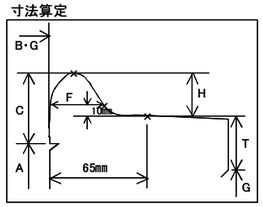
General specifications			
Measured object	Wheel diameter	・ Diameter of unused wheel tread	Approx, 10% wear for 860 ㎜Φ
		・ Continuous wheel measurement	8 wheels
	Measurement condition	・ Sensor setting position	On a pit in train depot
		・ Ambient light	Away from direct sunlight at measurement point
		・ Wheel speed	0 to 15 ㎞/h
		・ Direction of rail width of wheel	Direction of rail width: Within ±20mm
		Displacement and meandering	Meandering: Within ±2°
		・ Wheel status	Has no grease and dust at a basis groove.
		・ Moving direction of wheel	Entering and existing: Both, Only when moving no inverse direction during moving, and no stopping during measurement
		・ Measurement processing time	From image import to wear calculation; Within 20 seconds/ wheel
Measurement contents	Measurement method	・ Light-slice method, 3 dimension processing	
	Measuring items and accuracy	Items / Accuracy: Back gauge(G) ±0.5mm Thickness(T) ±0.5mm Height(H) ±0.5mm Distance ±0.5mm For verification of measurement accuracy, ACT basic wheel parts is used by the method shown right.	寸法算定  Tyre thickness(T)=(C-H)+(A-G)/2 Outside distance=F+B·G/2 A: Diameter of groove(780mm) G: Basis diameter of tyre thickness(730 ㎜)
Software	OS, programming language, display structure	Windows XP, C# Main menu, measurement plan, measurement start, result display, and end	
Performance	Temp. (sensor unit)	0 to 40℃	
	Humid. (sensor unit)	10 to 90%, without condensation	
	Vibe. proof (sensor unit)	Less than 5G	
	Struc. (sensor unit)	Splash-proof construction for heavy-duty uses	
Dimensions Weight	Sensor unit (for one-sided wheel)	740(W)x654(D)x245(H)mm, excluding projections Approx, 10kg	
	測定ラック	600(W)x800(D)x1600(H)mm, excluding projections Approx, 50kg	

ACT

Light-slice method, 3 dimension processing

Wheel Profile Measurement System

◇ Non-Contact measurement the outline of wheels

◇ Capable of measuring in moving condition of train

◇ The data of wheel profile is also converted into data

Make Non-Contact measurement of flange/gauge automatic

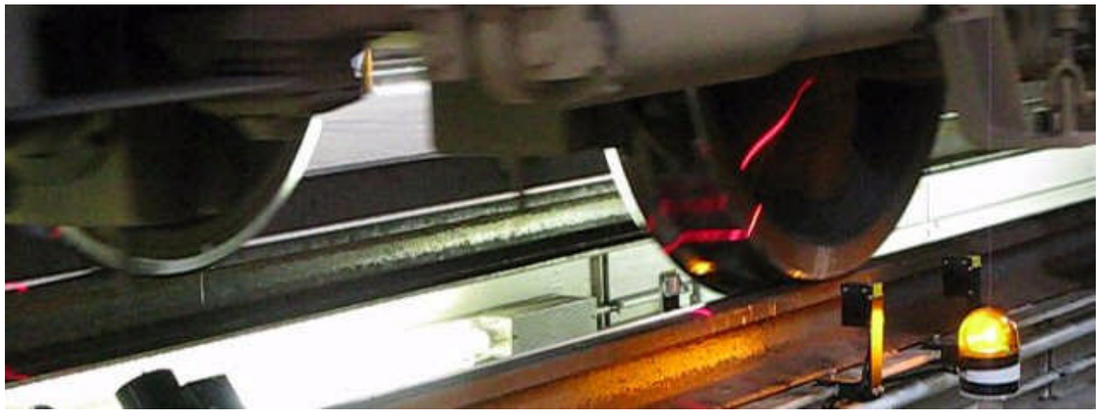
for laboursaving and accurate measurement

The Wheel Profile Measurement System uses 3 dimension processing system by Light-slice method.
This system is available for a measurement of the outline of entering and exiting wheels with laser beam; by setting a sensor on a pit in a train inspection area and a rack for measurement beside a pit.
The output measurement result is the following; the data of the top of wheel profile, thickness of a tyre, height of a flange, distance of outer surface, and measured value of back gauge.
A measurement operates in low-speed running condition of train and the measured value and top of wheel profile are also measured at the same time. Moreover, this system has various functions for wheel profile measurement but it is lower price.
This measurement system can make a measurement of flange/gauge automatic and replace a existing wheel profile measurement device.

Features

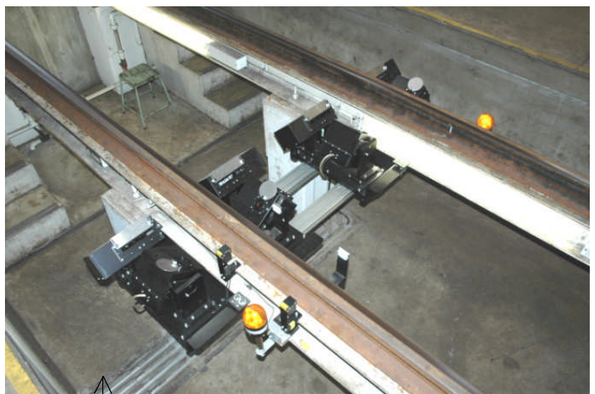
1. **Non-Contact measurement of the outline of wheels in low-speed running condition of train.**
2. **The laser beam for measurement is emitted only when a wheel is in a measurement gate.**
3. **Outputs The measured value and top of wheel profile as measurement result.**
4. **A measured wheel profile is superimposed on a unused wheel profile.**
5. **A measured value and profile are printable data.**
6. **Sends the data to a wheel control system.**
7. **Has general hardware and software and lower price.**

Measurement Condition



Measures the value and profile
Available for wheel profile control

Sensor Unit Layout



Rack for measurement