-mechanism		
Maximum load capacity		300 kN	100 kN	50 kN
Effective test width		590 mm		
Crosshead table spacing		1445 mm	1260 mm	1090 mm
Stroke		1265 mm	1160 mm	1000 mm
Effective stroke*1		640 mm (when using J-JBM-300KN)	620 mm (when using J-JBM-100KN)	578 mm (when using J-JBM-50KN)
Crosshead speed range		0.0001 to 500 mm/min	0.0001 to 1000 mm/min	
Crosshead speed accuracy*2		±0.1%		
Crosshead arbitrary speed		0.0001 mm steps within crosshead speed range		
Crosshead speed & load volume		Can test up to max. load capacity over entire speed range		
Crosshead return speed		300, 600 mm/min	600, 1200 mm/min	
Crosshead position accuracy		Within ±0.1% of indicated value. If indicated value is less than 10 mm, then ±0.01 mm		
Load measurement accuracy	High Precision*3	—	Within ±0.3% of indicated value (within load cell rating range 1/1 to 1/100) Within ±0.5% of indicated value (within load cell rating range 1/100 to 1/1000)	
	Standard	Within ±1% of indicated value (within load cell rating range 1/1 to 1/1000)	Within ±0.5% of indicated value (within load cell rating range 1/100 to 1/1000)	
Load range		Full auto range (128 times)		
Load calibration		1-touch load calib. via calib. circuit in load cell, w/ load cell rating ident. func.		
Sampling speed		0.2 msec*4		
Frame rigidity		400 kN/mm or more	200 kN/mm or more	90 kN/mm or more
Noise*5		70 dBA or less	70 dBA or less	65 dBA or less
Safety equipment	Overload	Included		
	Stroke	Included		
	Emergency stop	Included		
	Motor overload	Included		
	Soft limit	Included		
Approx. size (W x D x H)		1114 x 900 x 2560 mm	1144 x 700 x 2275 mm	987 x 610 x 1655 mm
Mass*6		1300 kg	800 kg	350 kg
Power supply		AC 180 to 230 V, φ3, 50/60 Hz, 5 m cable, willow-tip wiring		Overload
P. consum., p. supply, breaker capacity		5.1 kW, 7.6 kVA, 40 A	3.1 kW, 6.0 kVA, 30 A	1.6 kW, 3.3 kVA, 20 A
Environmental conditions		Temperature: 5 to 40℃, Humidity: 20 to 80% RH (no condensation)		
Recommended conditions		Temperature 23 ±2℃, humidity 50% RH or less		

RTH-1310	RTH-1225
Closed-loop microcomputer controlled digital servo-mechanism	
10 kN	2.5 kN
420 mm	
1182 mm	
1100 mm (1500 mm when using stroke extension option)	
599 mm (when using J-JBM-10KN)	682 mm (when using J-JBM-5KN)
0.0001 to 1200 mm/min	0.0001 to 1500 mm/min
±0.1%	
0.0001 mm steps within crosshead speed range	
Can test up to max. load capacity over entire speed range	
600, 1200 mm/min	825, 1600 mm/min
Within ±0.1% of indicated value. If indicated value is less than 10 mm, then ±0.01 mm	
Within ±0.3% of indicated value (within load cell rating range 1/1 to 1/100) Within ±0.5% of indicated value (within load cell rating range 1/100 to 1/1000)	
Within ±0.5% of indicated value (within load cell rating range 1/100 to 1/1000)	
Full auto range (128 times)	
1-touch load calib. via calib. circuit in load cell, w/ load cell rating ident. func.	
0.2 msec *4	
42 kN/mm or more	
65 dBA or less	60 dBA or less
Included	
Included	
Included	
Included	
Included	
785 x 451 x 1555 mm	
130 kg	
AC 95 to 122 V, φ1, 50/60 Hz, 3 m cable, 3 pin plug	
475W, 1.7.kVA, 15 A	275 W, 700 VA, 15 A
Temperature: 5 to 40℃, Humidity: 20 to 80% RH (no condensation)	
Temperature 23 ±2℃, humidity 50% RH or less	

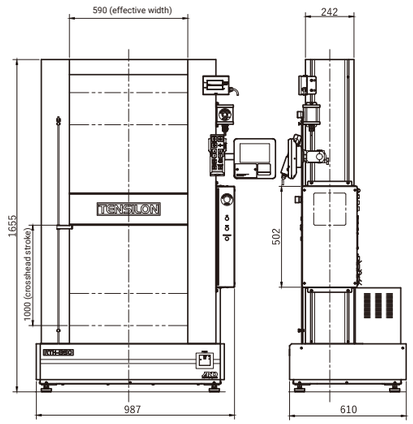
*1: When using the rated standard jaw.
*2: During steady operation with a test speed range of 0.05 to 500 mm/min.
*3: High Precision type is available as an option.
*4: When data processing system is used.
*5: When shipping from factory. Condition: Speed 500 mm/min.
*6: This does not apply when the high-load type fixed crosshead or stroke extension options are installed.
The following table shows the weight increase/decrease when each option is installed.

When high-load type fixed crosshead is installed.
RTH-1225/1310 : +15 kg
RTH-1350 : +50 kg
RTH-1350 : +150 kg

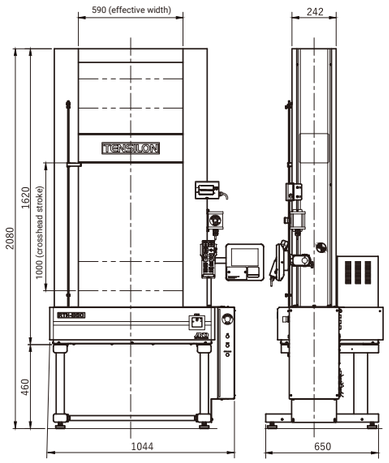
Stroke extension
RTH-1225/1310 : +12 kg
RTH-1350 : +20 kg
RTH-1350 : +30 kg



RTH-2430/2410 Unit: mm

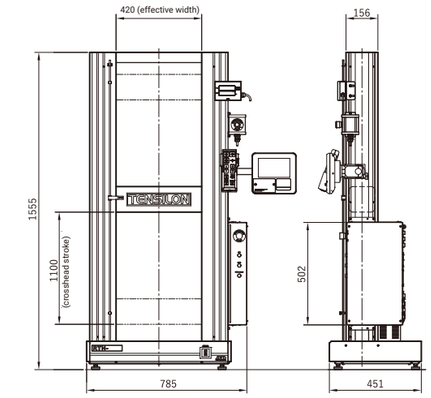


RTH-1350 Unit: mm

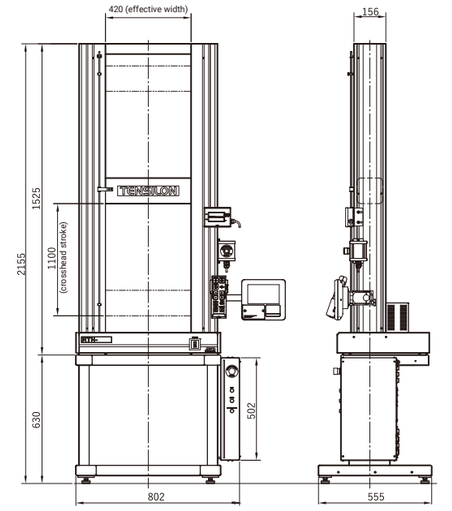


RTH-1350 (+optional rack) Unit: mm

NOTE: Values in brackets are for RTH-2430.



RTH-1225/1310 Unit: mm



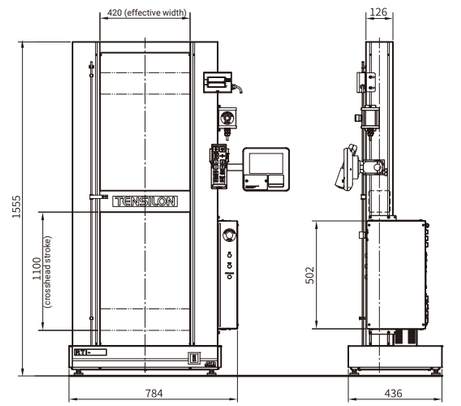
RTH-1225/1310 (+optional rack) Unit: mm

RTI SERIES

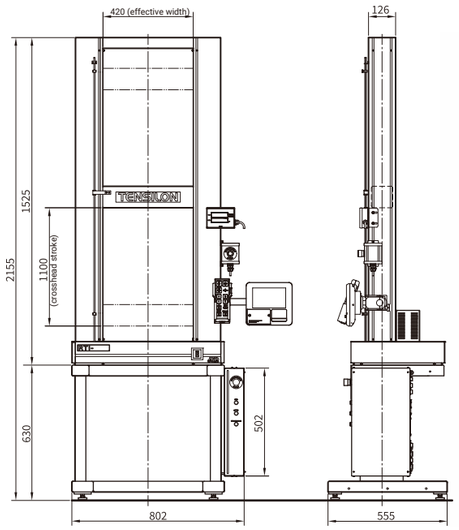
Load Accuracy 0.5%: 1/1 to 1/500

Model		RTI-1310	RTI-1225
Loading system		Closed-loop microcomputer controlled digital servo-mechanism	
Maximum load capacity		10 kN	2.5 kN
Effective test width		420 mm	
Crosshead table spacing		1172 mm	
Stroke		1100 mm (1500 mm when using stroke extension option)	
Effective stroke*1		564 mm (when using J-JBM-10KN)	669 mm (when attaching J-JBM-5KN)
Crosshead speed range		0.001 to 1200 mm/min	0.001 to 1500 mm/min
Crosshead speed accuracy*2		±0.1%	
Crosshead arbitrary speed		Can test up to max. load capacity over entire speed range	
Crosshead speed & load volume		0.0001 mm steps within crosshead speed range	
Crosshead return speed		600, 1200 mm/min	825, 1650 mm/min
Crosshead position accuracy		Within ±0.1% of indicated value. If indicated value is less than 10 mm, then ±0.01 mm	
Load measurement accuracy	High Precision*3	Within ±0.5% of indicated value (within load cell rating range 1/1 to 1/500)	
	Standard	Within ±1% of indicated value (within load cell rating range 1/1 to 1/500)	
Load range		Full auto range (128 times)	
Load calibration		1-touch load calib. via calib. circuit in load cell, w/ load cell rating ident. func.	
Sampling speed		0.2 msec*4	
Noise*5		65 dBA or less	65 dBA or less
Safety equipment	Overload	Included	
	Stroke	Included	
	Emergency stop	Included	
	Motor overload	Included	
	Soft limit	Included	
Approx. size (W x D x H)		784 x 436 x 1555 mm	
Mass*6		110 kg	110 kg
Power supply		AC 95 to 122 V, φ1, 50/60 Hz, 3 m cable, 3 pin plug	
P. consum., p. supply, breaker capacity		475 W, 1.7 kVA, 15 A	275 W, 700 VA, 15 A
Environmental conditions		Temperature: 5 to 40℃, Humidity: 20 to 80% RH (no condensation)	
Recommended conditions		Temperature 23 ±2℃, humidity 50% RH or less	

*1: When using the rated standard jaw.
*2: During steady operation with a test speed range of 0.05 to 500 mm/min.
*3: High Precision type is available as an option.
*4: When data processing system is used.
*5: When shipping from factory. Condition: Speed 500 mm/min.
*6: This does not apply when the high-load type fixed crosshead or stroke extension options are installed.
The following shows the weight increase/decrease when each option is installed.
・When high-load type fixed crosshead is installed, +5 kg.
Stroke extension: +10 kg



RTI-1225/1310 Unit: mm



RTI-1225/1310 (+optional rack) Unit: mm


RTI-1225/1310
(+optional rack)

Load Cell

Load cell designed specifically for Tensilon
Made in-house from a strain gauge
1-touch calibration by in-built calibration circuit

UR Series Load Cell


Strain Gauge


UF Series Load Cell

The A&D Group is the only company in Japan that has the testing capabilities to test and calibrate equipment ranging from the largest 10MN (compression) equipment to the smallest 10N (tension/compression) equipment.

Our Standard machine for 10MN equipment has the same frontage as the Standard machine used at the National Institute of Advanced Industrial Science and Technology (AIST). Also, testing of the smallest 10N equipment can only be conducted by the A&D Group.

A&D is a calibration certification agency for "uniaxial testing machines".

A&D Co., Ltd. has been examined by the National Institute of Technology and Evaluation in Japan based on the Measurement Act, related laws and regulations and the requirements of JIS17025 (ISO/IEC17025 compliant) and has received certification as a "uniaxial testing machine" calibration company. Consequently, A&D can issue a calibration certificate with a traceable JCSS mark in compliance with the Japanese National Measurement Act when calibrating uniaxial testing machines (TENSILON Universal Testing Machines, etc.).
To ensure the reliability and safety of various products, the functions and performance of material testing machines must be maintained and managed to a high standard. We provide inspection and technical services for material testing machines with our advanced expertise and abundant experience.

ilac-MRA IAJapan Accredited Calibration JCSS JCSS 0107

A&D adhere to ISO/IEC 17025 for our accreditation standard and are verified under the JCSS accreditation scheme, which operates according to ISO/IEC 17011. The accreditation body that operates JCSS (IA Japan) has signed a mutual recognition agreement between the Asia-Pacific Accreditation Cooperation Organization (APAC) and the International Laboratory Accreditation Cooperation (ILAC).
Our Calibration Office is an international MRA compliant JCSS certified agency. JCSS 0107 is the certification number for our Calibration Office.

Request for calibration

● There are two types of calibration, "JCSS calibration" and "in-house calibration".
"JCSS calibration": We will issue a calibration certificate with a traceable JCSS mark which conforms to Japanese national measurement standards. Please use JCSS calibration to certify quality tests of products applied to external transactions.
"In-house calibration": Calibration work is performed according to the customer's quality control requirements and is performed according to our in-house calibration procedure. A traceability certificate of the standard device used can be included (for a fee).
● If you would like a calibration performed, please fill out the Calibration Application Form (prepared by A&D) beforehand.
● Calibration cost: We will make an estimate based on the type of testing machine, the number of calibration ranges, transportation costs depending on the calibration location, accommodation costs, etc.


AD1661 Series Loop type load cell indicator