

## 整车下线检测解决方案

Vehicle End-of-Line Testing System

## 非接触式激光四轮定位仪

### Non-contact Vehicle Alignment System

3D+非接触式激光四轮定位仪采用LMI Technologies与宝克公司共同研制开发的3D多线激光传感器，通过与模式算法相结合，实现车轮定位参数测量及高可靠性工业环境应用。每个车轮侧配备两个3D激光传感器，整体四轮定位仪配备8个。

3D+ Non-Contact Alignment System using the latest 3D+ Non-contact Digital Multi-line Laser Sensor, combining with the mode algorithm to accurately and repeatedly measure the vehicle wheel alignment settings and the values and to allow an operator to make the adjustments needed to bring the vehicle parameters within the customer specified values.

#### 主要功能：

- 前、后轮前束
- 前、后轮外倾
- 推力角
- 主销后倾角
- 主销内倾角
- 方向盘转角
- 前轮最大转向角
- 前、后轮轮重测量
- EPS/ESP/主动悬架等电控功能零点标定

#### Main Function:

- Front and Rear Wheel Toe Measurement
- Front and Rear Wheel Camber Measurement
- Thrust Angle Measurement
- Caster Measurement
- Inclination Measurement
- Steering Wheel Angle Measurement
- Lock to Lock Measurement
- Wheel Weight Measurement
- Zero calibration of EPS/ESP/active suspension etc.



# 大灯测试仪

## Head Lamp Aimer

自动龙门式大灯仪采用标准龙门框架式结构，配有水平、垂直方向自动定位系统，CCD测量光学箱成像系统，操作面板、安全防护装置等。光学箱自动移动到车辆大灯前，准确测量灯光强度及照射位置，并提示操作者对大灯参数进行调整，达到大灯合格的数值范围。

### 主要功能：

- 远光/近光照射位置测量
- 远光光强测量
- 雾灯照射位置测量
- SAE大灯试验
- ECE左右驾驶车辆的大灯试验
- JPN大灯试验
- 视觉/光学大灯试验
- GB 7258-2017标准试验
- 像素式大灯试验
- 矩阵式大灯试验

The automatic gantry headlight meter adopts the standard gantry frame structure, equipped with horizontal and vertical automatic positioning system, CCD measuring optical box imaging system, operation panel, safety guards and so on. The optical box automatically moves to the front of the vehicle headlight, accurately measures the light intensity and irradiation position, and prompts the operator to adjust the headlight parameters to reach the range of qualified headlight values.

### Main Function:

- Far/near light exposure position measurement
- High beam intensity measurement
- Measurement of fog lamp illumination position
- SAE Headlight Test
- Headlight test for ECE left and right driving vehicles
- JPN Headlight Test
- Visual/optical headlight test
- GB 7258-2017 standardized test
- Pixel headlight test
- Matrix headlight test



# 综合转鼓制动试验台

## Dynamic Vehicle Test Machine

综合转鼓制动试验台用于汽车总装厂终端检测线上准确测试汽车的传动系和制动性能。设备具有四套独立的转鼓组件，每套转鼓组件分别由各自的交流向量电机驱动，可提供附加的扭矩使转鼓加速或附加阻力，系统因此减少了复杂的机械机构，增加了可靠性和试验的灵活性。

Dynamic Vehicle Test Machine is used to accurately test the vehicle drive train components and braking performance for end-of-line vehicle process and assembly verification. With four independent drum assemblies, each driven by its own AC vector motor that provides additional torque to accelerate the drums or additional resistance, the system reduces the need for complex mechanical mechanisms, increasing reliability and test flexibility.

### 主要功能：

- 电动车动态测试
- 动态制动试验
- 静态制动力试验（根据GB7258-2017）
- 驻车制动试验
- 速度表校验
- 加速性能测试
- 倒档试验
- 巡航试验
- 上坡/下坡模拟行驶试验
- 四轮驱动车辆测试
- ABS/ESP测试（与汽车ECU通讯）

### Main Function:

- Electric Vehicle Dynamic Testing
- Dynamic Brake Testing
- Static Brake Force Testing (GB7258-2017)
- Parking Brake Testing
- Speedometer Testing
- Acceleration Testing
- Reverse Gear Shift Testing
- Cruise control test
- Uphill/Downhill simulated driving test
- Four Wheel Drive Axle Ratio Testing
- ABS/TCS/ESP/ESC Testing (via ECU)



## 振动异响转毂

### Rattle and Twist Machine

在汽车生产测试方面，从零部件到整车、从试验室到试车场以及最终在真实道路上的测试都已经全面展开。汽车行业普遍采用汽车试车场来代替普通的道路试验，进而缩短产品开发周期，而汽车试验设备又可以进一步缩短开发周期。汽车试验设备可以在试验室内实现车辆在真实道路下的工况模拟，可以实现一些在真实道路上无法进行的试验工况，振动异响转毂设备（BSR）能够有效实现车辆在典型道路上的行驶工况。

#### 设备优势:

- 转毂毂面带有设定的路谱。
- 集成了多个毂面路谱，转毂表面大体分为左、中、右三个区域，可安装三种不同的模拟道路凸块。
- 转毂设备带有扭曲功能，能够使转毂的前后轴以设定的角度交叉摆动，从而在运行过程中实现对车辆底盘的扭曲，进而在这一工况下对车辆的异响进行评价。
- 设备可放置于高低温环境舱内。
- 四个转毂滚筒的初始相位可以根据轴距的不同进行调整。
- 设备自带减振基座，可以有效地减弱高频振动和低频振动。
- 可以实现驾驶人员在车内驾驶车辆进行试验，也可以设备带动车辆转动进行试验。



Automotive test equipment can simulate the working conditions of the vehicles under real roads in the laboratory, and can realize some test conditions that cannot be carried out on real roads. The Rattle and Twise Machine(BSR) can effectively realize the driving conditions of the vehicles on typical roads.

#### Equipment Advantages:

- The surface of the drum has a set road spectrum.
- Multiple drum surface road spectrum are integrated. The drum surface is divided into left, center, and right zones, and three different simulated road bumps can be installed.
- The machine has a twisting function that enables the front and rear axles of the drum to cross swing at a set angle, thus realizing the twisting of the vehicle chassis during operation, and thus evaluating the vehicle's rattles under this working condition.
- The equipment can be placed in high and low temperature environment chambers.
- The initial phase of the four rotating drums can be adjusted depending on the wheelbase.
- The equipment comes with a vibration-damping base, which can effectively reduce high-frequency vibration and low-frequency vibration.
- It can realize the driver to drive the vehicle in the car to test, also can be driven by the equipment to rotate the vehicle to test.



## 驾驶辅助标定系统

### ADAS Test System

驾驶辅助系统标定设备用以标定车辆的各项驾驶辅助系统模块，保证其准确性和功能性。

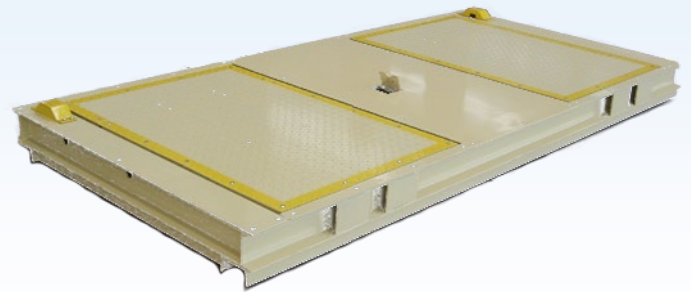
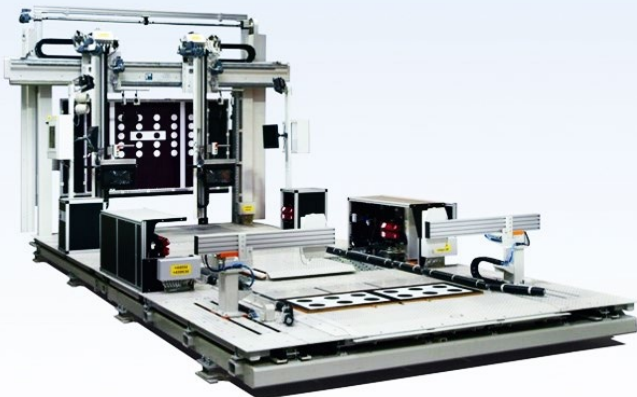
#### 可标定的驾驶辅助功能：

- AFL 自适应大灯
- ACC 自适应巡航
- LDW/LKA 车道偏离警告/车道保持系统
- NV 夜视
- HUD 抬头显示
- LCA / Blind spot 变道辅助/盲点监测
- Top view / 360° camera 泊车辅助/环视影像/全车影像
- Lidar 激光雷达

ADAS test system is used to calibrate the vehicle's driver assistance system modules to ensure their accuracy and functionality.

#### Main Function:

- AEB
- AFL
- ACC
- LDW/LKA
- NV
- HUD
- LCA / Blind spot
- Top view / 360° camera
- Lidar



## 侧滑台

### Side Slide Table

侧滑检测台通过测量汽车在直线行驶过程中的侧滑量，从而评价车轮外倾角与前束角的匹配情况。

Side Slide Table evaluates the matching of wheel camber and front beam angle by measuring the amount of side slide of a vehicle during straight line driving.

#### 主要功能：

- 测量汽车前后轴车轮侧滑量
- 进车处配有放松板
- 故障自诊断功能
- 精度校准功能
- 车辆通过速度检测功能

#### Main Function:

- Measurement of wheel slide on front and rear axles
- Entry with relaxation panel
- Failure self-diagnosis function
- Precision calibration function
- Vehicle passing speed detection function

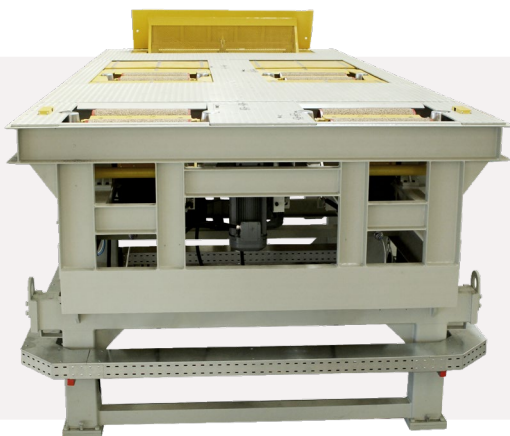
## 双轴制动台

### Dual Axle Brake Table

双轴制动试验台是集成制动力测试台与ABS/ESP检测系统于一体的制动系统检测设备。

#### 主要功能：

- 测量车轮的最大静态制动力及制动力百分比
- 车轮阻滞力测试
- 制动力平衡测试
- 驻车制动力测试
- 手刹力测试
- 脚踏板力测试
- 车辆ABS/ESP测试



Dual-axle brake test table is a brake system testing equipment integrating brake force test table and ABS/ESP testing system.

#### Main Function:

- Measurement of maximum static braking force of the wheel and the percentage of braking force
- Wheel blocking force test
- Brake force balance test
- Parking brake test
- Handbrake force test
- Pedal force test
- Vehicle ABS/ESP testing



## 单轴制动台

### Single Axle Brake Table

采用反力式原理，通过测定作用在滚筒上车轮制动力的反力，从而检测车辆制动性能。

#### 主要功能：

- 测量车轮的最大静态制动力及制动力百分比
- 车轮阻滞力测试
- 制动力平衡测试
- 驻车制动力测试
- 手刹力测试
- 脚踏板力测试

Adopting the principle of counterforce type, the vehicle braking performance is tested by determining the counterforce acting on the wheel braking force on the drum.

#### Main Function:

- Measurement of maximum static braking force of the wheel and the percentage of braking force
- Wheel blocking force test
- Brake force balance test
- Parking brake test
- Handbrake force test
- Pedal force test

## 侧滑台

### Side Slip Tester

侧滑检测台通过测量汽车在直线行驶过程中的侧滑量，来评价车轮外倾角与前束角的匹配情况。

#### 主要功能：

- 测量汽车前后轴车轮侧滑量
- 进车方向带放松板，以释放轮胎侧面弹性变形
- 故障自诊断功能
- 精度校准功能
- 车辆通过速度检测功能

Side Slip Tester is designed for automatic and dynamic measuring side slip of front/rear axle of the vehicle.

#### Main Function:

- Measuring sideslip of front/rear axle of the vehicle
- Releasing elastic deformation of tires by passing releasing plates are in front of tester
- Failure self-diagnosis
- Calibration function
- Detect speed of vehicle

## 速度台

### Speed Tester

速度试验台用于对汽车的车速表指示误差进行检验，判定其是否符合标准。

#### 主要功能：

- 测试车辆的行驶性能：加速试验、速度测试
- 车速表显示误差检测
- 显示0km/h~最高速度的运行曲线
- 40 Km/h、80%最高车速，最高车速，带倒档车速检测

Speed Tester is used to test the vehicle indicator error of speedometer, and judge if the result is meet the criterion

#### Main Function:

- Test the vehicle driving performance, include acceleration test, velocity test.
- Indicator error of speedometer test.
- Display 0km/h ~ maximum speed performance curve.
- Test of 40 Km/h, 80% maximum speed, maximum speed, reverse gear speed.

## 转角检验台

### Lock-to-Lock Tester

转角台采用先进的电子测量、气动控制、准确的转角编码器，用于检测汽车转向轮的转向角。

#### 主要功能：

- 左轮左转向角
- 左轮右转向角
- 右轮左转向角
- 右轮右转向角

Lock-to-Lock Tester is used to check the steering angle of automobile steering wheels.

#### Main Function:

- Left wheel left steering angle
- Left wheel right steering angle
- Right wheel left steering angle
- Right wheel right steering angle

## 排放测试系统

### Exhaust Emission Testing System

排放检测系统是针对新版国家排放标准规定的测量方法开发的一整套测试解决方案，适用于新生产汽车下线检测、在用汽车排放监控和环保执法抽查、新车排放开发标定等领域。

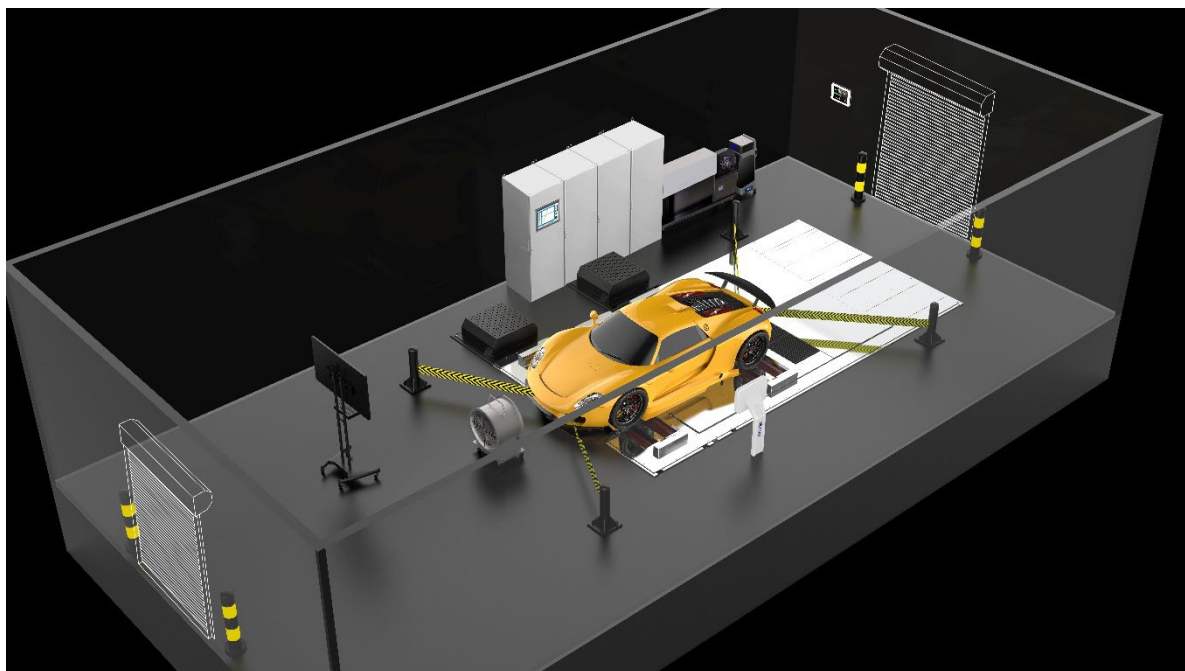
#### 主要功能：

- 附录B稳态工况法排放污染物测量
- 附录C瞬态工况法排放污染物测量
- 附录D简易瞬态工况法排放污染物测量
- 双怠速法检测方法
- 加载减速法测量方法
- 车辆诊断系统OBD检查
- 采集过程数据，生成测试报告

Exhaust emission testing system is a complete set of testing solutions developed for the measurement methods specified in the latest nation emission standard. The system is applicable to the inspection of newly produced vehicles off-line, emission monitoring of in-use vehicles and environmental protection law enforcement sampling, and calibration of new vehicle emission development.

#### Main Function:

- Appendix B Measurement of Pollutants Emitted by the Steady-State Condition Method
- Appendix C Transient Condition Method Emission Measurements
- Appendix D Simplified Transient Condition Measurements
- Double Idling Method
- Loading and Deceleration Measurement Method
- Vehicle diagnostic system OBD check
- Collecting process data and generating test report





---

北京博科测试系统股份有限公司

**BBK Test Systems Co.,Ltd.**

地址：北京市北京经济技术开发区景盛中街20号，101102

电话：+86-10-60571288

传真：+86-10-60571010

邮箱：sales@bbkco.com.cn

网站：www.bbkco.com.cn