

CHASSIS DYNAMOMETER SYSTEM FOR 4-WHEELED VEHICLE TESTS

Overview

Onosokki's chassis dynamometer system has been upgraded to meet the needs of a wide range of 4-wheeled vehicle tests, such as emission performance, horsepower performance and environmental performance tests. It is supported by superior technology and a full line of peripheral equipment. We can also provide technical support for the design of the testing room.

Performance & durability testing system

◆ Test examples

- Performance testing: horsepower performance, environmental performance, noise
- Durability testing: for catalyser evaluation, for various components



Emission testing system

◆ Test examples

- Conforms to the following compliance tests: USA, UN and TRIAS.

◆ Features

- Consists of global standard size rollers of ϕ 48 inches and AC dynamometers.
- "Torque-calculation technology" is applied to achieve high response torque control.
- Uses a highly accurate strain-gauge torque measurement apparatus.
- Equipped with components necessary for emission tests, such as wheel holding unit, centering device and roller lock device.
- Applications necessary for emission tests are installed, such as road load setter software, drivers aid and gas emission data processing software.



Chassis dynamometer system for 4WD

- Conforms to the following compliance tests: EPA, EC and TRIAS.
- Consists of global standard size rollers of ϕ 48 inches and AC dynamometers.
- "Torque-calculation technology" is applied to achieve high response torque control.
- Uses a highly accurate strain-gauge type torque measurement apparatus.
- Equipped with components necessary for emission tests, such as wheel holding unit, centering device and roller lock device.
- Applications necessary for emission tests are installed, such as road load setter software, drivers aid and gas emission data processing software.



Example of specifications (Emission testing system with 48-inch rollers)

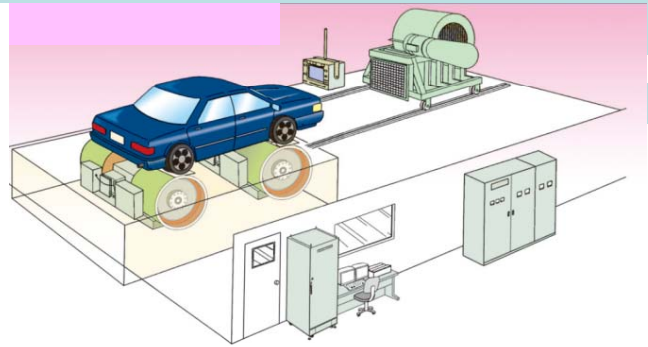
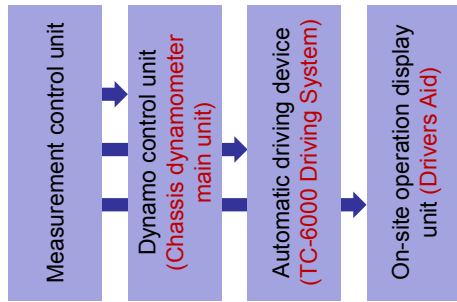
Applicable vehicle	Type	FF, FR, (4WD)	Power absorption unit	Overload rated power (1 min.)	Absorption: 165 kW / 100 to 200 km/h
	Vehicle weight	Passenger car, station wagon, pickup truck		Cradle method	Driver: 121 kW / 100 to 200 km/h
	Allowable shaft load	Max. 2721 kg		Torque detector	Oil pressure floating
	Maximum speed	2500 kg		Method	High accuracy load cell
Roller	Diameter	200 km/h	Inertia compensation	Method	Full electrical inertia compensation
	Width	1219.2 mm (48 inches)		Vehicle weight setting range	454 to 2721 kg (1000 to 6000 lbs.)
	Material	2300 mm (650 mm-1000 mm-650mm)		Mechanical stationary inertia	1361 kg (3000 lbs.)
	Surface	Steel		Electrical inertia range	-907 to +1360 kg
Power absorption unit	Type	Flat and smooth	Others	Miscellaneous equipment	Roller lock device
	Continuous rated power	AC dynamometer (synchronous system)			Vehicle lifter
		Absorption: 150 kW / 100 to 200 km/h			Wheel holding unit
		Driver: 110 kW / 100 to 200 km/h		Automatic torque calibrator (option)	

We can provide following options. Roller diameter: 1061 mm, 1591.5 mm, 219.5 mm (double roller), etc.

Mechanical inertia compensation type, 4-wheel independent driving type, etc. are also available for various test purposes.

System configuration

- Emission test
- Durability test
- Output performance test
- Environment test
- Sound & vibration test
- Safety & reliability test



Measurement / control panel

◆ FAMS-8000 Flexible Automatic Measuring System

- Since FAMS-8000 Flexible Automatic Measuring System has a wide range of optional software provided in module basis, it can easily be applied to various purposes from basic to high level testing such as emission testing and ECU optimization.
- A variety of optional software enables it to build up easily the advanced testing system.



Measurement monitor screen (above)
Setting screen (below)

Peripherals

◆ Drivers Display

Drivers Display

- Screen switching function: measurement screen or Drivers Aid screen.
- Assists a driver by letting him/her know various measurement data in checking the driving conditions.

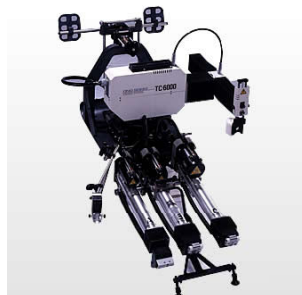
Drivers Aid

- Drivers Aid assists driving operations graphically through displaying target speed patterns and target gear shift timing.



◆ TC-6000 Driving System (for durability test)

- Acceleration, clutch, brake pedal, transmission (gear shift) and ignition key operations.
- Three minutes for setting the robot to test vehicle because of its small & light weighted body.
- Automatic positioning recognition function to identify the relative position between a test vehicle and each actuator.



◆ Vehicle Restraint Device (Full automatic)

- No need to make special modification to the test vehicle.
- Can be used for almost any types of test vehicle.
- Enables safety driving operation.
- Easy to reproduce the test result.
- Easy setting in a short time without personal difference.



◆ Engine Cooling Fan

- Vehicle speed following engine cooling system.
- Applicable fan type: centrifugal fan, axial flow fan, etc.
- Can be adjusted easily when setting the wheel base.



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