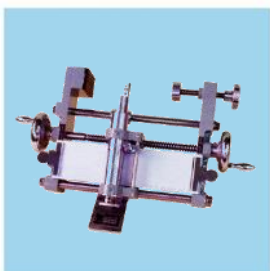
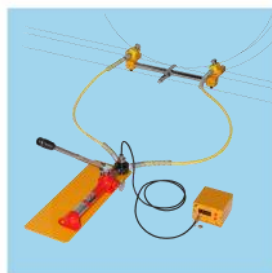


Instruments for Railway

(Measuring instrument for vibration and wheel of railcar)



CATALOG



SHINYEI TESTING MACHINERY CO., LTD.

www.shinyei-tm.com



Testing and Measuring Technique for Safety and Reliability of Product and Distribution

We, Shinyei Testing Machinery Co., Ltd., were founded in 2015 in Japan. We provide drop tester for packaging freight, shock testing system to determine to product reliability and measurement instruments in the distribution field which has launched since 1946 as Yoshida Seiki corporation.

Recently, the risk of damage to the mobile products or packaged freight during distribution or usage situations has increased, because of the variety of mobile products that have been developed, the diverse delivery system used in wide-spread internet shopping. In these circumstances, to improve product and packaging design, we provide services such as drop/shock testing systems, technical seminars and consulting services.

We contribute to building an affluent society by bringing you safety and reliability with our products and services based on the accumulated achievements and testing expertise.



Company Profile

Company Name	SHINYEI TESTING MACHINERY CO.,LTD.
Head Office/Testing Laboratory	B47 city block 11plot, Katoridai, Tsukuba, Ibaraki, 300-2657, JAPAN TEL. +81-29-848-3570 (Rep.) TEL. +81-29-848-3571 (Sales) FAX. +81-29-848-3572 URL: http://www.shinyei-tm.com
Kobe Office	Shinyei BLDG.5F, 77-1, Kyomachi, Chuoku, Kobe, 650-0034, JAPAN TEL. +81-78-392-6963 FAX. +81-78-332-1619
Nagoya Office	Nishiki emuaiBLDG.5F, 1-7-39, Nishiki, Nakaku, Nagoya, 460-0003, JAPAN TEL. +81-52-218-5472 FAX. +81-52-218-6112
Foundation	February 2015
Capital	50million yen
Director	Representative Director : Shinichi Shibata Managing Director : Hiroshi Taniguchi



INDEX

Measuring instrument for railcar vibration

AccStick	< P.3 >
UHA series	< P.4 >

Measuring instrument for around wheel of railcar

TY-50 series	< P.5 >
TWL series	< P.6 >
TOD-400	< P.7 >
TS-3D	< P.8 >
Back gage	< P.9 >

Other measuring instruments for railway

OCH-3	< P.9 >
FG-2	< P.10 >
OS series	< P.10 >

ACCELERATION MEASUREMENT **AccStick**

Shock & Vibration Data Logger

AccStick

This extremely small device with built-in 3D accelerometer, flash- memory and rechargeable battery has been released. 3D acceleration waveforms are captured via high speed sampling, at 1600Hz max. Measured data can be described and converted to .csv file via PC software.



Features of hardware

Wide measuring range

2 accelerometers built in to a single unit enable measurements of the accurate behavior of 3D acceleration from 2G to 400G.

High speed sampling

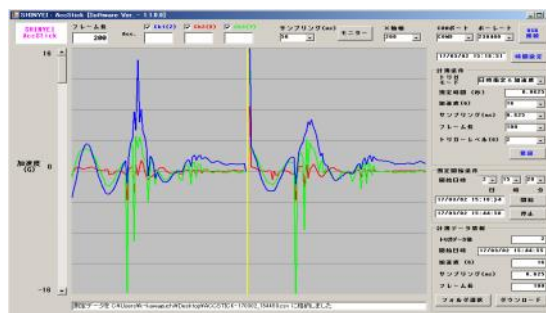
Acceleration waveform in detail is captured by Max 1600Hz sampling rate.

Small package

The extremely small unit, 32.4 x 21.0 x 10.5mm, will enable you to measure 3D acceleration in any location.

Calibration Service (optional)

To measure 3D acceleration with high accuracy, we provide you optional calibration service. Test report & traceability chart will be attached with your device.



Software Screen

Specification

Product	Shock & Vibration data logger AccStick	
model	A01-16400	
Accelerometer	Vibration sensor	± 16G with 3axis MEMS
	Shock sensor	± 400G with 3axis MEMS
Configuration range (G)	Vibration sensor	2 / 4 / 6 / 8 / 16
	Shock sensor	100 / 200 / 400
	Accuracy	± 5% F.S.
Sampling period (ms)	0.625 ~ 160 (selectable, 0.625ms is for vibration sensor only. ± 5% accuracy.)	
Flame	100 ~ 500000 (selectable)	
Trigger mode	Immediate / Timer / Acc. / Timer&Acc.	
Memory	4MB Flash memory (up to 500000 data)	
Power	Lithium polymer rechargeable battery (full charge time : about 60 minutes)	
Duration	Up to 72 hours (Acc. trigger mode at 20°C with full charge) *depend on temperature, measuring or battery condition	
Size (mm)/ weight (g)	W32.4 × D21.0 × H10.5 / 15	
Case material	Aluminium (with two M2 screw fixing holes)	
Operational temperature (°C)	0 ~ +60 (No condensing)	
PC software	Measuring configuration, data download, csv file output	OS : Windows7/10 (32/64bit)
Accessory	Dedicated cable for AccStick, micro USB cable	

Measuring Instruments for RAIL WAY

UHA series

Vibration Recorder for the railway vehicles

UHA-2, UHA-3

UHA can measure the vibrations on the railed vehicles to evaluate the rail road track conditions and to maintain the railed vehicles. Vibration data is recorded real-time, processing to a PC card and can be printed it out. Also, data is analyzed via specialized PC software .



Features

- Acceleration data is measured by strain gage pick-up at 12 bit resolution.
- Digital vibration data is recorded to the printed form as analogue data real-time.
- Data over the threshold is shown via LCD on the device.
Those data can be transferred to PC by USB cable or printed out.
- Optional markings, kilometer-point and speed, is printed on the paper every 100m or 1km.
It can also be typed by the remote-switch.
- All measurement conditions setup like start-stop is operated by its keyboard.
- Data of each time or distance is recorded to PC card.
Data viewing and analysis is performed by analysis software.

Specification					
Model	UHA-2	UHA-3			
Measurement Direction	2 axis (vertical / horizontal)	3 axis (up / down, right / left, front / rear)			
Printer	sensible heat recording by thermal head				
Measurement Acceleration	Select by key operation				
	Acceleration range (G)	0.25	0.4	0.5	1.0
	Record speed (mm/s)	100	70	40	20
Printed Form Speed (mm/s)	5 / 10 / 20 selectable				
Data	kilometer point threshold of over-data, vibration value, speed				
Filter (Hz)	low-pass $f_0 = 10$, high-pass $f_0 = 0.3$				
Printed Paper	scaled roll paper W112mm × L40m				
Keyboard	number and operation key (total 20 keys)				
LCD	240 × 128 dot with back light				
Communication interface	USB				
Input Signal	tachometer generator (1 to 999 pulses / 1 rotation), remote-switch				
Power	internal battery and AC adapter				
Size (mm)	W240 × D300 × H130				
Weight (kg)	about 3.0				
PC card	64MB compact flash				
Memory unit	distance mode (0.25m) / time mode (5ms)				
Memory Volume	distance mode(999km) / time mode (about 5.5hours)				
Battery Charge	Chargeable with AC adapter (only when main unit power supply is off)				

Measuring Instruments for RAIL WAY

TY-50 series

Wheel Diameter Measuring Instrument

TY-50

For the operation safety of trains, the diameter of the tire is a critical parameter to be maintained. TY-50 is very simple in construction to measure that very parameter and the diameter can be known at sight. You can use this instrument even in the narrowest of sites due to the diameter scale displayed on both sides. This can be attached to the measured flange with the magnet .

Features

- High accuracy by optical encoder
- Applicable to various tire range
- Direct reading with two-side dial gauge
- Easy-treatment of weight and design
- Simple usage in the analogue construction
- Measurement support by magnet

How to use

1. Set TY-50 along the inside of tire by magnet.
2. Slide TY-50 toward center of tire.
3. Read the diameter from dial gauge.

*to measure accurately, average of 3-points of measurements is recommended.



Specification

Model	TY-50
Range of measurement (mmφ)	760 ~ 920 (Different specifications are available on request)
Measurement error (mm)	Within ±0.5
Dial gauge	80φ, two-side indication type
Graduation	Direct reading, in 1 mm unit
Position of measurement	65 mm outside the tire inner side surface (Different specifications are available on request)
Flange height limit (mm)	37
Fixing method	Magnetic absorption to the tire inner side surface
Mass of Instrument (kg)	2.1

Wheel Weighing Machines

TWL-1, TWL-2, TWL-auto

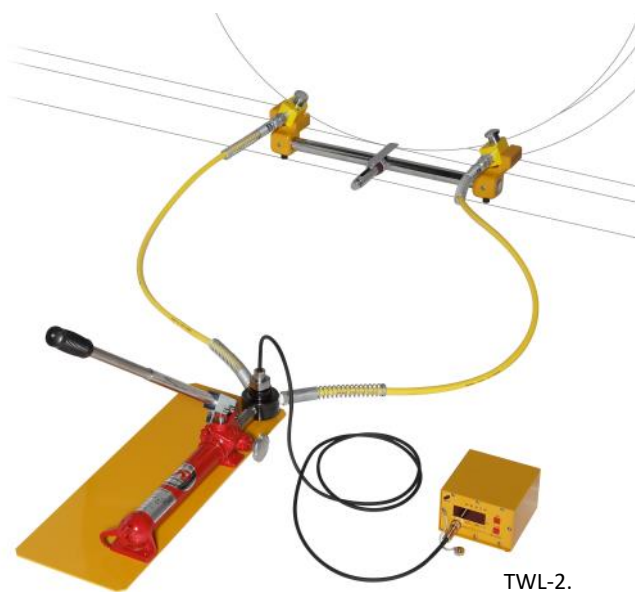
TWL series can measure wheel loads on the track of any kind cars to keep the bilateral weight balance of the train and cargo. Manual operation model with An analog dial scale as TWL-1, a digital scale with red LED as TWL-2 are listed, fully-automatic operation model TWL-auto also.

Features

- High accuracy by load cell
- Applicable to various tire range
- Direct reading with dial gauge (TWL-1)
- Bright display with LED display (TWL-2)
- Fully-automatic operation model with touch-panel display (TWL-auto)
- Easy-treatment weight and design
- Simple usage via specialized construction

How to use

1. Set the guide shaft under the tire.
2. Apply hydraulic pressure by hydraulic jack.
3. Lift up tire until indicator slides between rail and tire.
4. Read the number from display.



TWL-2.

Specification

Model	TWL-1	TWL-2	TWL-auto
Wheel load (kN)		82 max.	60 max.
Measuring range of wheel diameter * (mmφ)		760~860	690~920
Hydraulic pressure (MPa)		76 max.	76 max.
Measurement graduation (kN)	2.0	0.1	
Indicator	Dial graduation	3-digits LED	Touch panel
Capacity (kg)	15	16	15 (Body) 8 (electric pump)

* (Available for customization) The above are standard specifications. Please contact us if you have any request to customize.

Measuring Instruments for RAIL WAY

TOD-400

Digital Tire Measuring Instrument

TOD-400

TOD-400 can measure the flange height and its thickness (or the distance from the centre of axis simultaneously) just by setting the instrument along the tire and pushing one button. Based on the theoretical side, it also can measure the tire thickness. Its LED display shows the result even in dark places.

Features

- High accuracy by optical encoder
- Easy-treatment weight and design
- Simple usage by buttons
- Bright monitoring via LED display
- Long life with built-in chargeable Battery
- Auto-power-off function
- Max. 128 data Memory
- Data transfer to PC
* required optional software

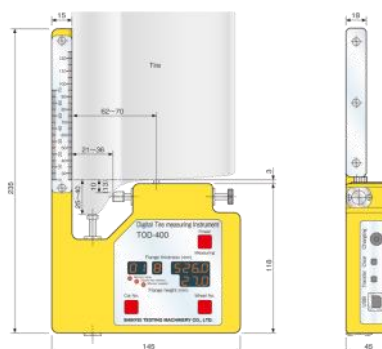


How to use

1. Put the guide along the inside of the tire.
2. Slide TOD-400 toward tire.
(to measure the flange height)
3. Push the horizontal attachment.
(to measure the flange thickness)
4. Adjust the position vertically against the tire,
5. Press [set] button once.



*To prevent power loss, it would be turned off automatically if no buttons have been pushed in 30 seconds.



Specification

Model	TOD-400	
Maximum measuring length (mm)	15	
Range of measurement (mm)	Flange height	25 ~ 40
	Distance from the axis center	[Type1] 516 ~ 531
	Distance from the axis center	[Type2] 701 ~ 716
	Flange thickness	[Type3] 21 ~ 36
Tyre thickness (mm)	Direct scale reading type 25 ~ 125 (0 ~ 100 is also available).	
Measuring point (mm)	65 from the tyre inside surface	
Measurement position (mm)	10 or 13 down from the tread of measuring point	
Measurement Sensor	Optical linear encoder (photo-sensor & slit board)	
Measuring resolution (mm)	0.1	
Display	7 segments, Red LED	
Display contents	Car number 01 ~ 16 / Wheel number 1 ~ 8	
	Distance from center of wheel axis (Minimum unit 0.1 mm) / Flange height (Minimum unit 0.1 mm)	
USB output	Data / Car number / Wheel number / Distance from center of wheel axis / Flange height	
Store data capacity	16 cars × 8 wheels = 128 data	
Battery duration	More than 6 hours	
Power source	Battery pack (4 Ni-MH rechargeable batteries) built-in	
Battery charger	Charge type for 4 hours. *Option	

Measuring Instruments for RAIL WAY

TS-3D

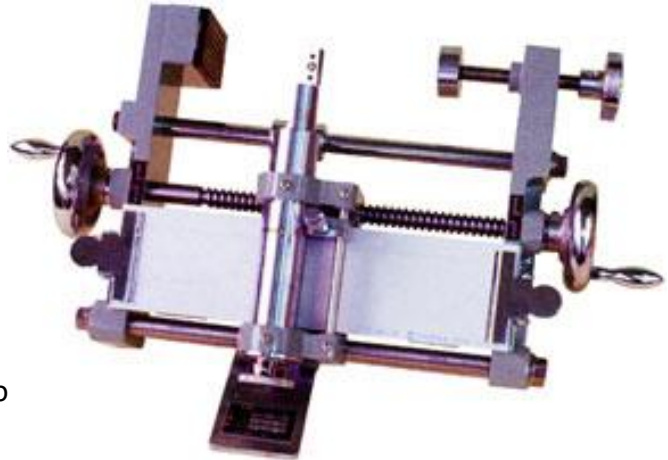
Wheel Abrasion Tester

TS-3D

TS-3D can record the wheel tread surface shape not only from wheels removed from the vehicle, but also from those still fitted in.

Features

- Easy and accurate fitting to wheel.
- Stylus and record pen are connected, so there is no error between original and recorded shapes.
- Recording pen uses a ballpoint pen readily available on the General market, so replacement is easy.



Specification

Model	TS-3D
Wheel diameter (mm)	800 × 950
Wheel width (mm)	125 ~ 135
Volume (mm)	W338 × D252 × H200
Mass of instrument (kg)	3.5

Measuring Instruments for RAIL WAY

Back Gage

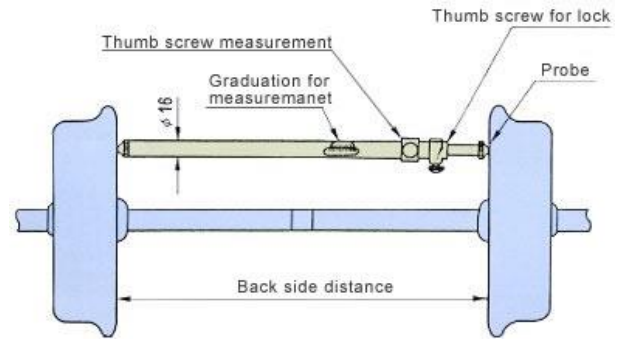
Railway Back Gage

41022, 41023

Back Gage provides easy measuring of back side distance.

Features

- Easy measuring of back side distance.



Specification

Model	41022	41023
Range of measurement (mm)	982 ~ 1002	1350 ~ 1370
Accuracy of measurement (mm)	± 0.1	± 0.1
Capacity (g)	750	950

Measuring Instruments for RAIL WAY

OCH-3

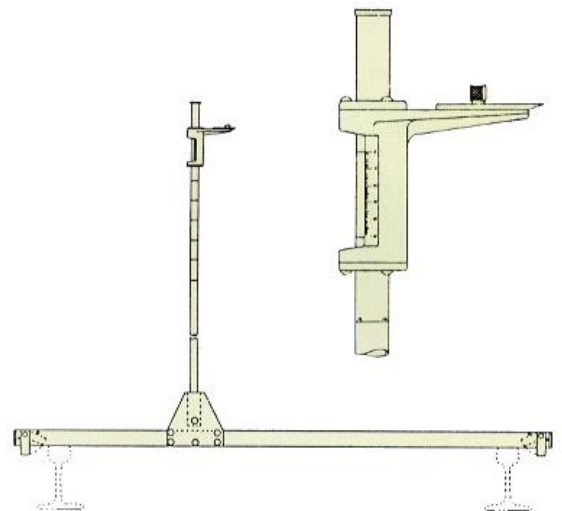
Railway OCH-3

OCH-3

Lightweight measuring instrument OCH-3 can measure height of the coupler on the operating rail track.

Features

- Measures the height of the coupler of articulated vehicle.
- Constructed of light weight ridge aluminum is apply to the instrument.
- Measuring rod can be fold for easy carrying.
- Measurement gradation is easy to read with 1mm scale spacing.



Specification

Model	OCH-3	
Range of measurement (mm)	Local Line : 700 ~ 1100	Shinkansen : 846 ~ 896

Measuring Instruments for RAIL WAY

FG-2

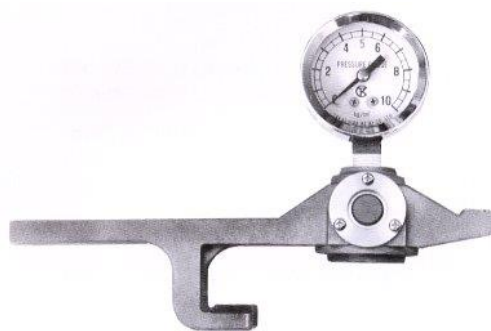
Portable Pressure Gauge for Railway Equipment

FG-2

FG-2 can measure the air pressure of railway equipment easily.

Features

- Easy-inspection of pneumatic braking by fitting on air horse couple.
- Relative air pressure 0.5 MPa (5kg / cm²), scale are identified in red.
- At the push of a pressure-reducing valve releases the air easily.
- Body casted from stainless steel and copper with to prevent corrosion prevention and is compact.



Specification

Model	FG-2
Range of measurement (MPa)	0 ~ 1 (0 ~ 10kg/cm ²)
Weight (g)	about 500

Measuring Instruments for RAIL WAY

OS series

Oil Syringe for Railway

OS-A, OS-B

Scaled cylindrical Lubricator oil syringe OS, tips of the filler, offered in 2 types. Straight and curved type.

Features

- Hard transparent plastic pipe is used for the Lubricator.
- Amount of oil to lubricate the components is always supplied with a determined amount guided by the scale of the cylinder .



Specification

Model	OS-A	OS-B
Filling shapes	curved	straight
Volume (cc)	200	



SHINYEI TESTING MACHINERY CO., LTD.

Head Office B47-11, Katoridai, Tsukuba, Ibaraki, 300-2657, JAPAN
Tel: +81-29-848-3571 FAX: +81-29-848-3572

International Sales Office

Shinyei BLDG. 5F, 77-1 Kyomachi, Chuo-ku, Kobe 651-0178, JAPAN
Tel: +81-78-392-6903 FAX: +81-78-332-1619

<http://www.shinyei-tm.com>

Specification and information listed in this catalog are subject to change without notice.

December 2017