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 catalyster 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 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.

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)

<table>
<thead>
<tr>
<th>Applicable vehicle</th>
<th>Power absorption unit</th>
<th>Overload rated power (1 min.)</th>
<th>Absorption: 165 kW / 100 to 200 km/h</th>
<th>Wheel holding unit</th>
<th>Drive: 121 kW / 100 to 200 km/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>FF, FR, (4WD)</td>
<td>Passenger car, station wagon, pickup truck</td>
<td>Cradle method</td>
<td>Oil pressure floating</td>
<td></td>
<td></td>
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<tr>
<td>Vehicle weight</td>
<td>Max. 2721 kg</td>
<td>Torque detector</td>
<td>High accuracy load cell</td>
<td></td>
<td></td>
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<tr>
<td>Allowable shaft load</td>
<td>2500 kg</td>
<td></td>
<td></td>
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<tr>
<td>Maximum speed</td>
<td>200 km/h</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Diameter</td>
<td>1219.2 mm (48 inches)</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Width</td>
<td>2300 mm (660 mm-1000 mm-660mm)</td>
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<td></td>
<td></td>
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<tr>
<td>Material</td>
<td>Steel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surface</td>
<td>Flat and smooth</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power absorption unit</td>
<td>AC dynamometer (synchronous system)</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Continuous rated power</td>
<td></td>
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</tbody>
</table>

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.

**Peripherals**

**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.

**Vehicle Restraint Device**
- 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.

**TC-6000 Driving System**

- 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.

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**Measurement monitor screen (above)**

**Setting screen (below)**

*Other appearance and specifications are subject to change without prior notice.*

URL: http://www.onosokki.co.jp/English/english.htm

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