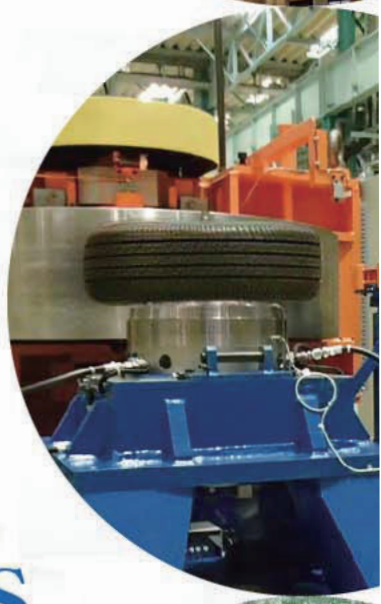
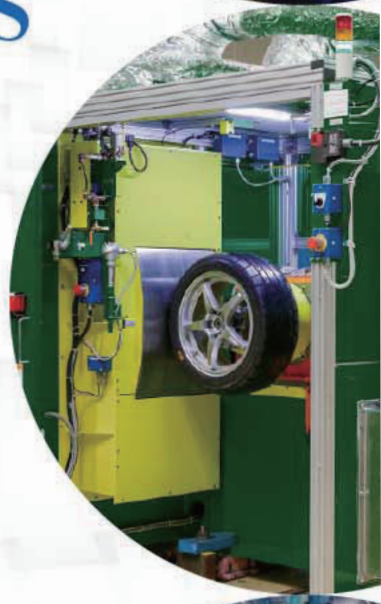
Tire Uniformity Machine (PC/LT/TB)

High Speed Tire Uniformity Machine



TIRE TESTING MACHINES

Rolling Resistance Measurement Machine



Tire Endurance Testing Machine

KOBELCO

KOBELCO TIRE TESTING MACHINE HISTORY

KOBELCO has a 50-year-plus history in manufacturing tire testing machines.

1967	Our first Tire Uniformity Machine (TUM) for passenger car tires was launched.
1990	The PC-UXR-P4 TUM featuring a shortened cycle time, auto rim changer and auto rim width adjusting system was launched.
2001	The PC-UXR-P6 TUM with even shorter cycle time was launched.
2013	Librota®, having the highest measuring accuracy and with a new Human Machine Interface (HMI) system, was launched.
2016	Librota®-GS with the industry's fastest cycle time was launched.
2018	PL-UXR-P8, which has the fastest auto rim changer, was launched.

In addition, KOBELCO also offers various other types of tire testing machines:

- TUM for Truck and Bus Tires
- TUM for Passenger Car / Light Truck Tires used in the laboratory
- High-speed TUM, production type and also for the laboratory
- Tire Rolling Resistance Measurement Testing Machine
- Tire Endurance Testing Machine for OTR Tires

KOBELCO has continued providing first-class equipment and services to our customers as a leading manufacturer of tire testing machines.

LOCATION

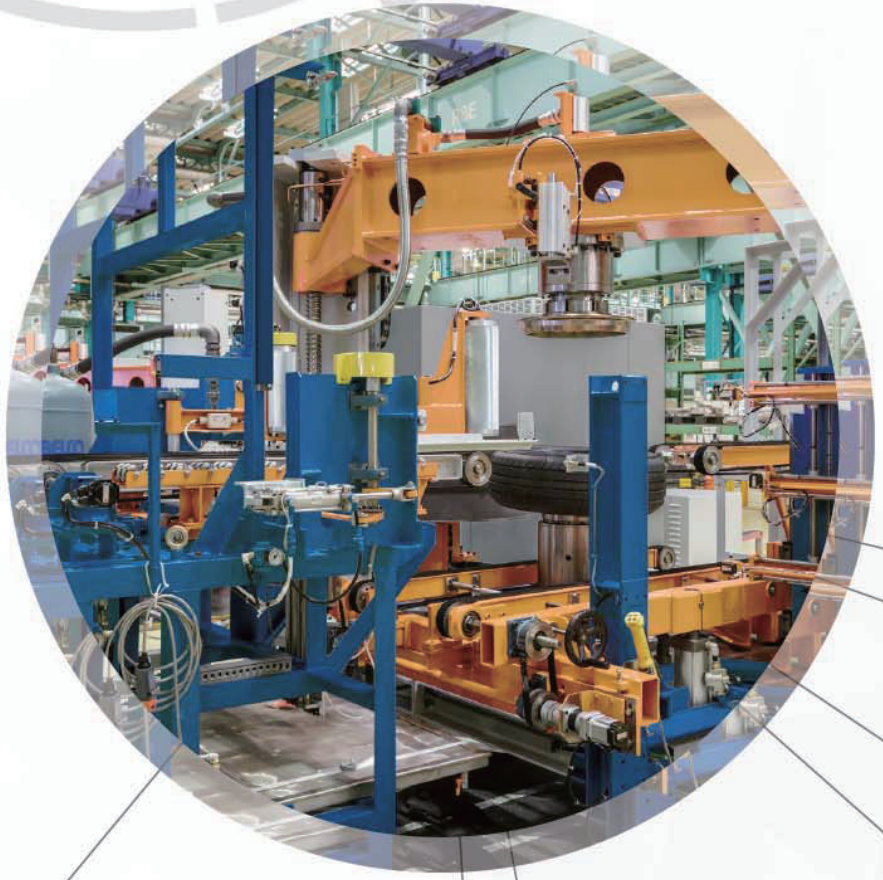
① HYOGO, JAPAN	② OHIO, USA
③ QINGDAO, CHINA	④ MONSCHAU, GERMANY
● Manufacturing plant	● Technical support base

Japan	Kobe Steel, Ltd. Takasago works (KSL)
USA	Kobelco Stewart Bolling, Inc. (KSBI)
China	Kobelco Machinery System Engineering (Qingdao) Co., Ltd.
Germany	KCS Europe GmbH

PCR & LTR Tire Uniformity Machine

Librota® / Librota®-GS

PL-UXO-P2



Specifications

	Librota®		Librota®-GS	
O.D. of tire [mm]	500-1,020			
Rim size [inch]	12-28			
Load range [N]	0-18,000			
Bead seat pressure [MPa]	Max. 0.6			
Cycle time [sec]*1	20		18	
Repeatability σ (CW,CCW) [N] *1	RFV, RFV1H	2.4	RFV, RFV1H	1.69
	LFV, LFV1H, CON	2.4	LFV, LFV1H, CON	1.33
Shoulder grinder	Option			
Sheet laser geometry system	Option			
Automatic rim changer	Option			
Size (L x W x H) [mm]*2	4,760 x 4,450 x 2,910			

*1 : With KSL master tire(215/60R16)
*2 : This size changes depending on option units

SHORT CYCLE TIME
= HIGHER PRODUCTIVITY

- ELECTRIC & PNEUMATIC ACTUATORS ONLY! (NO HYDRAULIC SYSTEM)
- NO PITS!
- HIGH ACCURACY!
- AUTOMATIC RIM CHANGER! (OPTION)
- USER FRIENDLY HMI!
- SHORT CYCLE TIME!
- COMPACT DESIGN! (FITS IN SHIPPING CONTAINER)

PCR & LTR Tire Uniformity Machine

PL-UXR-P8

FASTEST AUTOMATIC RIM CHANGER

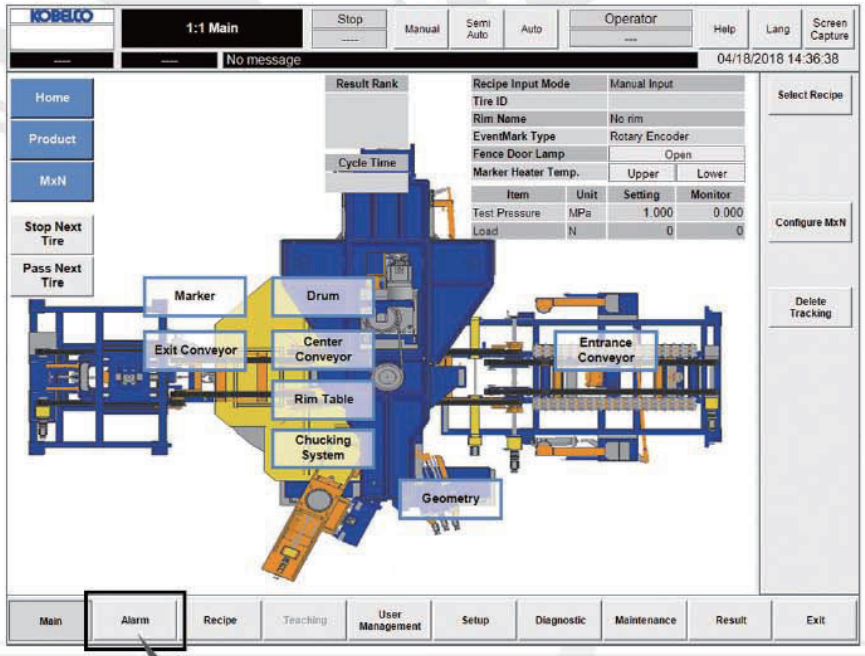
PL-UXR-P8 Specifications

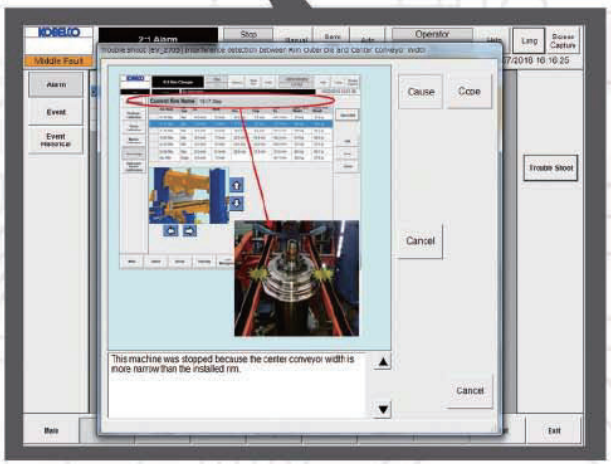
O.D. of tire [mm]	500-1,020	
Rim size [inch]	12-26	
Load range [N]	0-18,000	
Bead seat pressure [MPa]	Max. 0.6	
Cycle time [sec]*1	22	
Repeatability σ (CW) [N]*1	RFV, RFV1H	2.45
	LFV, LFV1H, CON	2.45
Shoulder grinder	Option	
Sheet laser geometry system	Option	
Automatic rim changer	Rim change time : 25 s	
Size (L x W x H) [mm]*2	5,630 x 4,360 x 3,300	

*1 : With KSL master tire (215/60R16)
*2 : This size changes depending on units

HMI (Human Machine Interface)

KOBELCO's latest HMI enables the operator to more easily perform machine operations, maintenance, problem diagnosis and other tasks. This system has many helpful features.





- Intuitive Interface
- Changing Language, Units and User permissions
- Various Output Display, CSV and XML Output Formats
- Support Trouble Shooting

Options for PCR / LTR Tire Uniformity Machine

TBR Tire Uniformity Machine

TB-UXR-P2

Marker

- Hot stamp type
- Additional lower marker available

Tire Shoulder Grinder

- Reduces RFV or RFV1H peak values
- Grinding of the upper and lower tire shoulder area

Sheet Laser Geometry

- Measures radial and lateral runout, bulge & dent, tire diameter and width
- Easy setup and operation
- High resolution
- Clearly separates bulge & dent measurements from raised characters

5 Point Laser Geometry

- 2 sidewall point laser sensors
- 3 tread point laser sensors

TB-UXR-P2 Specifications

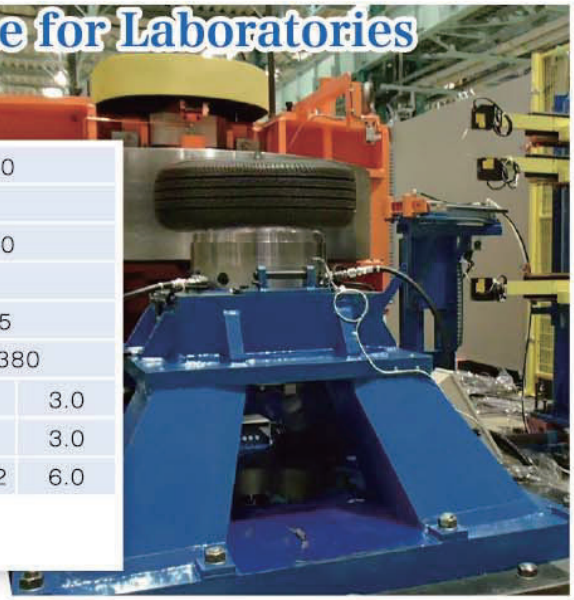
O.D. of tire [mm]	700-1,500	
Rim size [inch]	16-24.5	
Load range [N]	0-60,000	
Bead seat pressure [MPa]	Max. 0.9	
Cycle time [sec]*1	60	
Repeatability σ (CW) [N]*1	RFV, RFV1H	15
	LFV, LFV1H, CON	7
Automatic rim changer (option)	Rim change time : 120 s	
Size (L x W x H) [mm]*2	10,240 x 9,690 x 6,580	

*1 : With KSL master tire (295/80R22.5)
*2 : This size changes depending on units

Off-line Tire Testing Machines

High Speed Tire Uniformity Machine for Laboratories

KOBELCO also offers production type.



Specifications

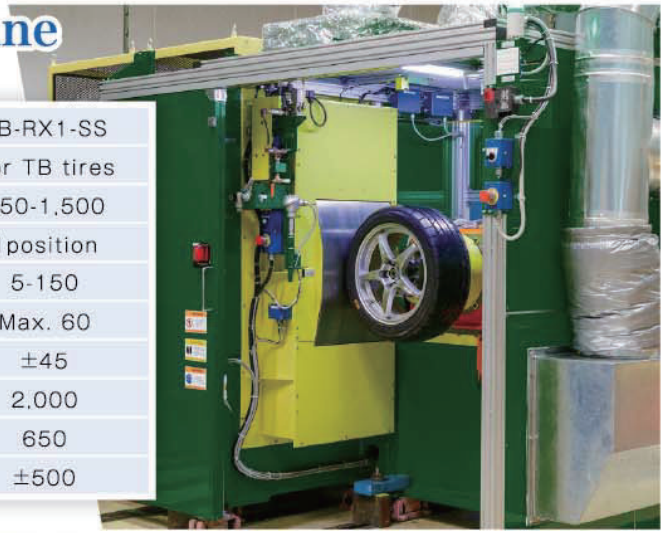
O.D. of tire [mm]	550-1,050	
Rim size [inch]	13-26	
Load range [N]	50-15,000	
Tire speed [km/h]	5-200	
Bead seat pressure [MPa]	Max. 0.45	
Resonant frequency [Hz]	More than 380	
Repeatability σ [N]*1 (60 r/min and 100 km/h)	RFV, RFV1H	3.0
	LFV, LFV1H	3.0
	TFV, TFV1H *2	6.0

*1 : With KSL master tire (215/60R16)
*2 : Only 100 km/h

Endurance Testing Machine for OTR Tires

- O.D. of tire: 3.0 – 4.9 m
- Load range: 50 – 2,700 kN
- Test speed: 1 – 20 km/h
- Slip / Camber angle: ±5 degree

Rolling Resistance Measurement Testing Machine



Specifications

	PC-RX1-SS	TB-RX1-SS
	For PC/LT tires	For TB tires
O.D. of tire [mm]	500-1,050	650-1,500
Test position	1position	1position
Test speed range [km/h]	5-150	5-150
Test load range [kN]	Max. 15	Max. 60
Test load accuracy [N]	±20	±45
Drum diameter [mm]	2,000	2,000
Drum width [mm]	500	650
Fx meas. range [N]	±300	±500

Tire Uniformity Machine for Laboratories

Using as a master machine at a plant

- O.D. of tire: 480 – 950 mm
- Load range: 0 – 15,000 N

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Kobelco Stewart Bolling, Inc.

Tel: 1-330-655-3111 Fax: 1-330-655-2982
1600 Terex Road, Hudson, Ohio, 44236, USA

Kobelco Machinery System Engineering (Qingdao) Co., Ltd.

神鋼産機系統工程（青島）有限公司
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KOBELCO 特設サイトへ

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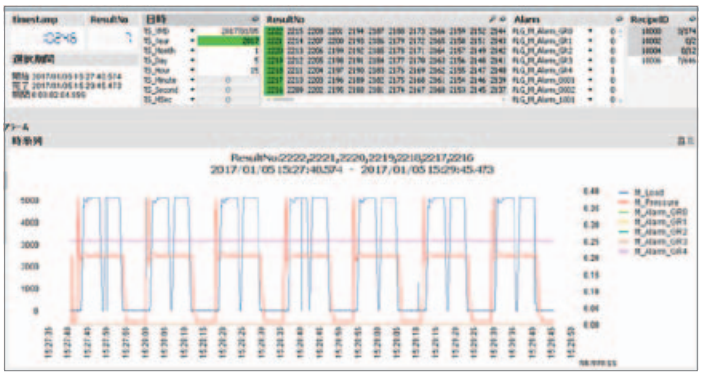
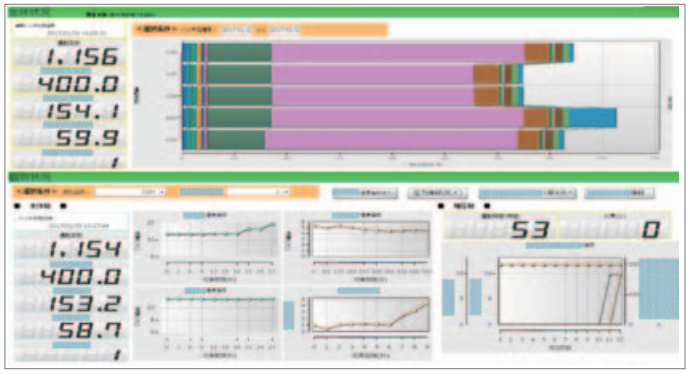
KOBELCO
KOBE STEEL GROUP

KOBELCO's Approach to IoT for Industrial Machinery

Solution

- Anomaly Detection
- Fault Prediction
- Preventive Maintenance
- Remote Maintenance
- The life prediction of a consumable component
- Monitoring





Platform @ internet

VPN (LTE/3G)

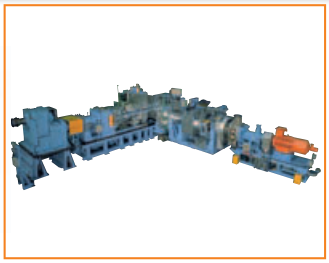
Machinery Network (Device and OPC UA)

THINGS

INDUSTRIAL MACHINERY
PLC by Siemens/AB/Mitsubishi Electric/OMRON/etc

Tire Uniformity Machine

PVD Equipment


Plastic Process Machinery

High Pressure Processor Equipment

KOBELCO 特設サイトへ

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