

Digital force gauges  
RZE series catalog

**AIKOH**  
ENGINEERING



# RZE SERIES

# Digital force gauges

## RZE series



The RZE series is a new customer-friendly model that follows the functionality of conventional digital push-pull gauges but greatly improves operability.

They come with such convenient functions as data output by use of a newly adopted USB and charging and they also feature quick and easy operations such as changing sampling rates, 3 units, printer output and display reversing.

This digital force gauge goes beyond conventional thinking, with a shape that fits your hand and operation buttons.

### Standard Accessories



### Standard Specifications

Measurement unit	N, Kgf, lb selectable
Accuracy	Within $\pm 0.2\%$ of rated capacity
Allowable overload	120% of rated capacity (Overload alarm at about 110%)
Measurement system	Track mode/Peak hold mode/Compression-tension peak hold mode selectable
Indication update cycle	1, 2, 5, 10, 20 times/sec. selectable
Sampling cycle	1ms, 5ms, 16ms, 50ms, 125ms, 250ms selectable
Communication output	USB
Analog output	$\pm 2V/F.S.$
Printer output	SANEI thermal printer, MITSUTOYO DIGIMATIC output
Operating temperature range	0 to +40°C
Guaranteed temperature range	+5 to +40°C
Continuous operation time	30 hours after full charge
Power supply	Dedicated nickel-metal hydride battery Dedicated AC adaptor: MODEL-780 (100 to 240VAC) Dedicated USB cable: MODEL-RZ-USB
Dimensions	W68 x D40 x H232mm
Weight	Approx. 375g

### Model List

MODEL	RZE-1	RZE-2	RZE-5	RZE-10	RZE-20	RZE-50	RZE-100
Capacity	10N (1kgf)	20N (2kgf)	50N (5kgf)	100N (10kgf)	200N (20kgf)	500N (50kgf)	1000N (100kgf)
Indication range	0.001-10.000N (0.1gf-1.0000kgf)	0.01-20.00N (1gf-2.000kgf)	0.01-50.00N (1gf-5.000kgf)	0.01-100.00N (1gf-10.000kgf)	0.1-200.0N (10gf-20.00kgf)	0.1-500.0N (10gf-50.00kgf)	0.1-1000.0N (10gf-100.00kgf)
Minimum display unit	0.001N (0.1gf)	0.01N (1gf)				0.1N (10gf)	

### Optional cables (Dedicated for RZE series)

RZE-OP-1	I/O cable
RZE-OP-2	I/O cable
RZE-OP-3	Cable for printer DP-1VR MITSUTOYO made
RZE-OP-4	Cable for line thermal printer Sanei Electric

If you only want stand control, please purchase RZE-OP-1.  
If you wish to have comparator output or analog output in addition to the above functions, please purchase RZE-OP-2.

## RZ-3000 (Dedicated software for RZE series)



Software for Excel

Real-time waveform

This is dedicated software designed to store data acquired by the RZE Series on a PC. It acquires and sends real-time data to a PC to show waveform graphs and maximum values. Measurement data can be output in CSV files and output CSV files can be opened using Excel. The standard interface is the USB interface. (The USB cable is included with the RZE force gauge as a standard accessory.)

### Recommended Environment

Microsoft Windows 7,8,10,11 Japanese or English version  
Memory: 2GB or more  
CD-ROM drive x 1 (when installing this software)

## Vertical & Horizontal manual Stand

### MODEL-2256



\* Digital force gauge RZE series is optional.

A vertical and horizontal manual-type small test stand dedicated to the RZE series. Capable of measuring up to 500N, the gauge mounting part can be moved by turning the operation wheel.

#### Standard Specifications

Max force	500N (50kgf)
Operation mechanism	3mm/wheel rotation
Stroke	240mm
Table size	W200 x D120mm (Vertical), W70 x D60mm (Horizontal)
Weight	Approx. 16kg (Vertical), Approx. 12kg (Horizontal)
Dimensions	W200 x D150 x H500mm (including the wheel)

## Vertical & Horizontal motorized Stand

### MODEL-2257



\* Digital force gauge RZE series is optional.

A small automatic test stand dedicated to the RZE series for both vertical and horizontal use. This is a reasonable test stand that is suitable for testing small specimens and short strokes. When used together with the RZE series, such operations are possible as overload monitoring and automatic stopping or reversing. Please purchase the optional RZE-OP-1 or RZE-OP-2 for cooperation with the RZE series.

#### Standard Specifications

Max force	500N (50kgf)
Test speed	10 to 200mm/min
Speed changing	Stepless
Stroke	150mm
Displacement display	None
Distance between test center and column	49mm
Table size	W200 x D120mm (Vertical), W70 x D60mm (Horizontal)
Drive motor	DC brushless motor
Driving mechanism	Trapezoidal screw
Driving mechanism guide system	Sliding bush
Weight	Approx. 20kg (Vertical), Approx. 15kg (Horizontal)
Dimensions	W215 x D235 x H380mm
Power supply	100 to 240VAC, single-phase, 0.5A

## Horizontal Motorized Stand

### MODEL-2252R

\* Digital force gauge RZE series is optional.



The gauge mount of this device is operated by motor to move to the right or left. The Z stage can adjust vertically. The work mount table has slotted holes for adjusting the jig position back and forth.

#### Standard Specifications

Max force	500N (50kgf)
Test speed	10 to 80mm/min
Speed changing	5 steps or stepless
Stroke	150mm
Displacement display	None
Z stage stroke	40mm
Test center to Z stage	39 to 79mm
Table size	W90 x D90mm
Driving mechanism	Trapezoidal screw
Drive motor	DC brushless motor
Weight	Approx. 23kg
Dimensions	W518 x D345 x H228mm
Power supply	100 to 240VAC, single-phase, 0.5A

## MODEL-1345



\* Digital force gauge RZE series is optional.

The MODEL-1345 is a manual test stand. The gauge mounting head is moved up and down by a rotary wheel.

### Standard Specifications

Max force	500N (50kgf)
Stroke	43mm (1.75mm/rotation)
Table size	W180 x D100mm
Max span	210mm
Weight	Approx. 9kg
Dimensions	W200 x D235 x H435mm

## MODEL-1349



\* Digital force gauge RZE series is optional.

The MODEL-1349 is a lever-type test stand exclusively designed for compressive testing. The gauge mounting head is moved up and down by a lever.

### Standard Specifications

Max force	500N (50kgf)
Stroke	43mm/140deg
Table size	W180xD100mm
Max span	210mm
Weight	Approx. 9kg
Dimensions	W200 x D235 x H435mm

## MODEL-1338



\* Digital force gauge RZE series is optional.

The MODEL-1338 is a manual test stand suitable for short-stroke measurement. Turning the knob on the side moves the force gauge up and down. If you rotate the knob, the mounting head will pop up by spring. Ideal for measuring small workpieces with a small amount of movement.

### Standard Specifications

Max force	50N (5kgf)
Stroke	20mm
Max span	70mm
Weight	Approx. 5kg
Dimensions	W150 x D200 x H260mm

## MODEL-2254



\* Digital force gauge RZE series is optional.

The MODEL-2254 is a manual test stand for measuring the caulking strength of wire harnesses, and so forth. The work mounting heads are moved with a lever. Using the RZE series provides various functions, including printing and storage on PC. The digital gauge of this device is an option, but the gauge side jig is included as a standard.

### Standard Specifications

Max force	500N (50kgf)
Stroke	70mm
Chuck width	0 to 10mm
Weight	Approx. 15kg
Dimensions	W525 x D200 x H150mm

# High Capacity Force gauge

## RZE-S-200



\* The handle, hook and jig are optional.

The RZE-S-200 is a separate type of the RZE series and can easily measure forces up to 2000N. Optional jigs are available for hand measurement. This can be measured more stably using a motorized stand.

### Standard Specifications

Capacity	2000N (200kgf)
Minimum display unit	1N (0.1Kgf)
Measurement unit	N, Kgf, lb selectable
Accuracy	±0.2%F.S.
Communication output	USB
Analog output	±2V/F.S.
Printer output	SANEI thermal printer, MITSUTOYO DIGIMATIC output
Continuous operation time	30 hours after full charge
Power supply	Dedicated Nickel-metal hydride battery Dedicated AC adapter: MODEL-780 (100 to 240VAC)
Weight	Approx. 375g (Display unit only)
Standard accessories	Display: RZE-S Loadcell: MODEL-3200, Cell cable (1.5m) AC adapter MODEL-780 (USB cable: includes RZ-USB)
Options	Various cables, Software RZ-3000 Thermal printer: BL2-58SNWJC

# Separate type Force gauge

## RZE-S-8000 series



The RZE-S-8000 series is a force gauge with a separate loadcell and display. There are few restrictions on the measurement location, and it is convenient to carry.

### Standard Accessories



### Standard Specifications

MODEL	RZE-S-8001	RZE-S-8002	RZE-S-8005	RZE-S-8010	RZE-S-8020	RZE-S-8050	RZE-S-8100
Capacity	10N (1kgf)	20N (2kgf)	50N (5kgf)	100N (10kgf)	200N (20kgf)	500N (50kgf)	1000N (100kgf)
Minimum display unit	0.001N (0.1gf)	0.01N (1gf)			0.1N (10gf)		
Measurement unit	N, kgf, lb selectable						
Accuracy	±0.2%F.S.						
Sampling cycle	1ms, 5ms, 16ms, 50ms, 125ms, 250ms selectable						
Display update interval	1, 2, 5, 10, 20 times/sec selectable						
Output	USB, Analog voltage ±2V F.S., Printer, Motorized stand control, External connection hold						
Continuous operation time	30 hours after full charge						
Power supply	Dedicated Nickel-metal hydride battery, Dedicated AC adapter: MODEL-780 (100 to 240VAC)						
Weight	Approx. 375g (Display unit only)						
Standard accessories	Display unit: RZE-S, Loadcell: S8000 series with Cell cable (3m) Standard accessories 6 pcs, AC adapter: MOOEL-780 (USB cable: includes RZ-USB)						
Options	Various cables, Software RZ-3000, Thermal printer: BL2-58SNWJC						

# Portable Torque gauge

## RZE-T-20



The RZE-T-20 portable torque gauge is designed for static torque measurement such as screw tightening/loosening and torsion. It has a large and fine display that shows both clockwise and counterclockwise torque, a GO-NG judgment function, and a battery charge level indicator. Depending on the object to be measured, the bit or jig at the top can be changed. Measured data can be stored in the memory or output to a connected printer.

### Standard Specifications

Capacity	2000mN•m (20kgf•cm)
Minimum display unit	1mN•m (0.01kgf•cm)
Measurement unit	mN•m, kgf•cm selectable
Accuracy	±1%F.S.
Display update interval	1, 2, 5, 10, 20 times/sec selectable
Sampling cycle	1ms, 5ms, 16ms, 50ms, 125ms, 250ms selectable
Communication output	USB
Analog output	±2V/F.S.
Printer output	SANEI thermal printer, MITSUTOYO DIGIMATIC output
Continuous operation time	30 hours after full charge
Power supply	Dedicated Nickel-metal hydride battery Dedicated AC adapter: MODEL-780 (100 to 240VAC) Dedicated USB cable: RZ-USB
Weight	Approx. 375g (Display unit only)
Standard accessories	Display unit RZE-S, Torque gauges Cell cable (1.5m), Standard accessories 5 pcs AC adapter: MOOEL-780 (USB cable: includes RZ-USB)
Options	Various cables, Software RZ-3000 Thermal printer: BL2-58SNWJC

## RZE-T-100



\* The handle is optional.

The RZE-T-100 portable torque gauge is designed for static torque measurement such as screw tightening/loosening and torsion. It has a large and fine display that shows both clockwise and counterclockwise torque, a GO-NG judgment function, and a battery charge level indicator. Depending on the object to be measured, the bit or jig at the top can be changed. Measured data can be stored in the memory or output to a connected printer.

### Standard Specifications

Capacity	10N•m (100kgf•cm)
Minimum display unit	0.001N•m (0.01kgf•cm)
Measurement unit	mN•m, kgf•cm selectable
Accuracy	±1%F.S.
Display update interval	1, 2, 5, 10, 20 times/sec selectable
Sampling cycle	1ms, 5ms, 16ms, 50ms, 125ms, 250ms selectable
Communication output	USB
Analog output	±2V/F.S.
Printer output	SANEI thermal printer, MITSUTOYO DIGIMATIC output
Continuous operation time	30 hours after full charge
Power supply	Dedicated Nickel-metal hydride battery Dedicated AC adapter: MODEL-780 (100 to 240VAC) Dedicated USB cable: RZ-USB
Weight	Approx. 375g (Display unit only)
Standard accessories	Display unit RZE-S, Torque gauges Cell cable (1.5m), Standard accessories 5 pcs AC adapter: MOOEL-780 (USB cable: includes RZ-USB)
Options	Various cables, Software RZ-3000 Thermal printer: BL2-58SNWJC

# Desktop type simple test stand

## MODEL-1308U



Grip mounting plate  
OJ-P-90  
(Needed when using the tensile test jig.)

\* Digital force gauge  
RZE series is optional.

## MODEL-1309RZE



\* Digital force gauge  
RZE series is optional.

A long-stroke automatic test stand dedicated to the RZE series. This is a reasonable test stand that is suitable for tests of specimens of large size and long test stroke. When used together with the RZE Series, it is possible to monitor overload or automatically stop/reverse when the load value set by the RZE Series is reached. To combine this stand with the RZE Series, please use the optionally available RZE-OP-1 or RZE-OP-2.

### Standard Specifications

Max force	1000N (100kgf)
Test speed	5 to 100mm/min
Speed changing	Stepless
Stroke	400mm
Displacement display	None
Distance between test center and column	60mm
Table size	W250 x D140mm
Specimen table size	W120 x D90mm, Center M6
Drive motor	DC brushless motor
Driving mechanism	Trapezoidal screw
Driving mechanism guide system	Linear ball bush
Weight	Approx. 28kg
Dimensions	W255 x D300 x H810mm
Power supply	100 to 240VAC, single-phase, 0.5A

A small stand for force-displacement measurement dedicated to the RZE series. With a displacement resolution of 0.1mm, this stand is suitable for long stroke tensile/compression tests. A force-displacement FS curve can be drawn on a PC screen by the dedicated software for effective data management.

### Standard Specifications

Max force	1000N (100kgf)
Force display	Depending on Digital force gauge RZE Series
Test speed	10 to 300mm/min
Speed changing	LO: 10mm/min MD: 100mm/min HI: 200mm/min Intended setting is available VR: 10 to 300mm/min
Stroke	400mm
Displacement display	Resolution 0.1mm, Max indication $\pm 400$ mm
Table size	W295 x D175mm
Weight	Approx. 35kg
Dimensions	W300 x D340 x H850mm
Power supply	100 to 120V or 200 to 240VAC, single-phase

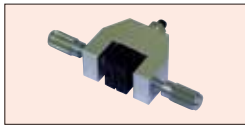
### Major functions

Data acquisition	Real time force/displacement acquisition, graph drawing	
	Data save/batch save	Dedicated format/CSV format
Data file processing	Data load/batch load	Dedicated format
Graph overlap display	Number of registration	100
	Graph cut sheet print	Cut sheet horizontal: 1 graph Cut sheet horizontal: 1 graph Cut sheet vertical: 2 graph Cut sheet horizontal: 4 graph Cut sheet vertical: 8 graph
Printing	Graph continuous print	Cut sheet horizontal: 1 graph Cut sheet horizontal: 1 graph Cut sheet vertical: 2 graph Cut sheet horizontal: 4 graph Cut sheet vertical: 8 graph
	Pick up registered data	
Pick up registered data	Number of registration	100/measurement
Measurement list display	Representative value detection	Force Max/Min/Ave
	All measurement processing	Force Max/Min/Ave
Graph data list display	Time/displacement/force data values	
Stand control	Stand start/Stop during test	
USB serial conversion	BUFFALO: BSUSRC0605BS (Recommended/option)	

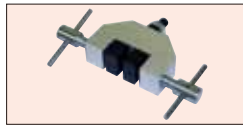
### Standard Configuration

Tester body, Application software: RZ-3009,  
Cable for connecting RZE series, USB cable

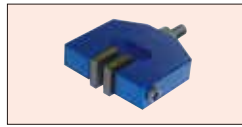
# Grips & Jigs



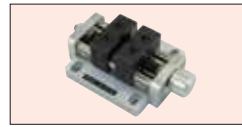
MODEL-201  
Small-size flat chuck



MODEL-203  
Flat chuck



MODEL-207-2K  
Flat chuck



MODEL-220-50-45  
Small double side operating vise



MODEL-221-25/50  
Single roller chuck



MODEL-224-P-4/5  
Pin vise



MODEL-225  
Small loads of wires, etc.



MODEL-226-1/5/10/15  
Pantograph chuck



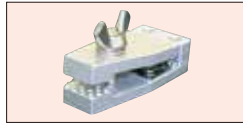
MODEL-227-20/30  
All-purpose type



MODEL-228G-10 to 40/228H-10 to 40  
Film chuck  
G: Rubber H: Sand paper



MODEL-230-45  
Board mounting jig



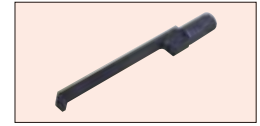
MODEL-231  
All-purpose type



MODEL-232  
All-purpose type



CP-U-40/60/80  
Round flat type compression table



HS-2 to 8  
Shear jig

## Standard Specifications

\* A joint screw may be required depending on the object.

MODEL	Capacity	Jaw Size (WxDmm)	Jaw Max Opng (mm)	Mounting screw	Weight (g)	Application	Type
MODEL-201	50N	20 x 15	8	*M6 female	Approx.125	All-purpose type	Parallel flat plate individual screwing
MODEL-203	2kN	25 x 20	14	*M10 female	Approx.442	All-purpose type	Parallel flat plate individual screwing
MODEL-207-2K	2kN	25 x 25	12	*M10 female	Approx.356	All-purpose type	Parallel flat plate individual screwing
MODEL-220-50-45	500N	50 x 45	0 to 45		Approx.958	Vise	Right-hand/left-hand thread
MODEL-221-25	200N	W25	-	*M6 female	Approx.115	Film/cloth	Spring opening/closing
MODEL-221-50	2kN	W50	-	M10-P1.5	Approx.376	Film/cloth	Spring opening/closing
MODEL-224-P-4/5	10N	-	0 to φ3.2	*M6 female	Approx.12	Round bar	For round bar/collet change type
MODEL-225	0.5N	25 x 25	3	M6 female	Approx.56	Gold wire	Clip type
MODEL-226-1	5N	Tip jaw width 0.5-1	2	M6 female/M10 male	Approx.97	Small parts	Pantograph type
MODEL-226-5	100N	Tip jaw width 5	2	M6 female/M10 male	Approx.100	Small parts	Pantograph type
MODEL-226-10	100N	Tip jaw width 10	2	M6 female/M10 male	Approx.100	Small parts	Pantograph type
MODEL-226-15	100N	Tip jaw width 15	2	M6 female/M10 male	Approx.107	Small parts	Pantograph type
MODEL-227-20	500N	20 x 10	4	*M6 female	Approx.214	All-purpose type	Pantograph type
MODEL-227-30	500N	30 x 10	4	*M6 female	Approx.233	All-purpose type	Pantograph type
MODEL-228-10	20N	W10	1	M6 female	Approx.37	Thin plate	Screwing
MODEL-228-20	20N	W20	1	M6 female	Approx.49	Thin plate	Screwing
MODEL-228-30	20N	W30	1	M6 female	Approx.64	Thin plate	Screwing
MODEL-228-40	20N	W40	1	M6 female	Approx.77	Thin plate	Screwing
MODEL-230-45	-	-	4	-	Approx.850	Substrate holding	
MODEL-231	200N	15 x 10	3	*M6 female	Approx.78	All-purpose type	Opening by spring pressure, closing by screw
MODEL-232	100N	Tip width 3 x D8	1	M6 female	Approx.30	All-purpose type	Opening by spring pressure, closing by screw
CP-U-40	100N	φ40	-	M6 female	Approx.100	Upper compression plate	
CP-U-60	100N	φ60	-	M6 female	Approx.210	Upper compression plate	
CP-U-80	100N	φ80	-	M6 female	Approx.350	Upper compression plate	
HS-2	30N	W2	-	M6 female	Approx.44	Shear jig	
HS-4	50N	W4	-	M6 female	Approx.46	Shear jig	
HS-6	50N	W6	-	M6 female	Approx.48	Shear jig	
HS-8	50N	W8	-	M6 female	Approx.49	Shear jig	
OJ-P-90	-	-	-	M6 female	Approx.748	Lower tension jig mounting plate	

Manufacturer

**AIKOH ENGINEERING CO., LTD.**  
アイコーエンジニアリング株式会社

