



PTI PRODUCT LIST

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01

AUTOMATIC TESTLANE





Location

The location network represents the foundation of Cosber's growth strategy: the headquarters and the manufacturing factory lie at Foshan, along with Sales and Service branches located in different areas of China: Shenzhen, Shanghai, Nanning, Hangzhou, and Zhengzhou, as well as an international Sales and Service point in Munich, Germany.



COSBER Germany Branch



New Headquarters

In Foshan, one of the industrial centres in China, Cosber has established its new headquarters since 2021, a 10-story building with a total floor area of 60,000 m² housing production facilities, offices, R&D centre, and a training centre & showrooms. The modern design of the building reflects the company's commitment to providing innovative solutions in vehicle inspection and sustainable energy applications.

Trust & Solutions in Vehicle Inspection

Founded in Shenzhen 1999, Cosber is a forward-looking company focusing on providing reliable and innovative solutions for vehicle inspection organization and repair workshops. As a global technology company, we create added value for our customers by integrating our equipment with IT and network solutions, in order for streamlined operation, automated processes, and increased overall transparency. The trust customers put in our products and services motivates us daily to create high value solutions for them.

COSBER is one of the leading manufacturers of vehicle inspection equipment in China, with operations in over 50 countries. We have offices and production facilities in Shenzhen, Foshan, Shanghai, Nanning, and Hangzhou, as well as a subsidiary in Munich, Germany. We have a global workforce of more than 350 employees, including a robust R&D team comprising mechanical, electrical, and software engineers. Our R&D team's capabilities, combined with our extensive production depth, enable us to provide customized products to our customers.

COSBER's international project team includes experts in vehicle inspection and workshop equipment. Our technical know-how and market expertise, combined with our lean company structure, allow us to quickly adapt existing products to meet the needs and trends of different markets worldwide.

Member of

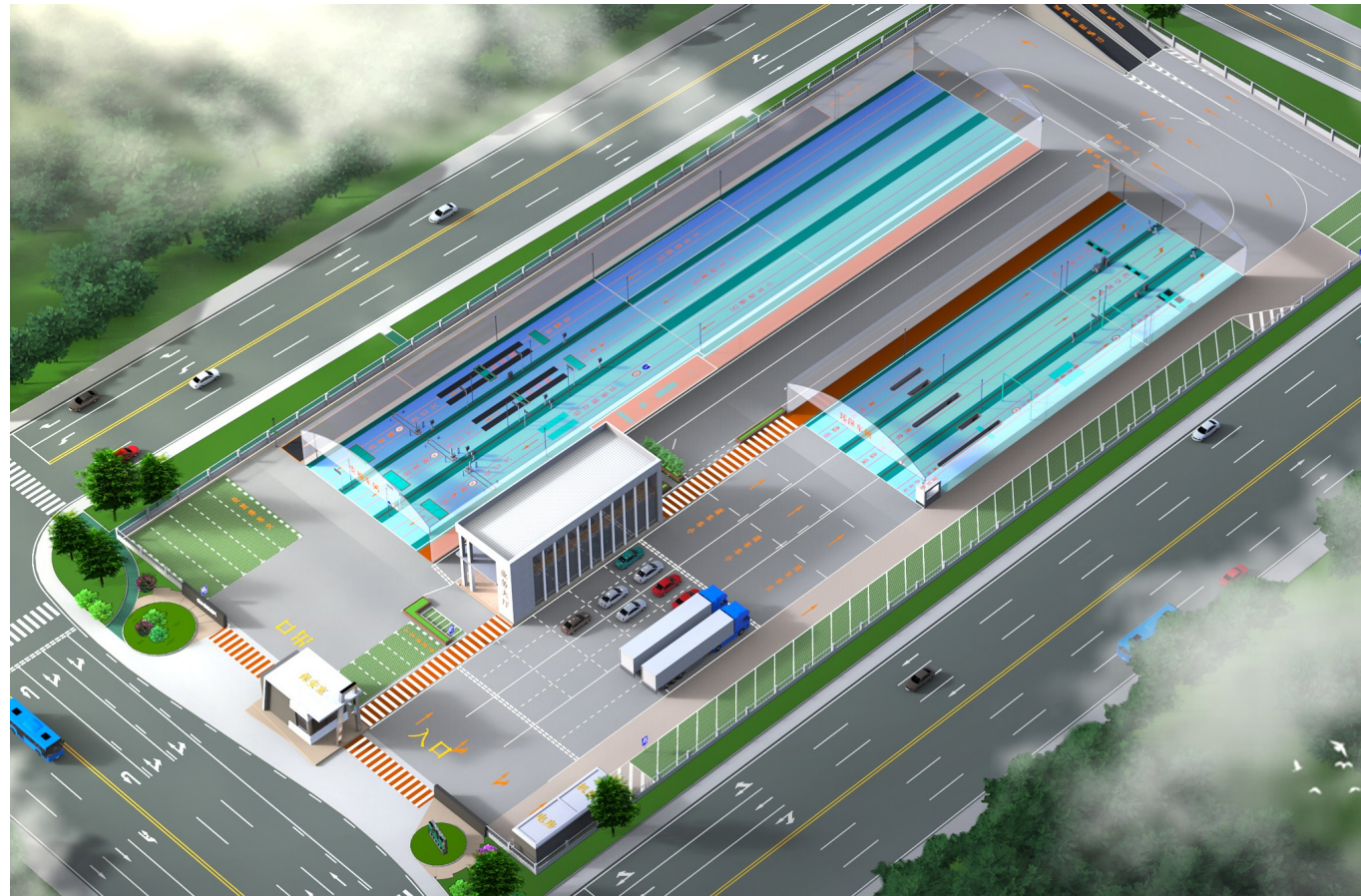


Certificated by



COSBER's Motor Vehicle Inspection System -- CVIS

Cosber is a leading manufacturer of vehicle testing equipment worldwide. Embracing the new era of digitization and IT technology in the vehicle inspection industry, COSBER has developed a new generation of control and management systems (called CVIS) to modernize and simplify vehicle inspection operations. This system has become a benchmark in PTI solutions.



The Aim of CVIS system bringing to Customer



EFFICIENCY

Improved vehicle inspection with a fully automatic operation system



TRANSPARENCY

A surveillance system connected with database networking technology



FLEXIBILITY

Modular networked software framework facilitates the multi-function test and enables customized solutions

We have rich experiences in daily industrial operations, so the design of CVIS system can cater to the needs of the following customers.



Vehicle Owner:

Easy scheduling, short waiting time, easy access to test results.



Authority:

Big data organization, improvement in regulation of road safety



Station Manager:

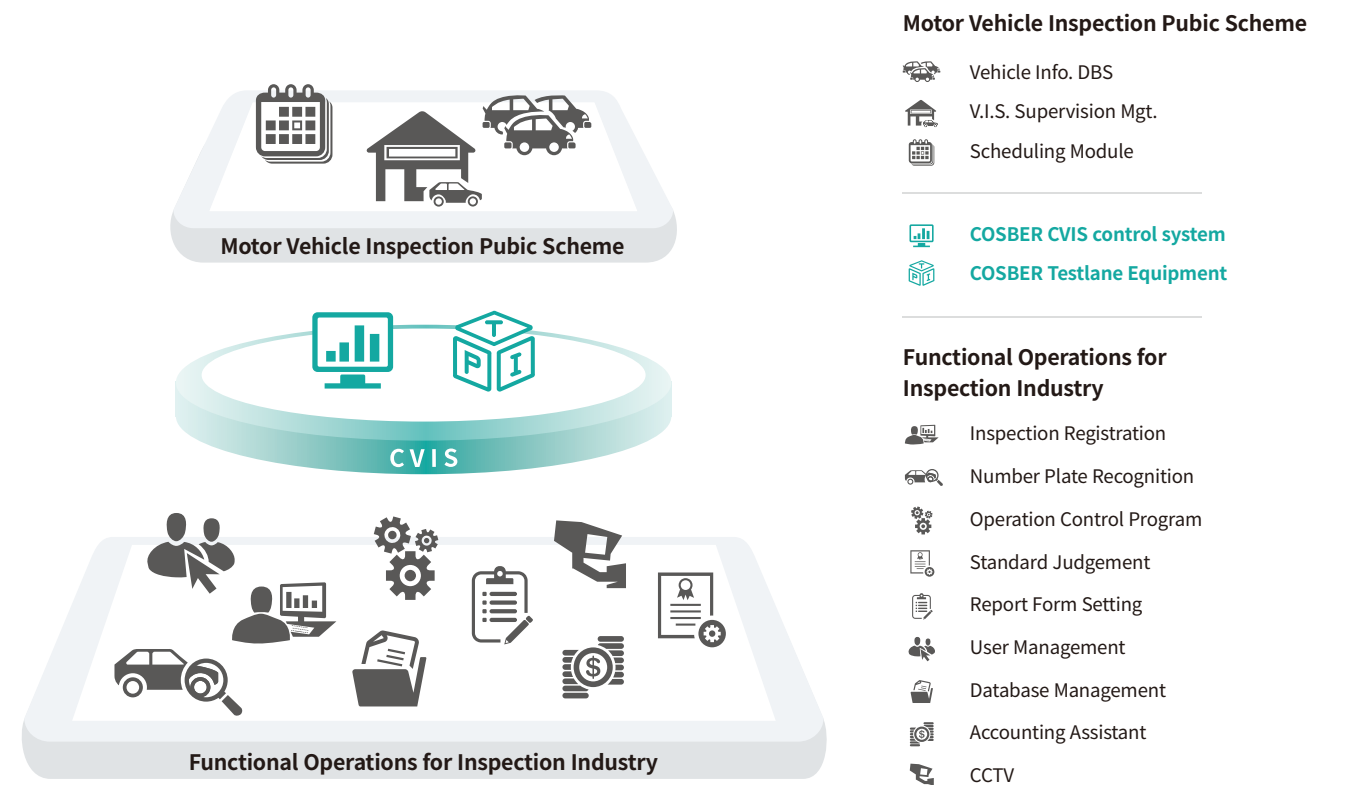
Monitoring of operation, high efficiency of performance.



Site Inspector:

User-friendly operation of equipment, clear working process.

COSBER is working in the middle of Vehicle Inspection Industry



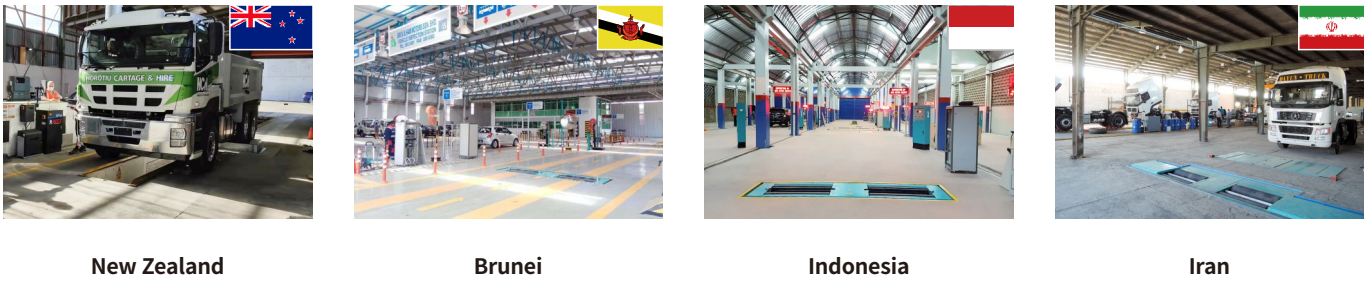
COSBER CVIS IT Connection



PTI Process Steps



Plenty of countries witness our PTI solution



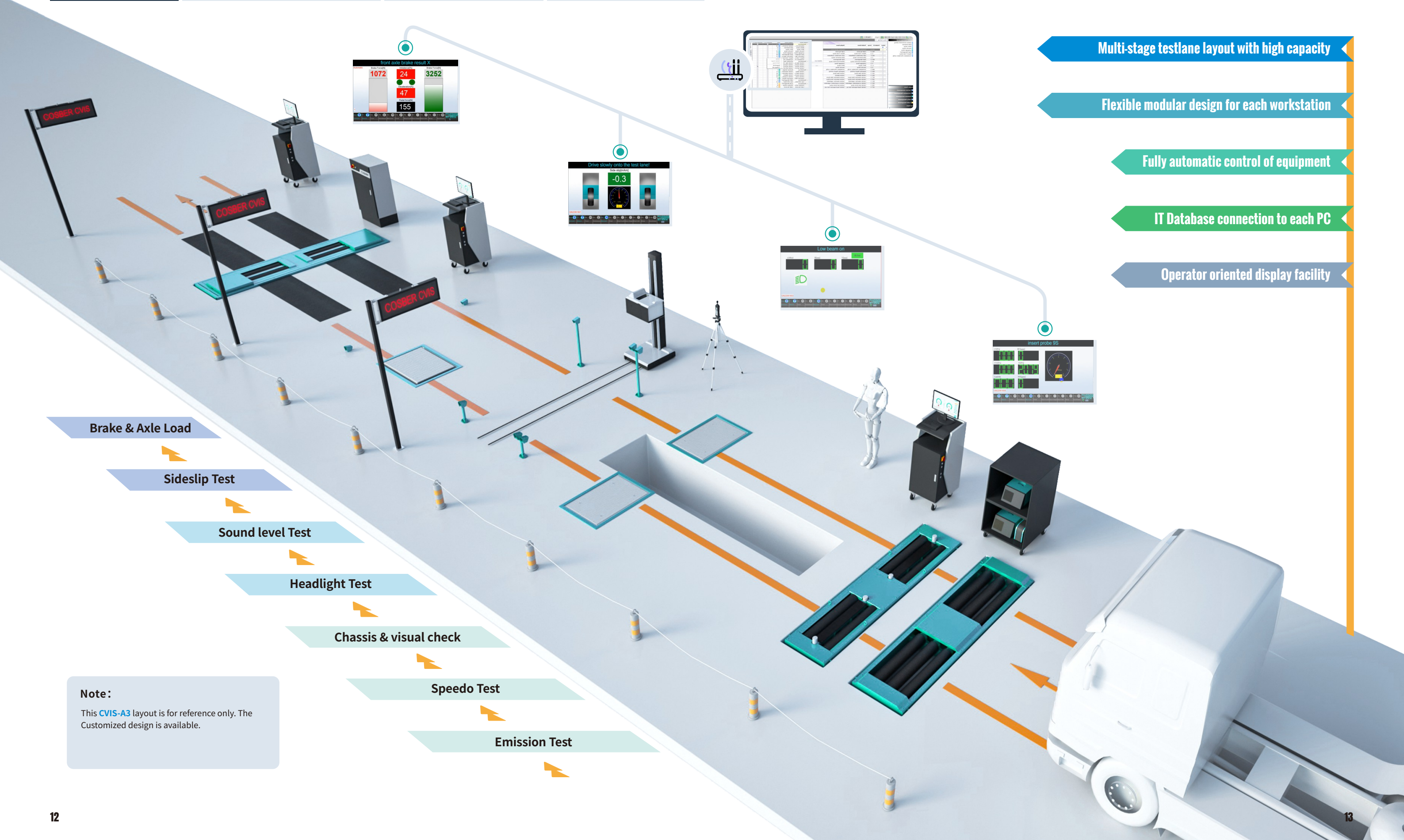
Functional Features

Icon	Test Item	Equipment
	Accuracy of vehicle speedometer	Speedometer tester
	1. Gasoline vehicle CO、HC concentration value (High / low idle RPM method); CO、HC & NO Concentration (Acclation method). 2. Diesel vehicle Random acceleration Exhaust Contamination Value and Light Absorption Coefficient (m-1) or Opacity (Rb).	Gas analyzer Opacimeter or Smoke meter
	1. Wheel (axle) load 3. Wheel resistance 5. Wheel brake force 2. Left / right brake balance 4. Total brake rate 6. Park brake	Roller brake tester Pedal force meter Wheel (Axle) load tetser
	Steer wheel sideslip value and direction	Sideslip tester
	1. Headlight-High beam Luminous intensity, optical axis deviation (up / down / left / right). 2. Headlight-Low beam Luminous intensity, optical axis deviation (up / down / left / right).	Automatic headlight tester
	Horn value & Noise level	Sound meter
	1. Vibration frequency 2. Suspension absorption rate 3. Left / right absorption difference	Suspension tester
	1. Steer system 2. Powertrain system 3. Rolling system 4. Brake system 5. Chassis system 6. Electronic part	Special hammer Play detector Steer angle tester



Heavy Duty 3-Workstations Testlane (A3)

A: HD Testlane B: LD&HD Combined Testlane C: Light Duty Testlane M: Motorcycle Testlane



Brake & Axle Load

Sideslip Test

Sound level Test

Headlight Test

Chassis & visual check

Speedo Test

Emission Test

Note:

This CVIS-A3 layout is for reference only. The Customized design is available.

Multi-stage testlane layout with high capacity

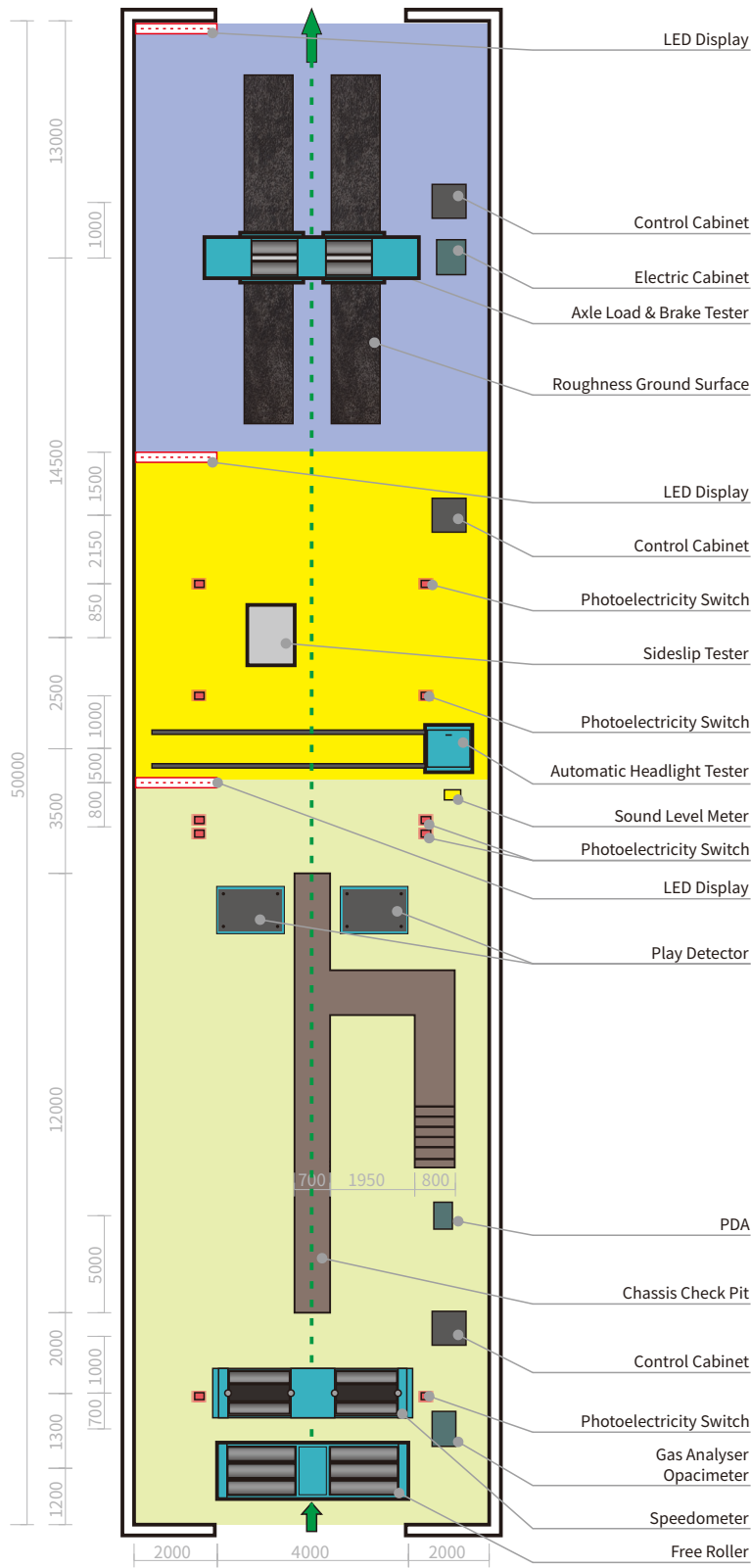
Flexible modular design for each workstation

Fully automatic control of equipment

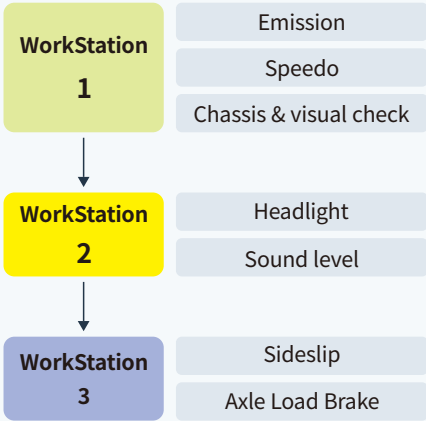
IT Database connection to each PC

Operator oriented display facility

Heavy Duty 3-Workstation Testlane (A3)



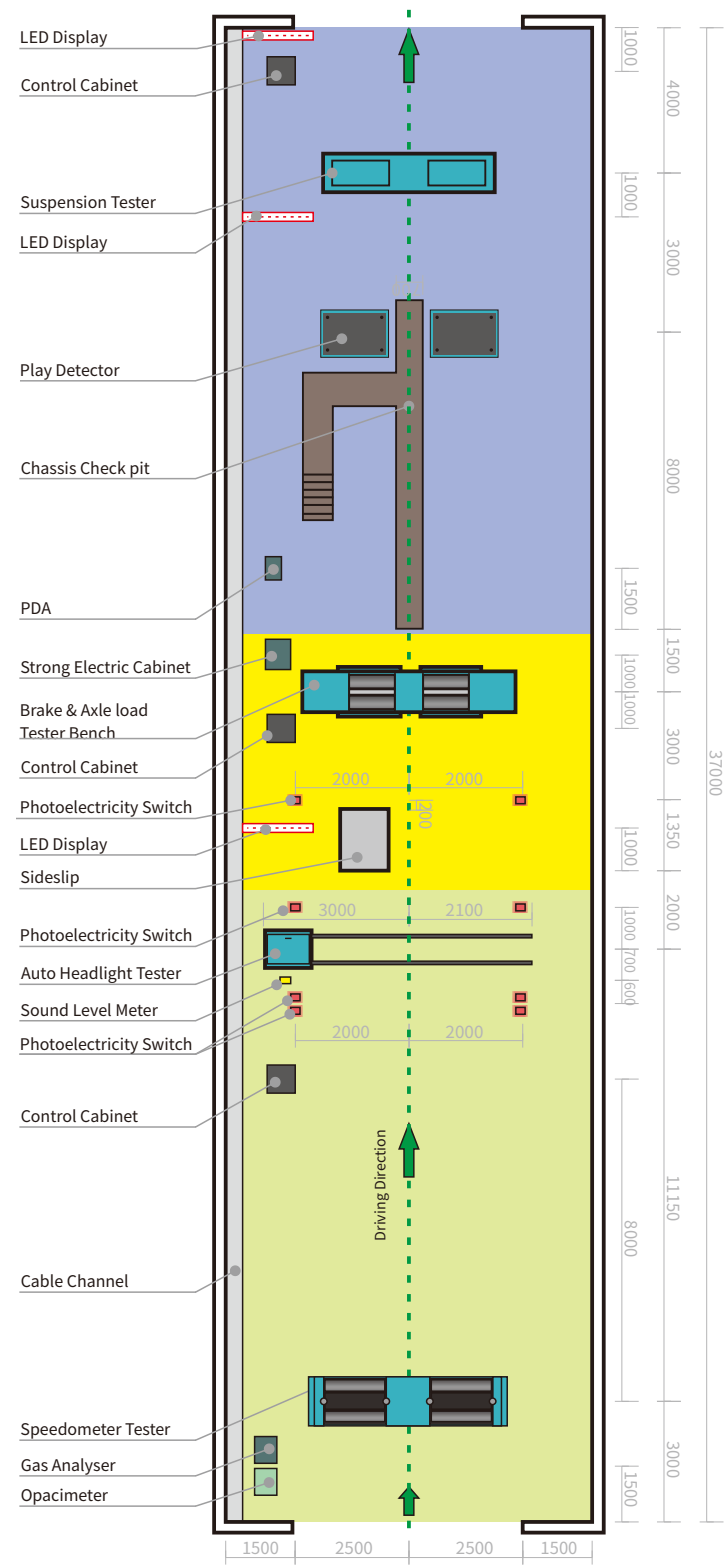
The process is briefly described below:



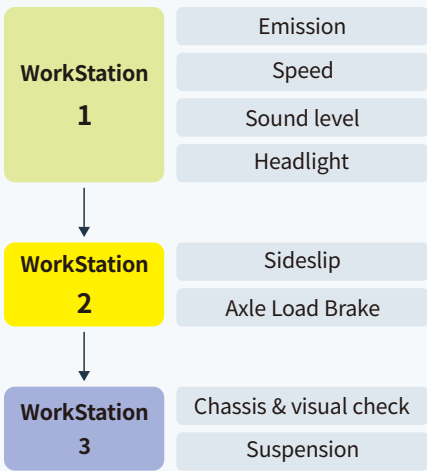
Note:

This CVIS-A3 layout is for reference only. The Customized design is available.

LD&HD Combined 3-Workstation Testlane (B3)



The process is briefly described below:



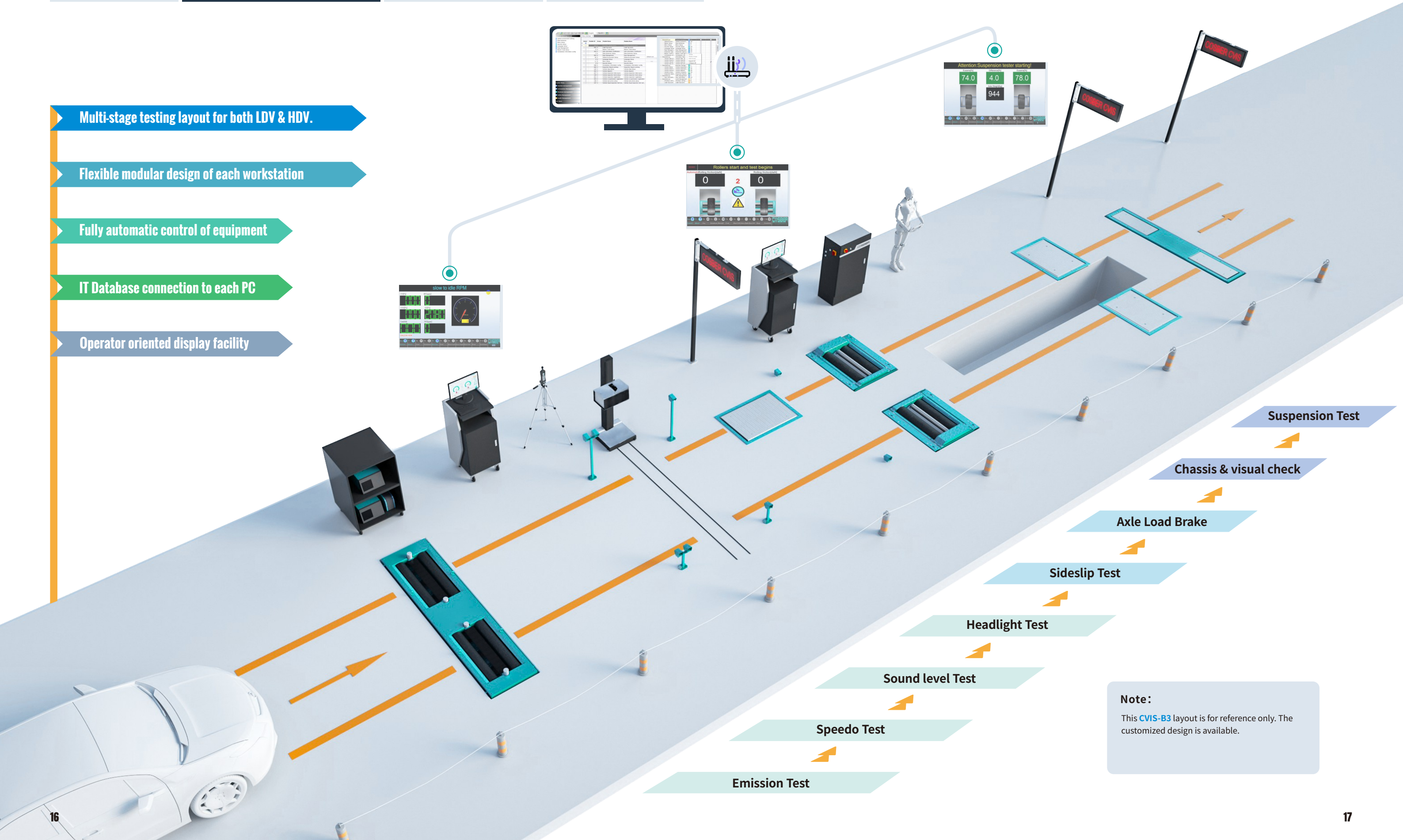
Note:

This CVIS-B3 layout is for reference only. The Customized design is available.

Light Duty & Heavy Duty Combined 3-Workstation Testlane (B3)

A: HD Testlane B: LD&HD Combined Testlane C: Light Duty Testlane M: Motorcycle Testlane

- Multi-stage testing layout for both LDV & HDV.
- Flexible modular design of each workstation
- Fully automatic control of equipment
- IT Database connection to each PC
- Operator oriented display facility

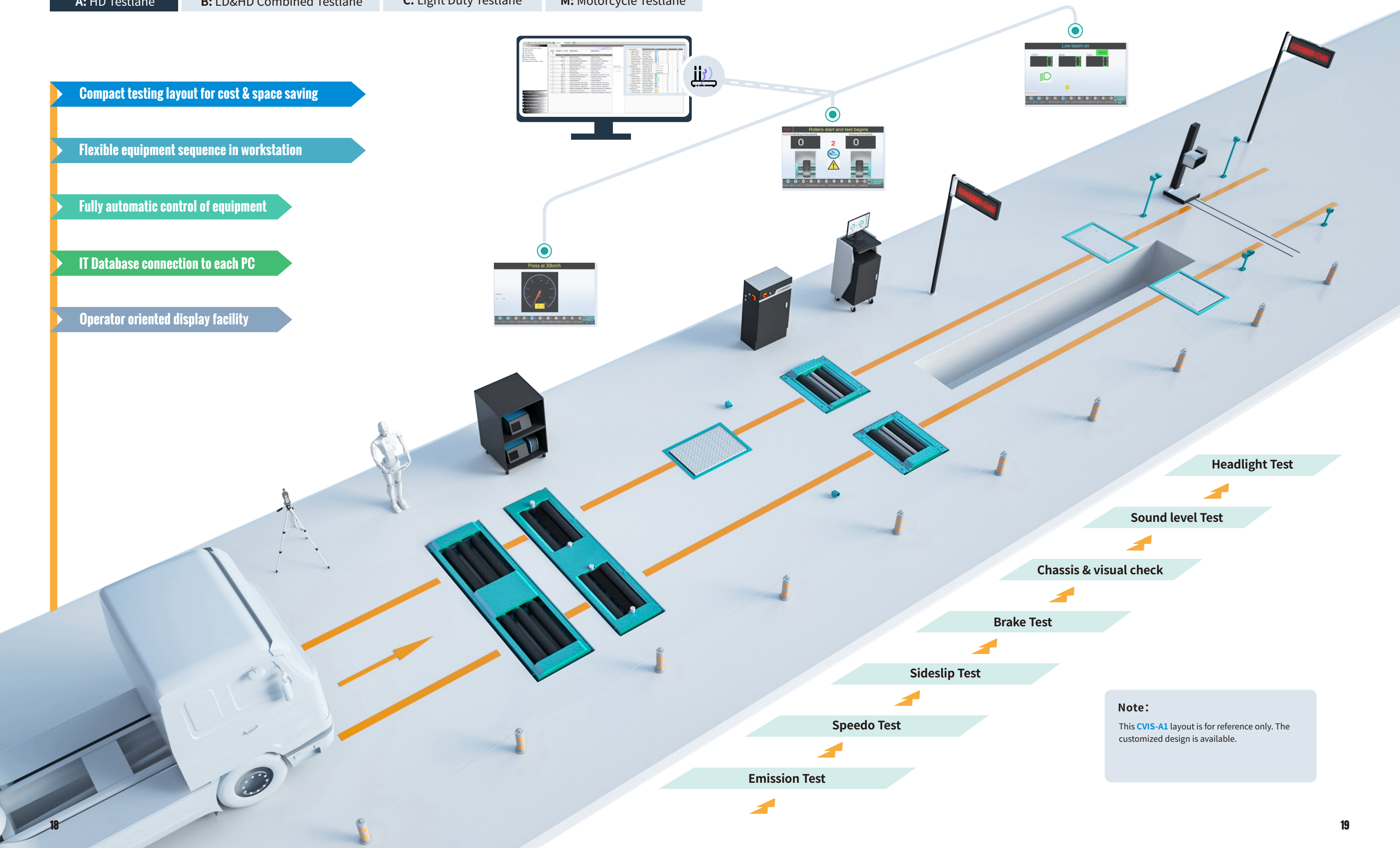


Note:
This CVIS-B3 layout is for reference only. The customized design is available.

Heavy Duty Testlane (A1)

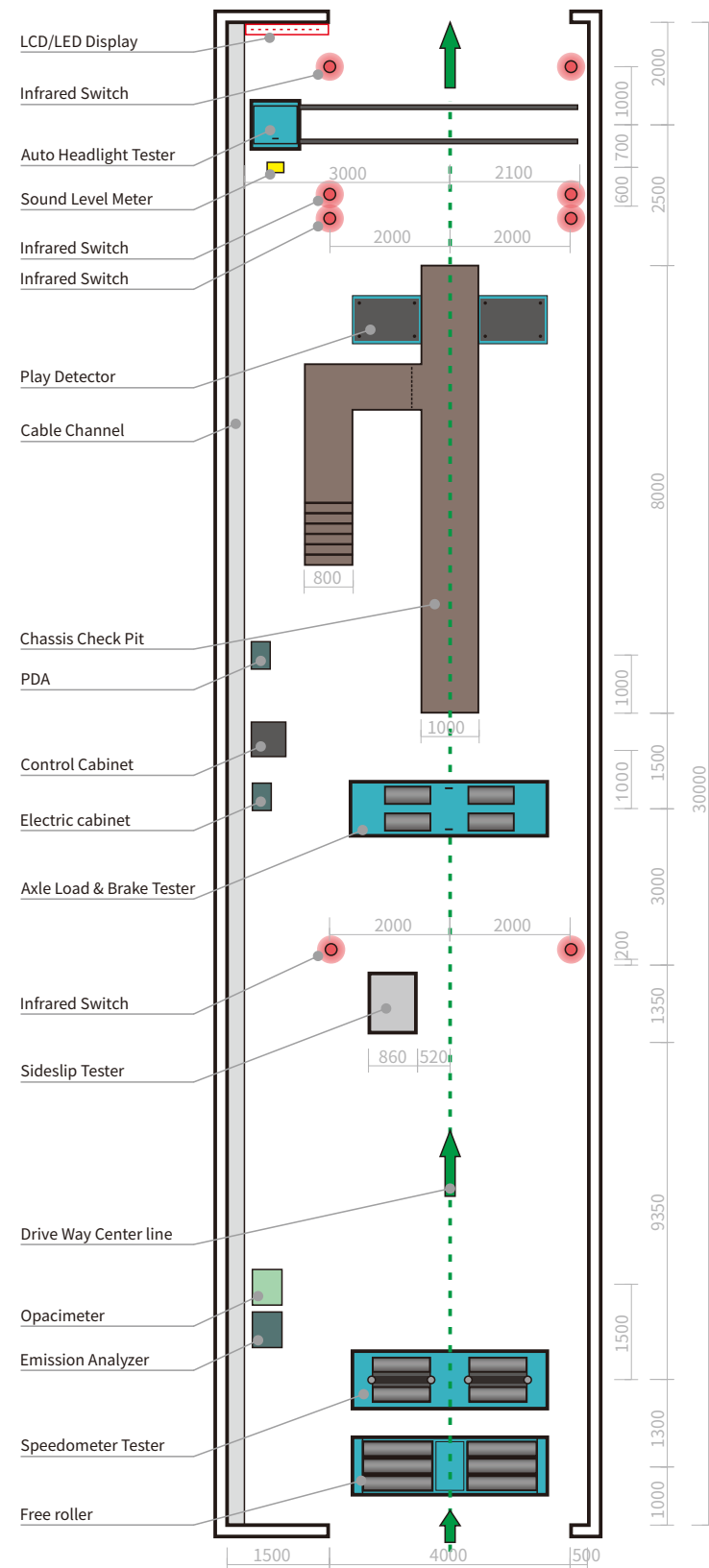
A: HD Testlane B: LD&HD Combined Testlane C: Light Duty Testlane M: Motorcycle Testlane

- ▶ Compact testing layout for cost & space saving
- ▶ Flexible equipment sequence in workstation
- ▶ Fully automatic control of equipment
- ▶ IT Database connection to each PC
- ▶ Operator oriented display facility

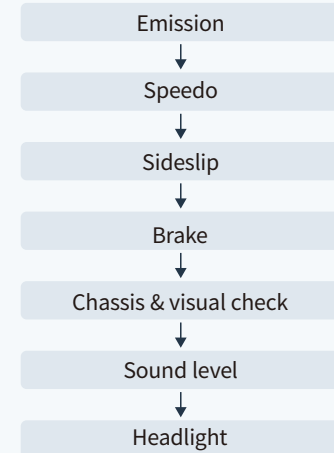


Note:
This CVIS-A1 layout is for reference only. The customized design is available.

Heavy Duty Testlane (A1)



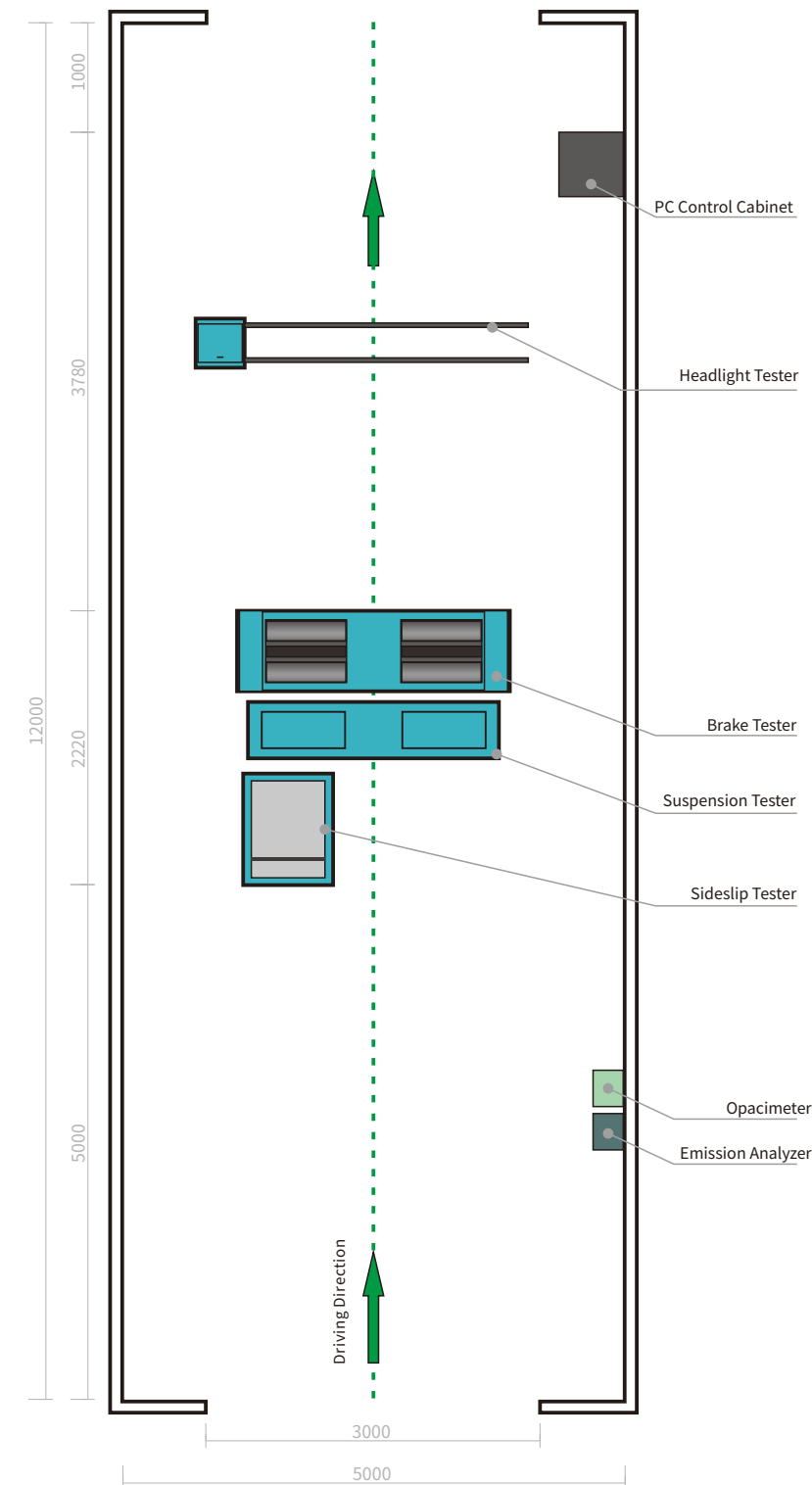
The process is briefly described below:



Note:

This **CVIS-C1** layout is for reference only. The customized design is available.

Light Duty Vehicle Testlane (C1)



The process is briefly described below:

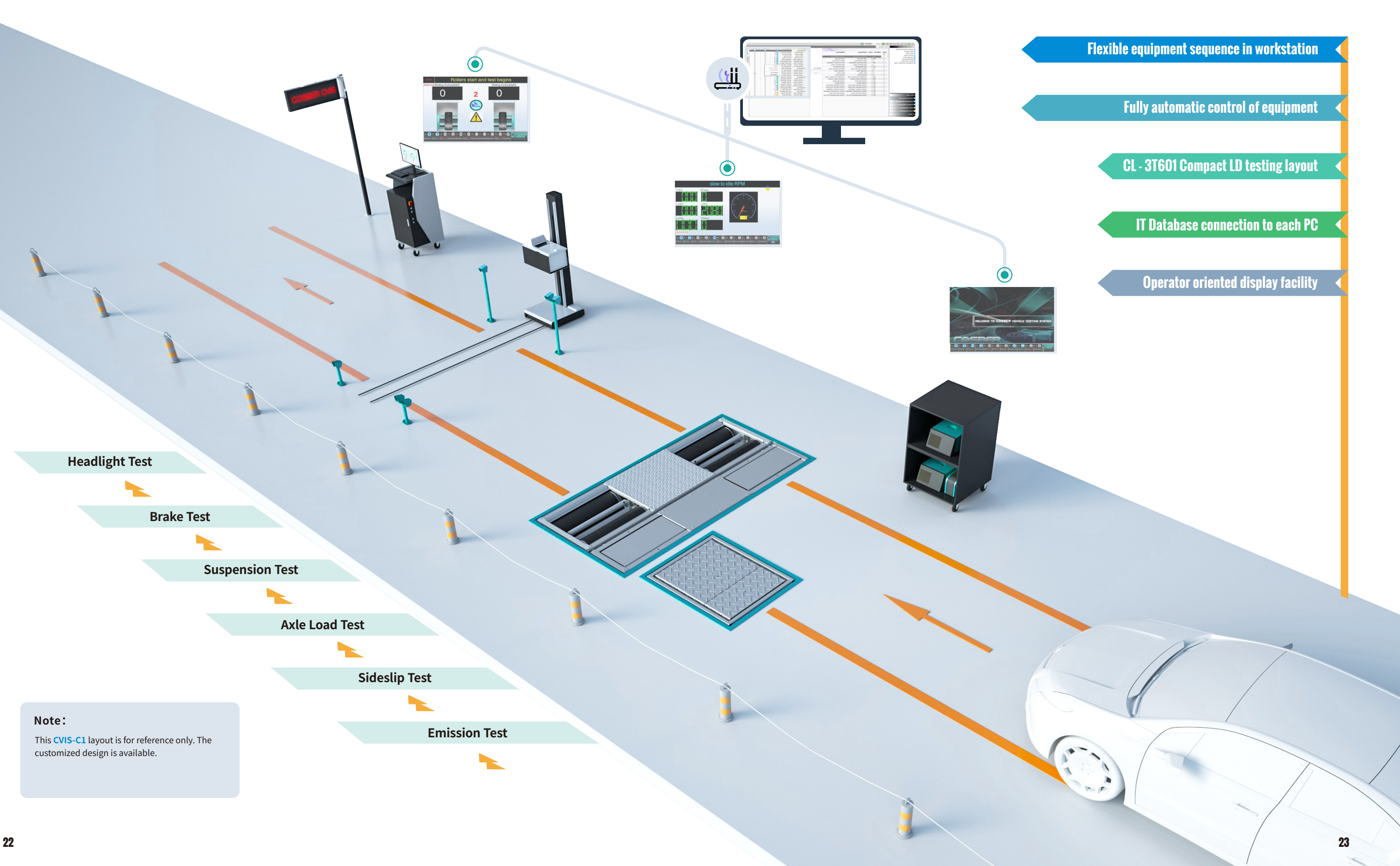


Note:

This **CVIS-C1** layout is for reference only. The customized design is available.

Light Duty Vehicle Testlane (C1)

- A: HD Testlane
- B: LD&HD Combined Testlane
- C: Light Duty Testlane
- M: Motorcycle Testlane



02

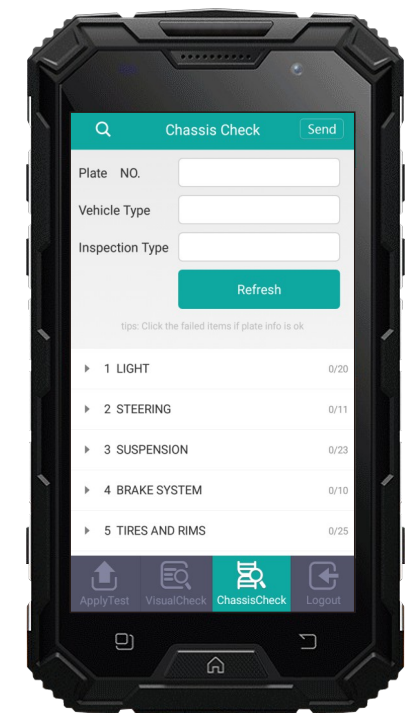
SOFTWARE



Visual-check Wireless PDA

Overview

COSBER Visual-check Wireless PDA (CSB-PDA) is designed for users who need a portable and durable terminal for data collection and photographing during vehicle visual checking. It is designed based on Android OS, applicable to any type of vehicle.



Key Features

- ▶ Multi-language (English / Spanish / French / Thai / German) supported
- ▶ Easily accessible & simple networking
- ▶ Multiple input way such as selecting, texting, and photographing
- ▶ Real “No-paper” Inspection: High - efficiency & Environmental friendly
- ▶ Compatible with Automatic Number Plate Recognition System (CSB - ANPR) & Underground Sense Coil System (CSB-SCS)

Task List

Plate NO.

Search by license plate number

Plate Type All Type

Select license plate type

Initial Test

tips: Enter the license plate information,easy to search and select specific vehicles

Initial Test

Re-check

Oversize vehicle KAU-3882

Task List

MiniCar KAU-2569

MiniCar KAU-7569

Private FHT-1105

tips: Please click on the selected vehicle,select and send the items to be inspected

ApplyTest

VisualCheck

ChassisCheck

Logout

Apply Test

Visual Check

Chassis Check

Logout

Visual Check

Send

Plate NO.

Vehicle Type MiniCar

Inspection Type In vehicle inspection

Refresh

tips: Click the failed items if plate info is ok

1 LIGHT 0/20

2 STEERING 0/11

3 SUSPENSION 0/23

4 BRAKE SYSTEM 0/10

5 TIRES AND RIMS 0/25

ApplyTest

VisualCheck

ChassisCheck

Logout

Visual Check

Chassis Check

Send

Plate NO.

Vehicle Type

Inspection Type

Refresh

tips: Click the failed items if plate info is ok

1 LIGHT 0/20

2 STEERING 0/11

3 SUSPENSION 0/23

4 BRAKE SYSTEM 0/10

5 TIRES AND RIMS 0/25

ApplyTest

VisualCheck

ChassisCheck

Logout

Chassis Check

Task List

Send Initial Items

Send

Plate NO.

Code

Plate Type 1

Inspection Times

tips: Fill in and then send the form

Vehicle Info

Plate Type: Oversize vehicle

Chassis Type: FWD HB2

Axle No:

Handbrake Position:

Oil Type: Petrol

Inspection Items

☐ OutCheck1

☐ OutCheck2

☐ Emission test

☐ Sideslip

☐ Front brake

☐ Middle brake

Select and Send The Test Item

40105 Repair/Replace Reverse Light

Abortion

40106 Repair/Replace Light

Qualified

40107 Repair/Replace Direction Lights

Minor Defect

40108 Repair/Replace Hazard Lights System

Major Defect

40109 Repair/Replace Sign Light

Extreme Defect

Abortion

Test Result Classification

CVIS Software Package

2 Main modules of the software:

Module 1: Workstation Equipment Control System – **CVIS-CL**. This module is installed on the Industrial Computer (IPC) on the stage and communicates with the equipment through a Com Port or USB. The CVIS-CL software is able to control the equipment independently for operation and calibration. Under LAN mode connected with other IPC and the main control PC, the control system can complete the work tasks of the testlane in the inspection centre.

Module 2: Inspection Information Management System – **CVIS-IIS**. With a database connected via an IP network between the computers of the management system and the IPC of the equipment (Workstation), it can execute the complete task of inspection information management, including vehicle information login, line scheduling, inspection item control, data management, report printing, system management, and settings.

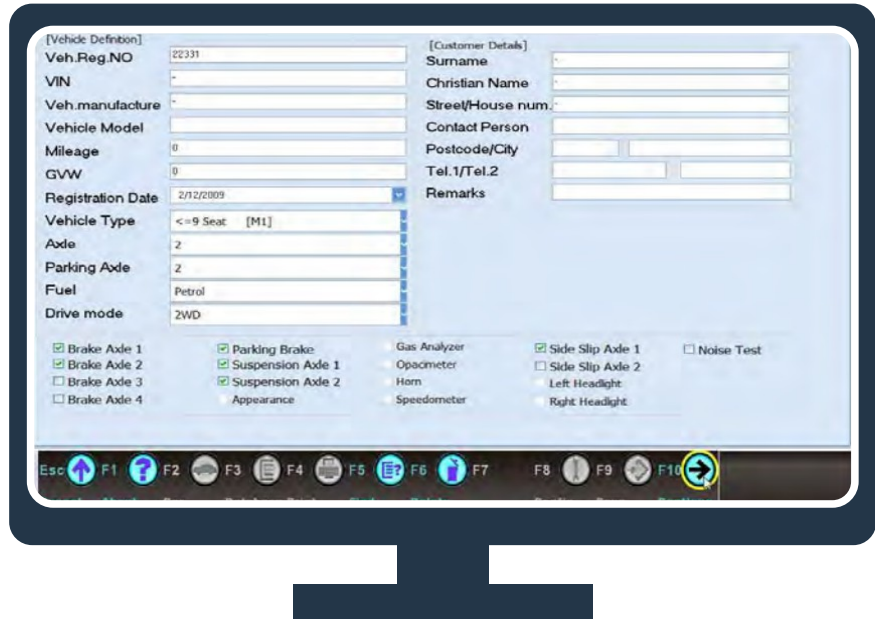


CVIS - CL Workstation Equipment Control System Interface

System environment parameter setting				
Variable name	Variable	Description	Last modified User	Last Modified time
Group:				
qsigph		Application scenario number	ADMIN	2018/9/12 9:52:26
Default_sheng	G	Default province	ADMIN	2018/9/12 9:52:26
dwgdm	11	Unit organization code (must be 12 bits ...	ADMIN	2018/9/12 9:52:26
InterfaceSH2	781D090903051704001581959F81...	Verify the intelligent terminal interface a...	ADMIN	2018/9/12 9:52:26
InterfaceSH3	781D090903051704001581959F81...	Verify video surveillance system interf...	ADMIN	2018/9/12 9:52:26
ZYJSHMC		Test inspection agency	ADMIN	2018/9/12 9:52:26
ZYJSH_Pie	BA081111	Inspection serial number prefix	ADMIN	2021/11/18 15:02:38
LocalReportPath	D:\kshveh\Localreport		ADMIN	2019/4/17 17:24:04
LogMacCount	301	Maximum number of logins	ADMIN	2021/11/18 15:03:21
LSH_Pie	BA07	Inspection serial number prefix	ADMIN	2018/9/12 9:52:26
Plate_Frst	N	License plate initials	ADMIN	2018/9/12 9:58:11
tx	0	Independent mode networking mode, ...	ADMIN	2018/9/14 11:35:28
VideoServiceAddress	http://127.0.0.1:8016/video.aspx	Video service address	tony	2019/5/12 18:12:08
WebServiceAddress1	http://192.168.89.168:8141/safe.a...	Local Application Service Address 1	ADMIN	2022/6/22 14:26:58
WebServiceAddress2	http://192.168.3.17:8090/safe.asmx	Local Application Service Address 2	ADMIN	2021/3/1 15:40:52
xtb	18	System category	ADMIN	2018/9/12 9:52:26
Group: System				
AuthorizedSignatory	Tester	Authorized signatory	ADMIN	2018/9/12 9:52:26
InterfaceSH1	781D090903051704001581959F81...	Inspection service information system m...	ADMIN	2018/9/12 9:52:26
ZYJGBH	4300000039	Inspection agency code	ADMIN	2018/9/12 9:52:26

CVIS-IIS Inspection Information Management System Interface

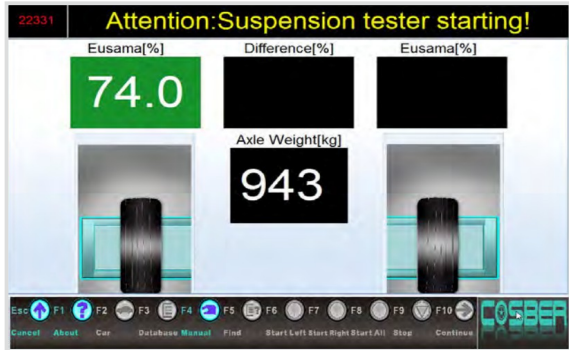
1) Workstation equipment control system CVIS-CL



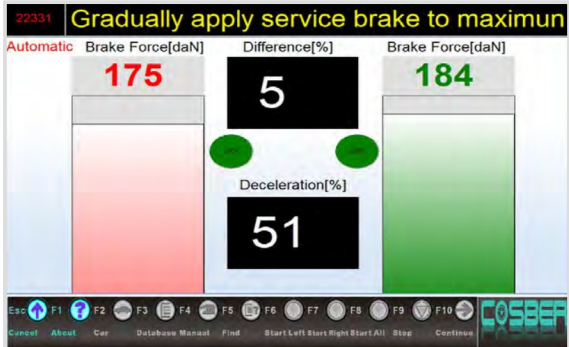
Enter the Vehicle Information for the test



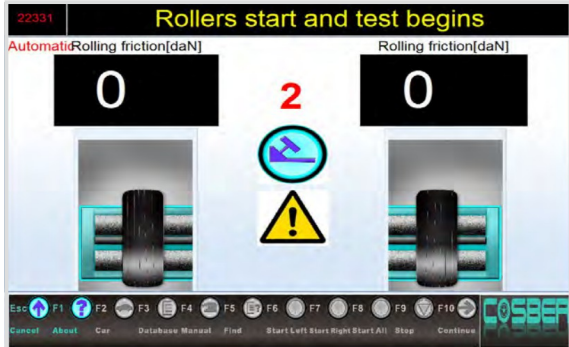
Sideslip Test



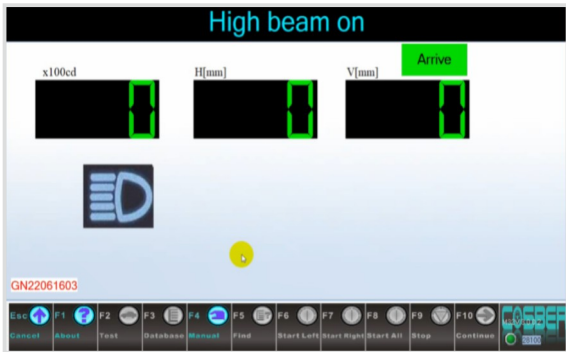
Suspension Test



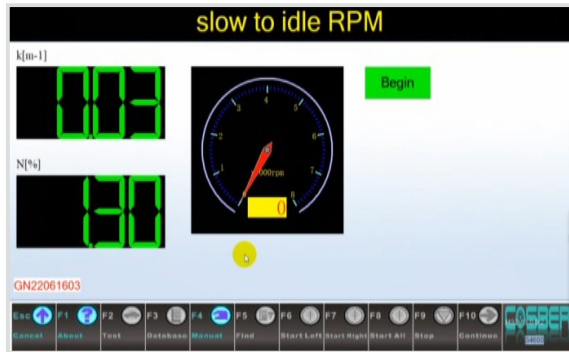
Front and Rear Wheel Resistance and Brake Test



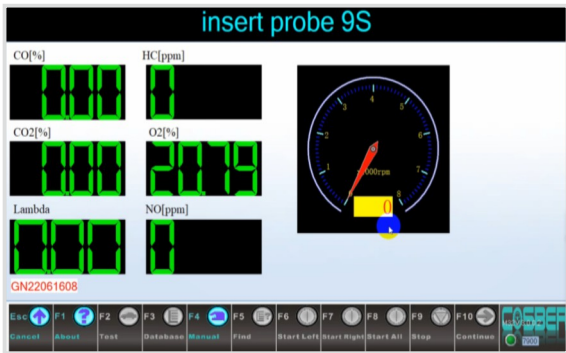
Parking Force Test



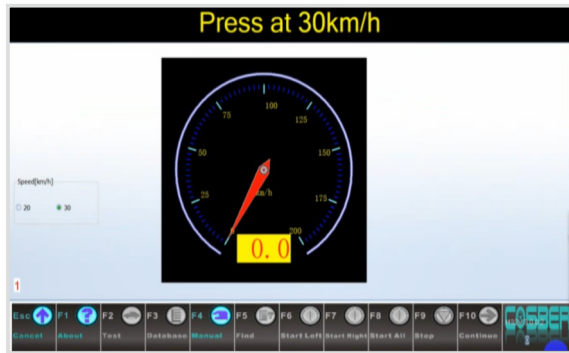
Headlight Test Interface



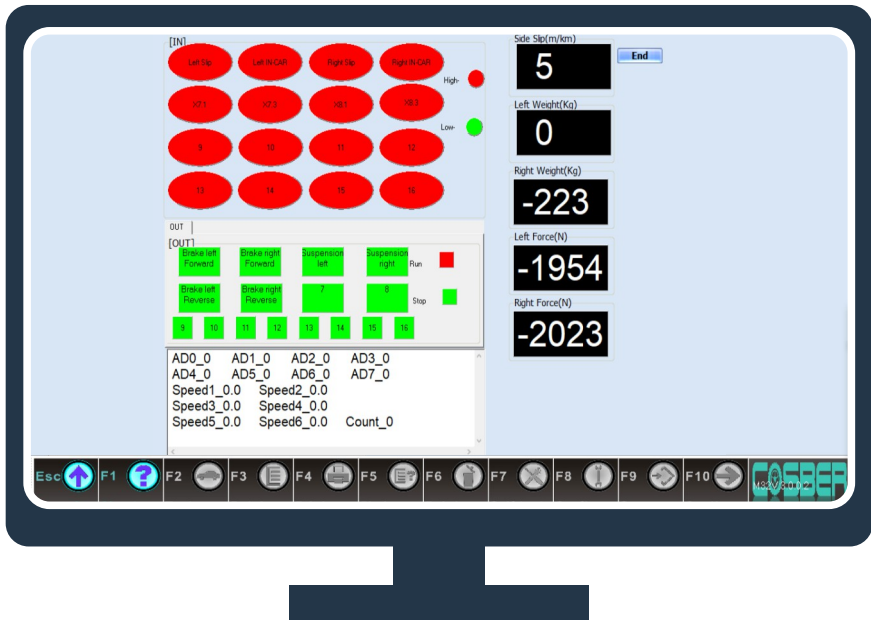
Opacimeter Interface



Gas Analyser Test Interface



Speedometer Test Interface



CVIS-CL Signal Diagnostic & SelfTest

2) Inspection Information Management System CVIS-IIS

Overview

CVIS-IIS is a software system developed for motor vehicle inspection business with the core functions such as: inspection data exchange processing, process monitoring, result processing and report printing. This information system can identify vehicle appearance inspection (Visual Check) by mobile PDA.

The inspection process control program can operate the equipment via CL equipment control software to obtain and store test result data. Additionally, the system carefully manages user permissions, records system login and operation security details, and checks for any potential security risks.

Benefits to Inspection Centers

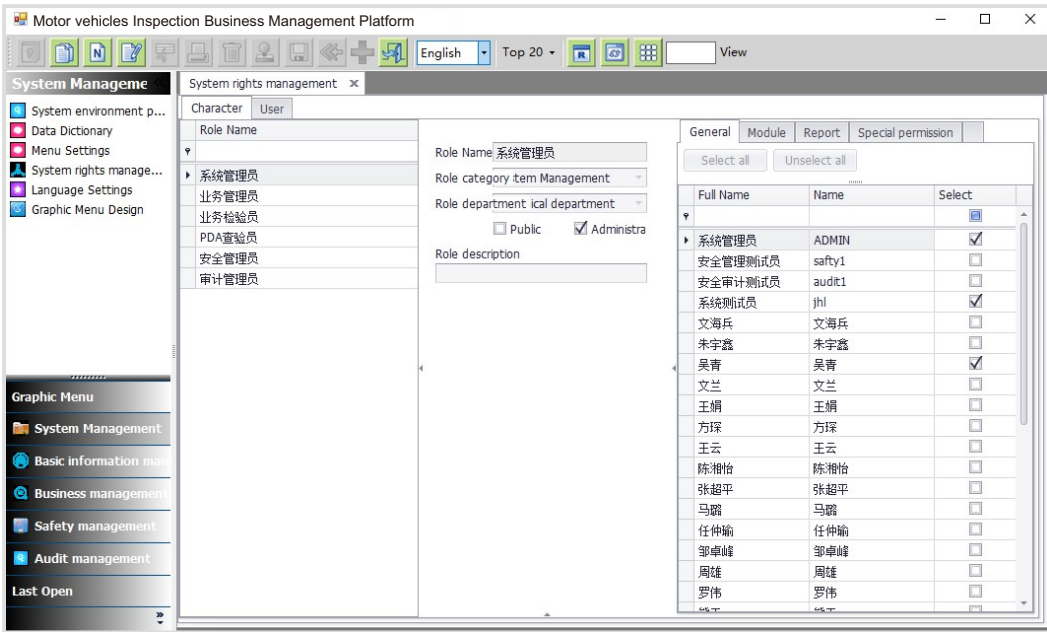
- ▶ Integrated computerized control for the whole inspection process
- ▶ Two test modes to choose from: Automatic Control or Manual Control
- ▶ Rigorous database management and networking capacity
- ▶ One-stop management of Personnel/Equipment/Toll/Data & Images for PTI business
- ▶ Accessible to the cloud database a central management system for multiple test stations
- ▶ Standardization of inspection business management for enhanced uniformity and efficiency

Key features

Stand-alone Version	Cloud Net Version
Modular function design	Modular function design
Integrated one-computer control of multi-working stages	B/S system structure
Automatic process & Smart control	Modular design with extreme function modification ability
Set up of local Database or Server	Accessibility between local database and Cloud database
Good flexibility on working-stage layout	Uniform standard for every PTI stations connected

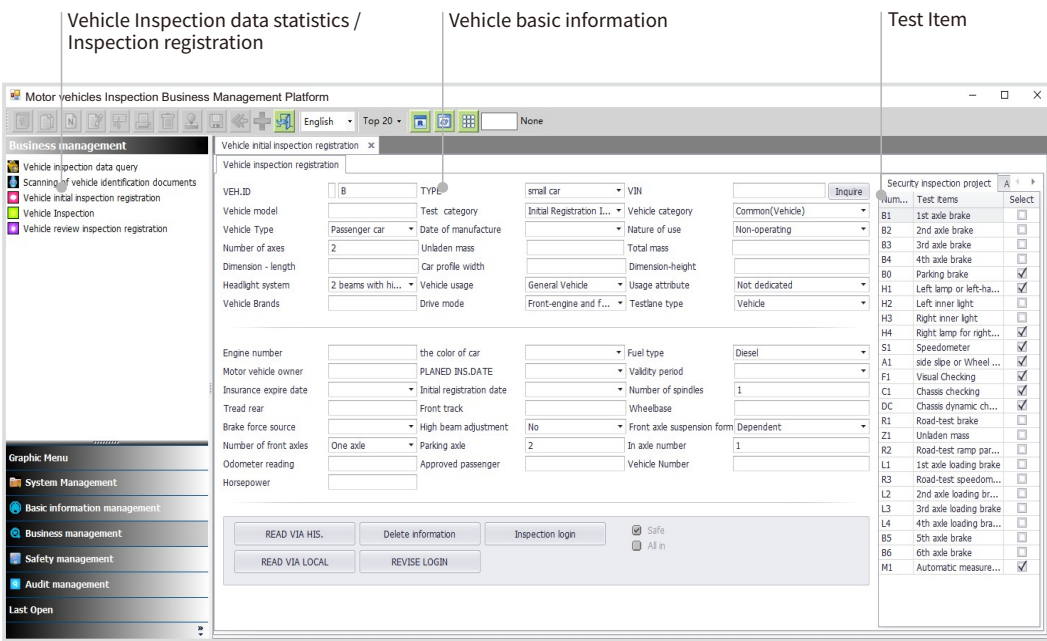
Key Functional Module

Functional Module	Stand-alone Version	Cloud Net Version
Admin. / User Management	Yes	Yes
Test Items Management	Yes	Yes
Operation Statistics Management	Yes	Yes
Report Format Management	Yes	Yes
Visual / Chassis Check Program	Yes	Yes
Inspection Standard Program	Yes	Yes
On-line Booking Management	No	Yes
Business Data Analysis	No	Yes
Toll Accounting Management	No	Yes
Photographic Management	No	Yes
CCTV Video Accessibility	No	Yes
Inspection Certificate Management	No	Yes



System Management

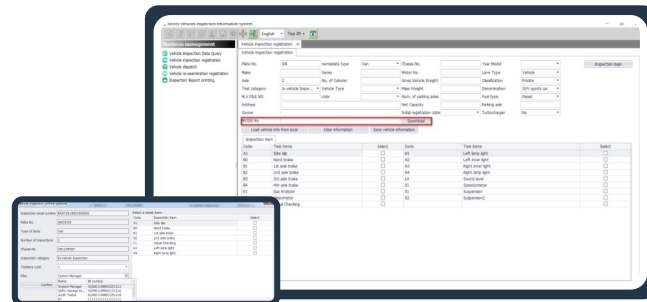
The system includes functions of operating environment parameter setting, user management, system menu setting, system data dictionary setting, etc.



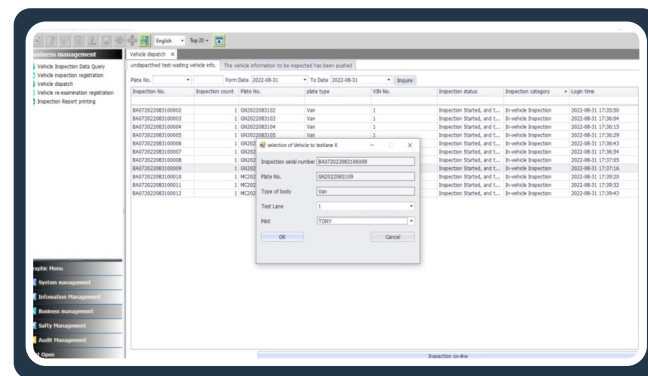
Business Management

This business management system includes basic information setting, inspection process control, inspection result upload, signature printing, statistical analysis, and other business functions for vehicle inspection information system.

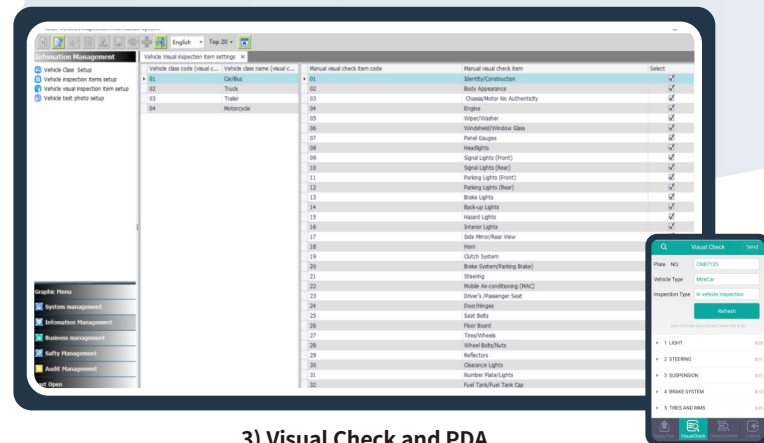
CVIS-IIS Software Interface Example



1) Vehicle Information Login Interface

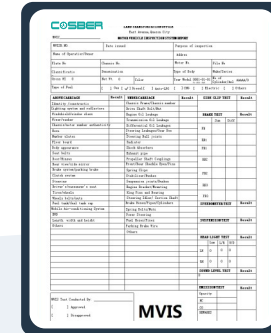
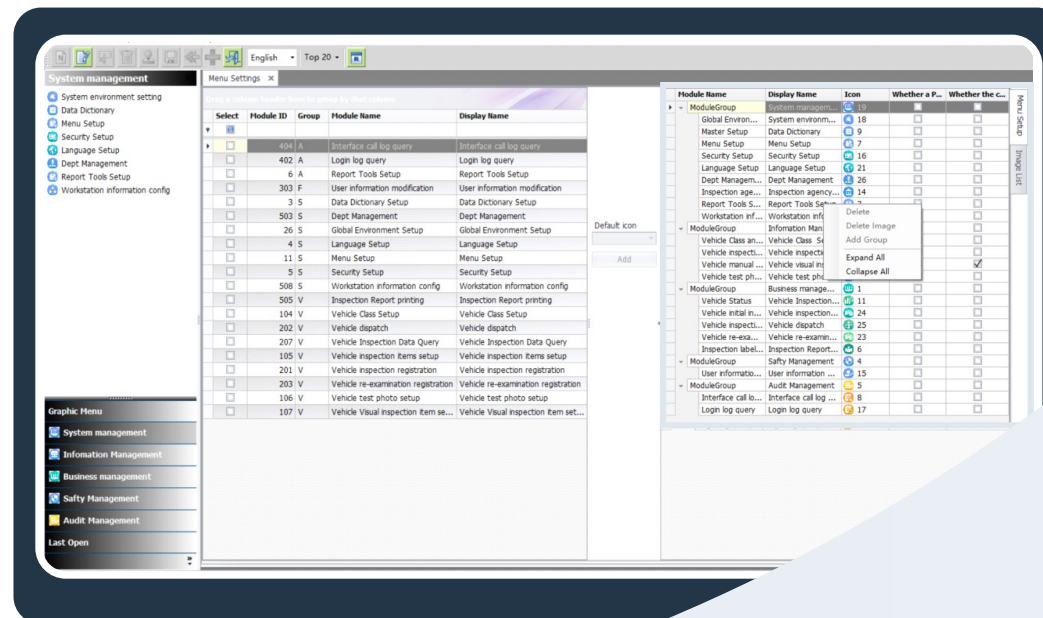


2) Vehicle Task Ordering

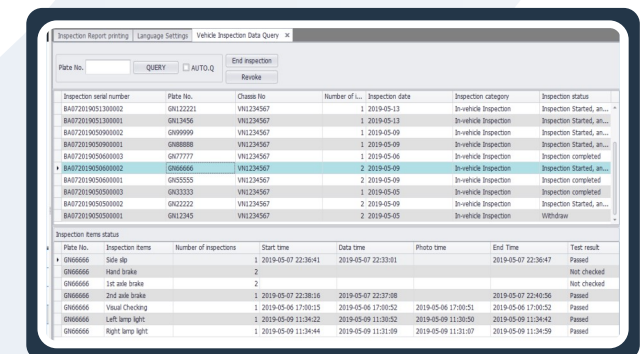


3) Visual Check and PDA

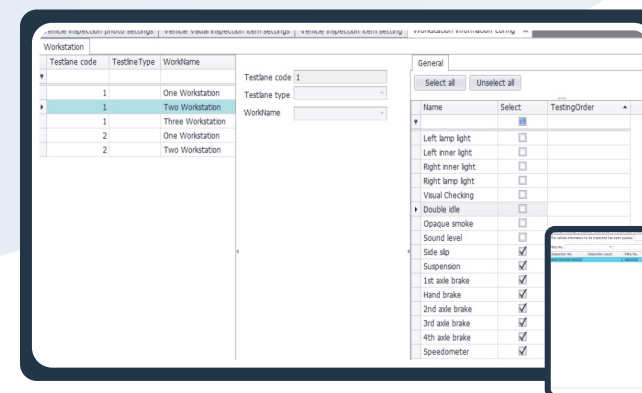
Inspection Operation (Business) Program



6) Test Report Printing



5) Inspection Result Data Management

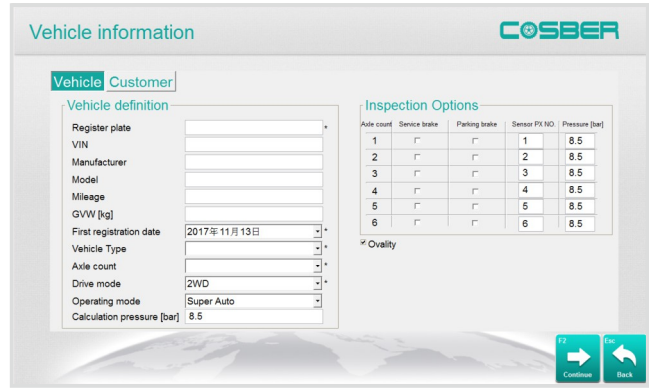


4) Workstation & Equipment Operation Control

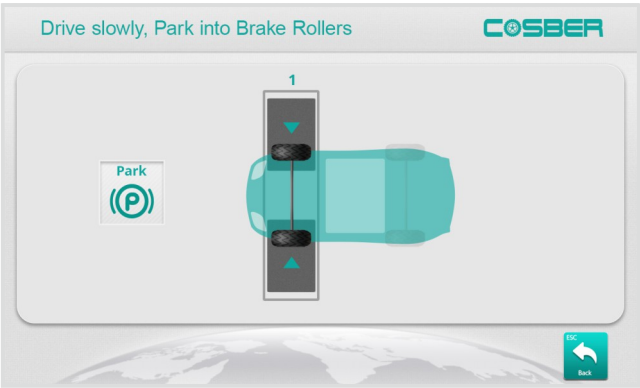
Stand-alone Software for Brake Tester



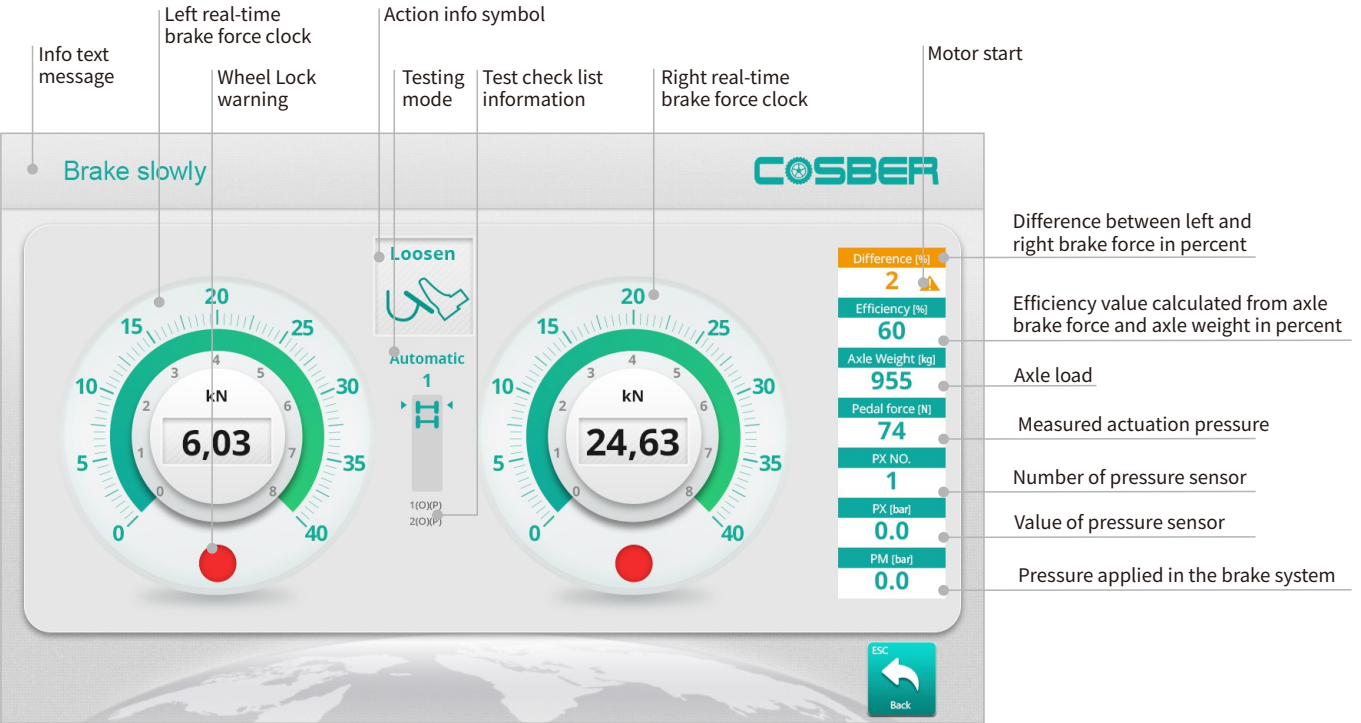
Software Main Interface



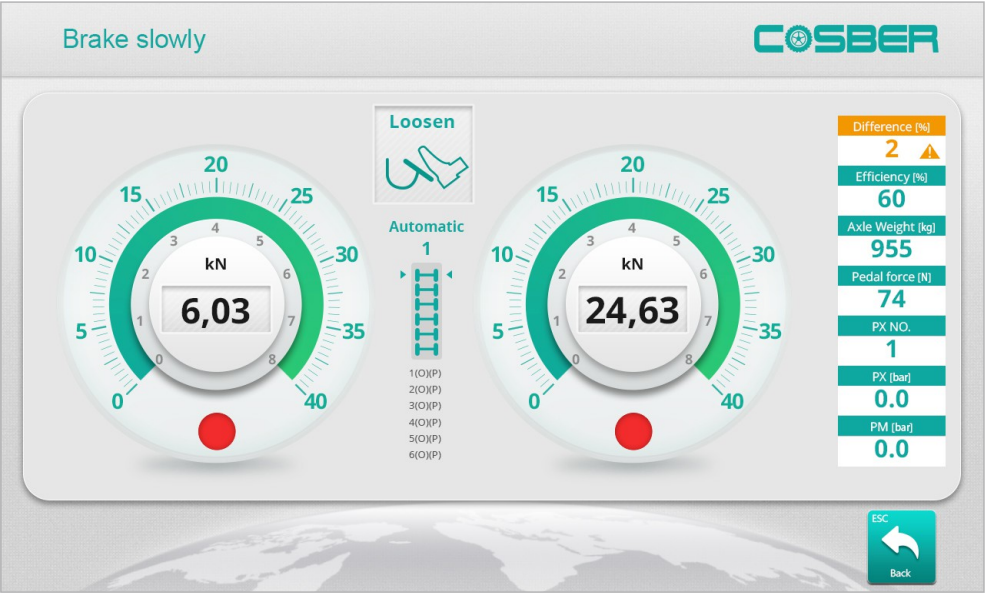
Input The Vehicle Information



Measurement of Axle Weight



3T Brake Tester Software Interface



18t Brake Tester Software Interface

03

PTI EQUIPMENT FOR MOTOR VEHICLE INSPECTION



Full Range of Roller Brake Tester



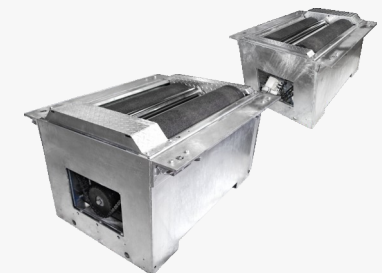
C-BTC 2X



C-BTC 3X



KZZD-10K



C-BTT 5X/6X/7X/8X

Cosber has a complete set of different brake testers for light vehicles and heavy-duty vehicles, suitable for the vehicle inspection standards for car manufacturers and inspection organisations.

This modular range of products allows personalisation to meet the customer needs and adaption to a complete testlane.

Designed and engineered by German, equipped with German motors and sensors.

Accessories such as 4WD, analog display, drive-out support, and radio remote control version are available.



Analog display with Swival-arm



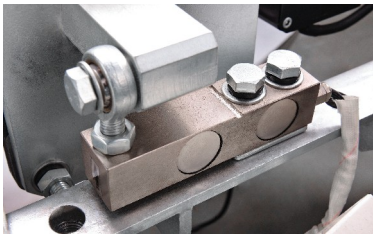
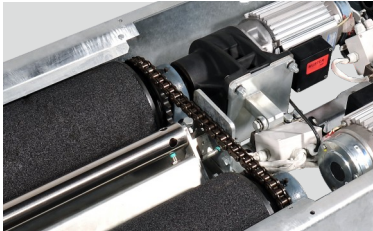
Remote control



Light Vehicle Brake Tester C-BTC 22



C-BTC 22



Features

- ▶ Absolute precision and reliable results
- ▶ Designed and engineered in Germany, with core components such as motors and sensors made in Germany
- ▶ Easy & low-cost replacement of general European brake tester models without the need for pit modification
- ▶ Fully galvanized steel frame for long-lasting durability and high loading capacity

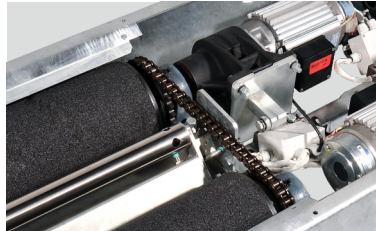
Technical data

Item	C-BTC 22
Max. measure load	3 500 kg
Measurement range	0 - 8 000 N × 2
Wheel diameter	400 - 800 mm
Wheel tread	800 - 2 200
Roller dimension	Φ205 × 700 mm
Coef. friction (dry/wet)	> 0.7 / 0.6
Motor power	3 kW / 4 kW × 2
Motor E-Lock	Yes
Test speed	5.1 km/h
Dimensions (L x W x H)	2 320 × 660 × 240 mm
Equipment weight	> 430 kg

Light Vehicle Brake Tester C-BTC 32



C-BTC 32



Features

- ▶ Roller Brake Tester designed to test light vehicles with wide chassis such as SUVs, Vans, light trucks etc
- ▶ Extended rollers for convenient and safe testing of vehicles with wide chassis
- ▶ Designed and engineered in Germany, with core components such as motors and sensors made in Germany
- ▶ Easy & low-cost replacement of general European brake tester models without the need for pit modification
- ▶ Fully galvanized steel frame for long-lasting durability and high loading capacity

Technical data

Item	C-BTC 32
Max. measure load	4 000 kg
Measurement range	0 - 8 000 N × 2
Wheel diameter	400 - 800 mm
Wheel tread	800 - 2 500
Roller dimension	Φ205 × 850 mm
Coef. friction (dry/wet)	> 0.7 / 0.6
Motor power	4 kW × 2
Motor E-Lock	Yes
Test speed	5.1 km/h
Dimensions (L x W x H)	2 620 × 660 × 240 mm
Equipment weight	> 480 kg

LD Vehicle Brake Tester C-BTC 42 (1000 Roller)



Features

- ▶ Roller Brake Tester designed to test light vehicles with wide chassis such as SUVs, Vans, light trucks etc
- ▶ Extended rollers for convenient and safe testing of vehicles with wide chassis
- ▶ Designed and engineered in Germany, with core components such as motors and sensors made in Germany
- ▶ Easy & low-cost replacement of general European brake tester models without the need for pit modification
- ▶ Fully galvanized steel frame for long-lasting durability and high loading capacity

Technical data

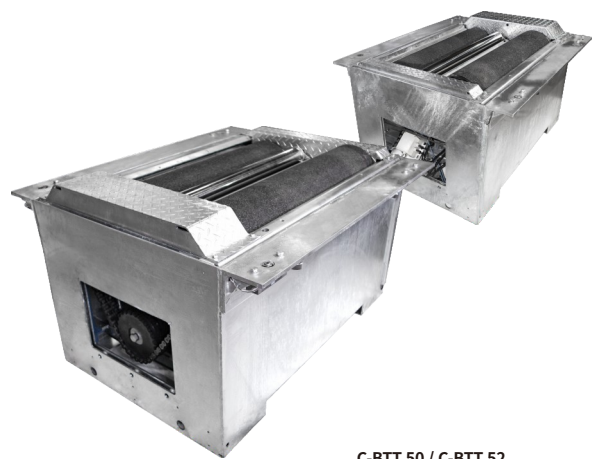
Item	C-BTC 42	C-BTC 42 Split body
Max. measure load	4 500 Kg	4 500 Kg
Measurement range	0 - 12 000 N × 2	0 - 12 000 N × 2
Wheel diameter	400 - 800 mm	400 - 800 mm
Wheel tread	800 - 2 800	Slip body: 200 - 2 200 / 800 - 2 800 mm
Roller dimension	Φ205 / 1 000 mm	Φ205 / 1 000 mm
Coef. friction (dry/wet)	>0.8 / 0.7	>0.8 / 0.7
Motor power	4.4 kW or 5.2 Kw × 2	4.4 kW or 5.2 Kw × 2
Motor E-Lock	Yes	Yes
Test speed	5.0 km/h	5.0 km/h
Dimensions (L x W x H)	2 950 × 660 × 240 mm	1 750 × 660 × 240 mm × 2 pieces
Equipment weight	> 500 kg	> 520 kg

Light Vehicle Brake Tester C-BTC 22, 32 & 42 Accessories

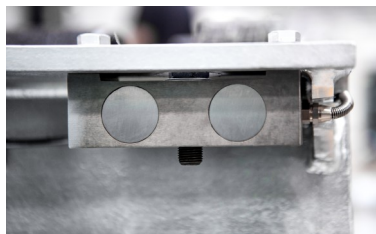
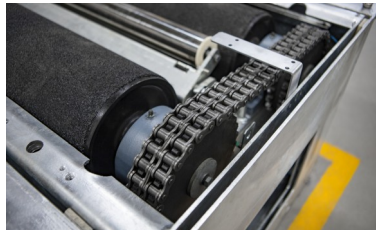
Accessories

Item	Picture	Description
Analog Display		Dimensions (L×W×H): 830×200×610mm Braking force range: 0~8000N Braking force display accuracy: 1N
Control Cabinet		Dimensions (L×W×H): 600×570×240 mm Equipment weight: 20 kg Power Supply: AC 3-phase400V +PE/50Hz / AC 3-phase230V+PE/60HZ (optional)
Weighting Load Cell Kit		4 set of 1 Tons load cell sensors for Axle load weighting
Calibration Tools		High precision calibration Easy to operate
Portable free Rollers		Easy to set up Fast and easy 4WD brake test
Remote Control		Infrared remote control Easy operation
Pedal Force Meter		0 - 500N test rang
Roller Cover		2 Pieces per bench
PC Control Software		USB - RS232 connection
PC Cabinet		Empty PC cabinet with wheels
Test Speed Hz Converter 7.5kw × 2		Motors Frequency Control to 10 km/h for ABS brake test

Heavy Vehicle Brake Tester C-BTT 50/52



C-BTT 50 / C-BTT 52



Features

- ▶ Roller Brake Tester designed to test heavy vehicles up to 13 ton
- ▶ Designed and engineered in Germany, with core components such as motors and sensors made in Germany
- ▶ Easy & low-cost replacement of common European brake tester models without the need for pit modification
- ▶ Fully galvanized steel frame for long-lasting durability and high loading capacity
- ▶ Option to be extended to a fully automated testlane

Technical data

Item	C-BTT 50	C-BTT 52
Maximum drive over load	13 000 kg	13 000 kg
Measurement range	0 - 40 000 N	0 - 40 000 N
Wheel track width	700 - 2 700 / 800 - 2 800 / 900 - 2 900 mm	700 - 2 700 / 800 - 2 800 / 900 - 2 900 mm
Roller diameter	Ø 208 mm	Ø 208 mm
Roller length	1 000 mm	1 000 mm
Coef. friction (dry / wet)	> 0.7 / 0.6	> 0.7 / 0.6
Test speed	2.5 - 5 km/h	2.5 - 5 km/h
Roller height difference	30 mm	30 mm
Motor power	9 kW & 11kW	9 kW & 11kW
Motor E-Lock	No	Yes
Dimensions (L × W × H)	3 220 × 1 040 × 686 mm	3 220 × 1 040 × 686 mm
Equipment weight	> 1 500 kg	> 1 550 kg

Heavy Vehicle Brake Tester C-BTT 62 (with lift up load simulation)



C-BTT 62



Lifting device control

Features

- ▶ Roller Brake Tester designed to test heavy vehicles up to 13 ton
- ▶ Designed and engineered in Germany, with core components such as motors and sensors made in Germany
- ▶ Easy & low-cost replacement of common European brake tester models without the need for pit modification
- ▶ Fully galvanized steel frame for long-lasting durability and high loading capacity
- ▶ (Optional) With hydraulic load simulation for higher accuracy of test results, especially for multi-axis trucks

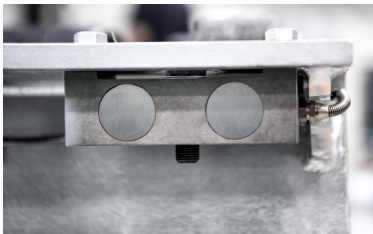
Technical data

Item	C-BTT 62
Maximum drive over load	13 000 kg
Lift up capacity	8 tons @ 200mm
Measurement range	0 - 40 000 N
Wheel track width	700 - 2 700 / 800 - 2 800 / 900 - 2 900 mm
Roller diameter	Ø 208 mm
Roller length	1 000 mm
Coef. friction (dry / wet)	> 0.7 / 0.6
Test speed	2.5 - 5 km/h
Roller height difference	30 mm
Motor power	9 kW & 11kW
Dimensions (L × W × H)	3 220 × 1 040 × 686 mm
Equipment weight	> 1 600 kg

Heavy Vehicle Brake Tester C-BTT 72



C-BTT 72



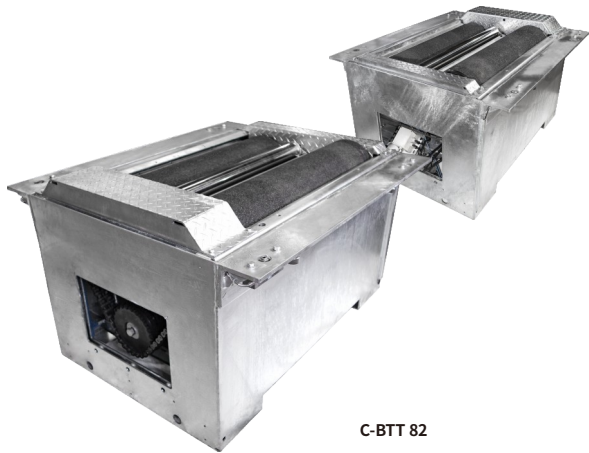
Features

- ▶ Roller Brake Tester designed to test heavy vehicles up to 18 ton
- ▶ Designed and engineered in Germany, with core components such as motors and sensors made in Germany
- ▶ Easy & low-cost replacement of common European brake tester models without the need for pit modification
- ▶ Fully galvanized steel frame for long-lasting durability and high loading capacity
- ▶ Option to be extended to a fully automated testlane

Technical data

Item	C-BTT 72
Maximum drive over load	18 000 kg
Measurement range	0 - 40 000 N
Wheel track width	1 000 - 3 000 / 1 100 - 3 100 / 1 200 - 3 200 mm
Roller diameter	Ø 248 mm
Roller length	1 000 mm
Coef. friction (dry / wet)	> 0.7 / 0.6
Test speed	2.5 - 5 km/h
Roller height difference	50 mm
Motor power	15 kW / 13 - 17 kW with motor lock
Dimensions (L × W × H)	3 490 × 1 240 × 806 mm
Equipment weight	> 1 800 kg

Heavy Vehicle Brake Tester C-BTT 82 (with lift up load simulation)



C-BTT 82



Features

- ▶ Roller Brake Tester designed to test heavy vehicles up to 18 ton
- ▶ Designed and engineered in Germany, with core components such as motors and sensors made in Germany
- ▶ Easy & low-cost replacement of common European brake tester models without the need for pit modification
- ▶ Fully galvanized steel frame for long-lasting durability and high loading capacity
- ▶ (Optional) With hydraulic load simulation for higher accuracy of test results, especially for multi-axis trucks

Technical data

Item	C-BTT 82
Maximum drive over load	18 000 kg
Lift up capacity	8 tons @ 200mm
Measurement range	0 - 40 000 N
Wheel track width	1 000 - 3 000 / 1 100 - 3 100 / 1 200 - 3 200 mm
Roller diameter	Ø 248 mm
Roller length	1 000 mm
Coef. friction (dry / wet)	> 0.7 / 0.6
Test speed	2.5 - 5 km/h
Roller height difference	50 mm
Motor power	15 kW / 13 - 17 kW with motor lock
Dimensions (L × W × H)	3 490 × 1 240 × 806 mm
Equipment weight	> 1 800 kg

Heavy Vehicle Brake Tester C-BTT 5X/6X & 7X/8X Accessories

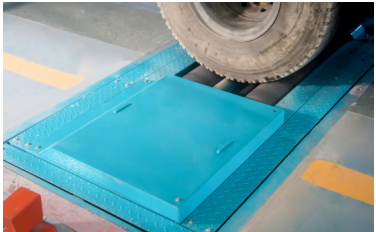
Accessories

Name	Picture	Name	Picture
Analog Display		Calibration device	
Swivel arm for Analog Display		PC cabinet	
Column		Roller cover plate 13t (C-BTT 5X / 6X)	
Lifting device (control box)		Roller cover plate 18t (C-BTT 7X / 8X)	
Remote control		Pit safety kit 2 × (1.5 m × 2.5m)	
Weight sensor set		PC - Connection & PC - Visualization heavy vehicle software (+ light vehicle)	
Air pressure sensor		Pedal force meter	
ABB soft start of motor (for Axle Type Parking Brake test)		Test Speed Hz Converter 7.5kw × 2 (Motors Frequency Control to 8 km/h for ABS Brake Test)	

Installation Options

C-BTT 5X / 6X	C-BTT 7X / 8X
 Separated pit-frame with 1 000 mm rollers	 Separated pit-frame with 1 000 mm rollers
 Non-separated (w/o pit) frame, track width 2 700 mm	 Non-separated (w/o pit) frame, track width 3 000 mm
 Non-separated (w/o pit) frame, track width 2 800 mm	 Non-separated (w/o pit) frame, track width 3 100 mm
 Non-separated (w/o pit) frame, track width 2 900 mm	 Non-separated (w/o pit) frame, track width 3 200 mm

Heavy Vehicle Brake Tester KZZD-10K/15K



Features

- ▶ Absolute precision and reliable results
- ▶ Installed in more than 1000 test stations in China and across the globe
- ▶ Durable paint and solid steel body
- ▶ Option to be extended to a fully automated testlane
- ▶ Option to add weighting sensor unit capable of measuring up to 20 ton, and a pneumatic drive-out lift beam

Technical data

Item	KZZD-10K	KZZD-15K
Max. measure load	10 000 kg	15 000 kg
Measurement range	0 ~30 000N ×2	0 ~40 000N ×2
Wheel diameter	> 600 mm, Pneu. lock-lift	> 600 mm, Pneu. lock-lift
Wheel tread	700 ~2 900	700 ~2 900
Roller dimension	Φ245 ×1 100 mm	Φ245 ×1 100 mm
Coef. friction (dry/wet)	> 0.7 / 0.6	> 0.7 / 0.6
Motor power	11 kW ×2	15 kW ×2
Test speed	2.5 km/h	2.5 km/h
Dimensions (L x W x H)	4 630 ×900 ×627 mm	4 630 ×900 ×627 mm
Equipment weight	> 1 580 kg	> 1 620 kg

Vehicle Suspension Tester

Description

C-ESC20 Vehicle Suspension Tester is used to inspect the shock absorption performance of vehicles with an independent suspension system. When the vehicle parks on the platform, the static wheel load is measured by the sensor and displayed on the monitor/display board. Then, the motor starts to drive the eccentric wheel in the tester, which causes the vibrating plate to vibrate. The motor shuts down automatically after reaching its nominal power. The plate continues vibrating due to inertia, resulting in sympathetic vibration between the wheels and suspension. The minimum dynamic wheel load is obtained during this sympathetic vibration, and the absorption rate (displayed as a percentage) is calculated. The higher the absorption rate, the better the suspension performance of the vehicle.



Features

- ▶ EUSAMA measurement standard
- ▶ Wheel load tester integrated
- ▶ Protection program (plates start vibrating when load is >200kg)
- ▶ High precision sensor ensures the accuracy of inspection result
- ▶ Galvanized plates for extended product lift
- ▶ Result displayed in a visual graph

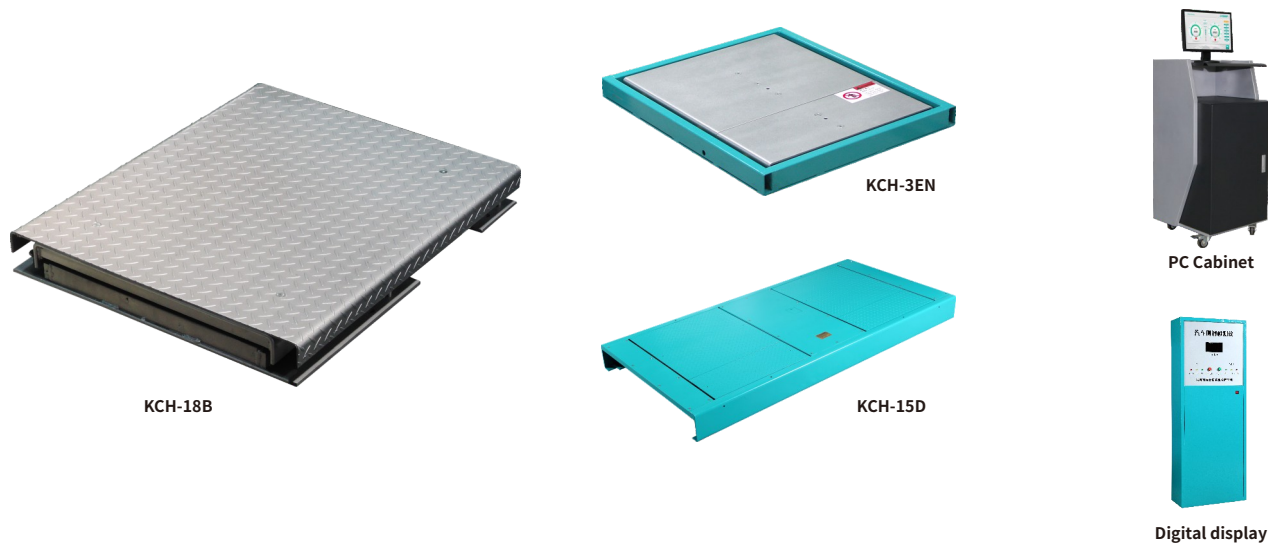
Technical data

Item	C-ESC20	C-ESC70 Split body
Max. drive-over load	4000 kg	10000 kg
Max. test wheel load	1500 kg	1500 kg
Vibrate plate dimensions	700 × 300 mm	650 × 400 mm
Oscillation	6 mm	6 mm
Vibrate frequency	≈24 Hz	≈24 Hz
Motor power	4.0 kw x 2	4.0kw x 2
Power supply	3PH 380V, 50Hz,ground	3PH 380V, 50Hz,ground

Vehicle Sideslip Tester

Description

The vehicle side-slip test is used to inspect the axel geometry of a vehicle, assessing its performance in driving a straight line. The test is conducted by simply driving the vehicle across the testing plate.



Features

- ▶ Side-slip plate & protection frame integrated structure
- ▶ Rigorous design without the need for maintenance
- ▶ Galvanized plate surface for extended service life
- ▶ High-precision sensor to ensure the exactitude of the result
- ▶ The upper and lower dual-bearing system enables smooth movement
- ▶ Two motion types: synchronic or independent
- ▶ Overweight alarm
- ▶ Standard RS-232 connection port

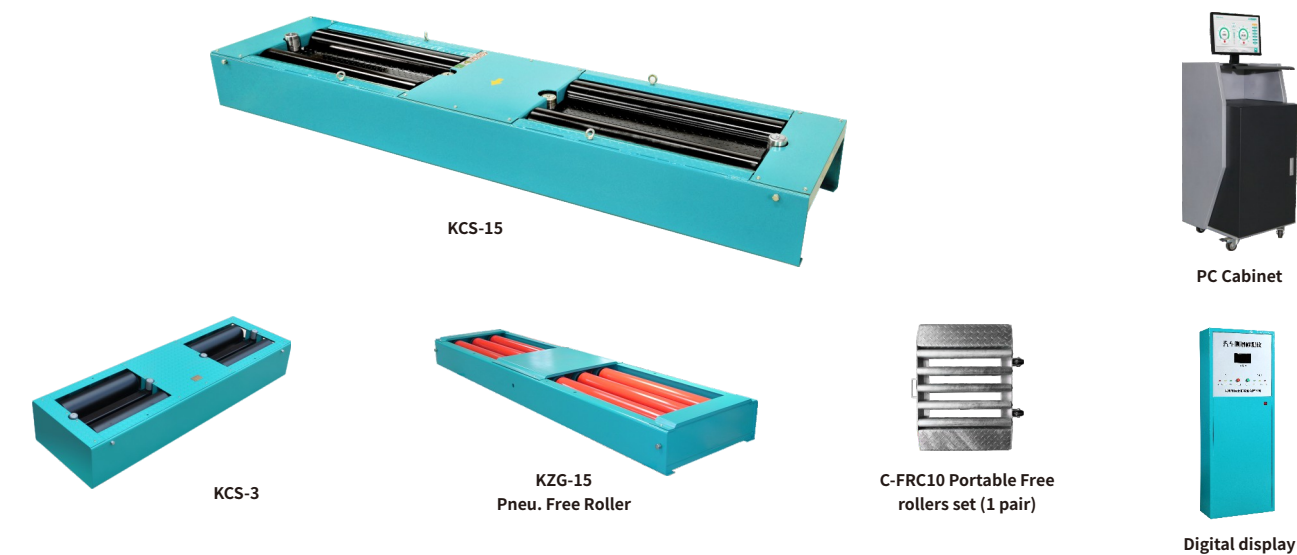
Technical data

Item	KCH-3EN	KCH-15D	KCH-18B
Max. axle weight	3000 kg	15000 kg	18000 kg
Measuring range	±20 m/km	±20 m/km	±20 m/km
Sideslip board dimensions	600×500 mm	1100×1000 mm	750×1000 mm
Release board dimensions	600×250 mm	1100×300 mm	/
Structure form	Single plate with release	L-R double plate	Single test plate
Power supply	AC 220V, 50Hz,ground	AC 220V, 50Hz,ground	AC 220V, 50Hz,ground

Vehicle Speedometer Tester

Description

Our speedometer models are carefully engineered to accurately measure the vehicle speed (speedometer) and the distance travelled (odometer) for both light and heavy vehicles. They are featured with an effective pneumatic lifting system that can facilitate easy driving out.



Features

- ▶ Reinforced steel ensures strong and durable structure
- ▶ High-adhesion coating paint extends the working life
- ▶ High-precision sensor and roller with high roundness ensure result accuracy
- ▶ The pneumatic lifting system eases the driving out
- ▶ 0-130km/h measurement range with a wireless remote controller
- ▶ Optional pneumatic free roller set available for AWD vehicle & tandem truck
- ▶ Standard RS-232 connection port

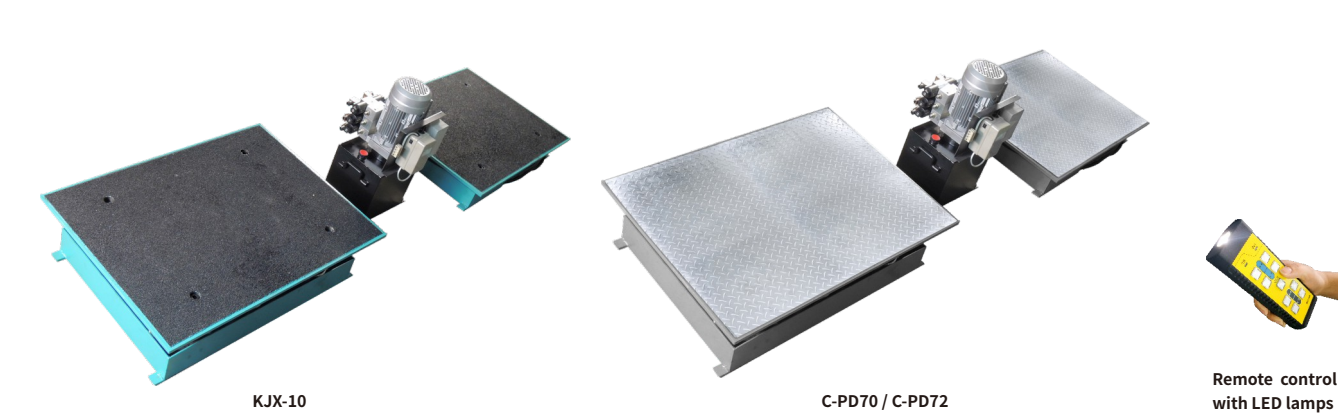
Technical Data

Item	KCS-3	KCS-15	KZG-15 Pneu. Free Rollers	C-FRC 10 (2 Pcs)
Max. axle load	3000 kg	15000 kg	15000 kg	1000kg
Measurment range	0-160 km/h	0-130 km/h	0-130 km/h	0-100km/h
Roller dimensions	Φ190×900 mm	Φ240×1100 mm	156×1100 mm	Ø54mm x 600mm
Roller tread	380 mm	405 mm	3 sets	4 sets
Roller width	850-2400 mm	750-2950 mm	0 -700 mm longitudinal	LWH : 808mm×723mm×68mm
Air supply	0.5-0.6 MPa	0.7-0.8 MPa	0.7-0.8 MPa	No need Air & Power
Power supply	AC 220V, 50Hz	AC 220V, 50Hz	AC 220V, 50Hz	Weight: 40kg

Wheel Play Detector

Description

The wheel play detector equipped with two movable plates is designed for testing the condition of steering components and identifying any defects or leaks within the vehicle chassis. The play detector is made of three parts: 2 movable plates, a hydraulic system and an electric control system (with a handhold remote & torch).



Features

- ▶ Different movements of the plates are available
- ▶ Hydraulic system simplifies the operation
- ▶ Reinforced structure for heavy-duty vehicles
- ▶ Quiet Operation with less noise

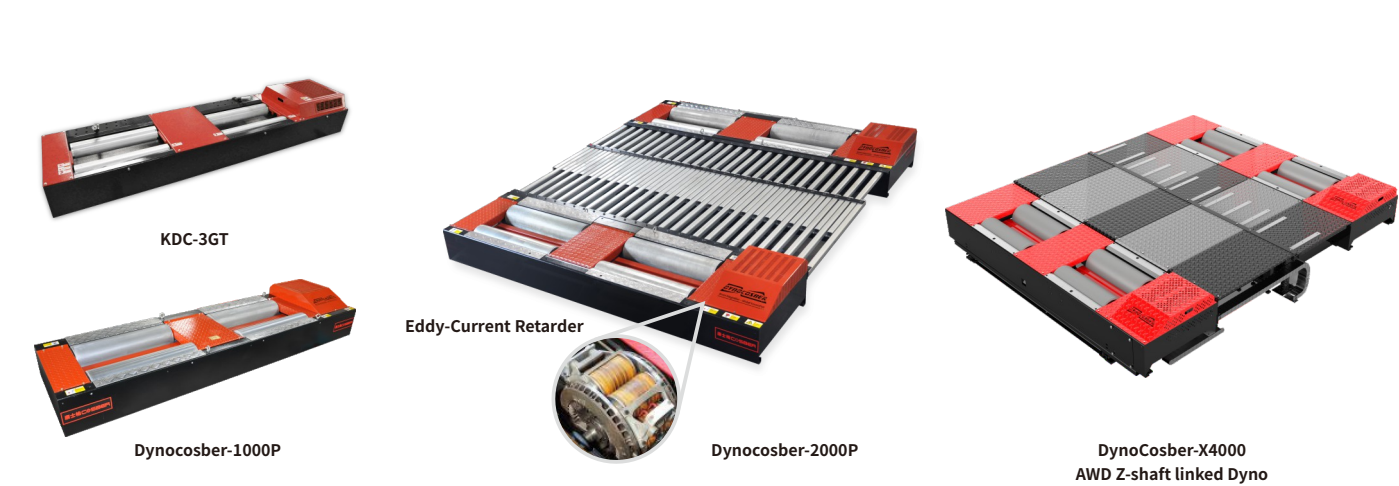
Technical Data

Item	KJX-10	C-PD70/C-PD72
Plate dimensions	1000 x 750 mm	750 x 750 mm / 900 x 750 mm
Maximum displacement of plate	100 x 100 mm	100 x 100 mm
Maximum axle load	15000 kg	15000 kg
Maximum wheel load	7500 kg	7500 kg
Movement direction	6 directions	8 directions
Movement plate	(Left Plate: front / rear & left / right, Right Plate: front / rear)	(Both left and right plate has 4-direction movement)
Max.displacement force of plate control	30 kN Individually per plate	40 kN @130m/s Individually per plate
Power supply to control unit	3PH,380V, 50Hz, ground	3PH, 380V, 50Hz, ground
Motor power	2.2 kw	4.0 kw
Plate surface	Corundum sand	Pattem steel

Chassis Dynamometer

Features

- ▶ Durable Eddy-Current Retarder with over-temperature protection
- ▶ Groove-cut roller ensures high friction with wheels
- ▶ Multiple painting processes ensure long-lasting metalized surface
- ▶ Performance display of chassis power, acceleration time, spot speed, and traction force
- ▶ High adhesion and well-balanced roller
- ▶ Easy compatibility with external diagnostic equipment, RS-232 port & USB



Technical Data

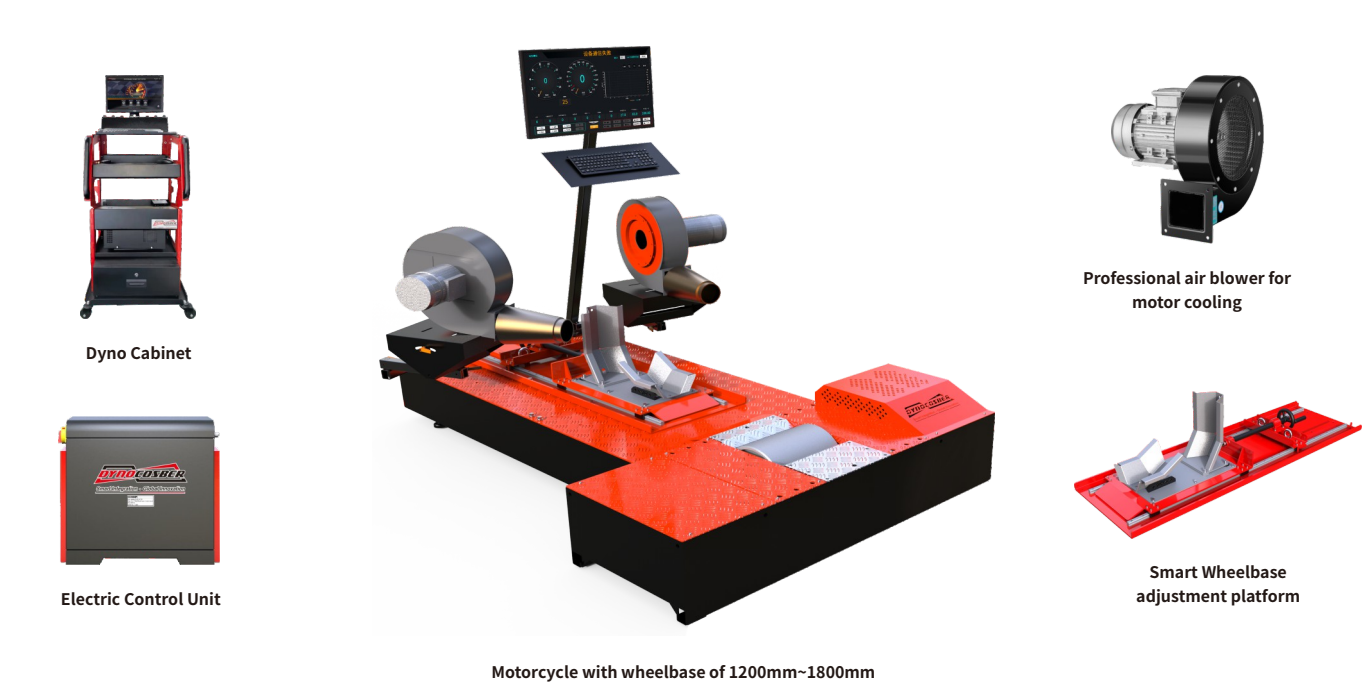
Item	KDC-3GT	Dynocosber-1000P	Dynocosber-2000P	Dynocosber-X4000
Dyno Mode	2WD Inertia	2WD Retarder	4WD Retarder	4WD Shaft-Linked
Max. axle load	3500 kg	2000 kg	2000 kg×2	3500kg
Roller diameter	216 mm	218 mm	218 mm	320mm
Roller length	1000 mm	860 mm	860 mm	1000mm
Roller center distance	442 mm	430 mm	430 mm	443mm
Roller set quantity	2 Sets	2 Sets	4 Sets	2+2 Sets
Roller surface	Cross lathe +	Groove cut +	Groove cut +	Groove cut+
	Chrome coating	Chrome coating	Chrome coating	Chrome coating
Max. test speed	200 km/h	250 km/h	250 km/h	250km/h
Max. test power	400 P	600 P	1200 P	2000p
Retarder power	Fly wheel inertia	250 kw	250 kw×2	160kw x 2
Drive out mode	Pneumatic	Retarder brake	Retarder brake	Pneumatic lift up
Speed indication error	±1%	±1%	±1%	±1%
Torque indication error	±2%	±2%	±2%	±2%
Constant speed error	±1 km/h	±1 km/h	±1 km/h	±1 km/h
Wheed tread	800-2700 mm	700-2200 mm	700-2200 mm	2500 -3300mm Automatic
Power supply	AC 220V, 50Hz, ground	AC 220V, 50Hz, ground	3ph, 380V, 50Hz, ground	3ph 380V, 50Hz,ground
Equipment dimensions	4000×970×645 mm	3070×850×448 mm	3070×4350×572 mm	5616×3950×780 mm

DYNOCOSBER-M500 Motorcycle Chassis Dyno

Description

The M500 Dyno is a professional horsepower measurement device for two-wheel motorcycles. Its top testing speed exceeds 300 km/h, with a maximum RPM of 16,000, and it can test up to 500 HP on the wheel.

The M500 combines a compact body design with superior testing capabilities, accommodating motorcycles with wheelbases from 1200 mm to 1800 mm. Its adjustable wheelbase design allows the M500 to test a range of vehicles, from small scooters to long-wheelbase cruiser motorcycles. The special one-person-drive package and user-friendly interface make motor dyno testing easy and enjoyable.



Features

- ▶ Durable Eddy-Current Retarder with over-temperature protection
- ▶ Low machinery inertia for maximum power sensitivity
- ▶ Performance display of chassis power, acceleration time, spot speed and traction torque
- ▶ High adhesion and well-balanced roller
- ▶ Long-lasting powder coating and polished metal parts

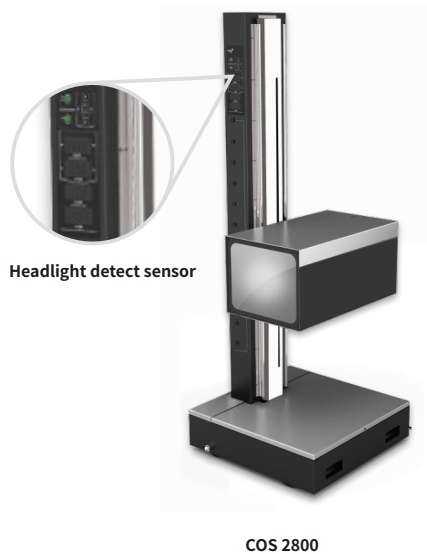
Main technical parameters

Item		Item		Item	
Maximum test speed	300 km/h	Speed display error	≤±1%	Test wheel diameter	300-800 mm
Maximum test power	500 hp	Force display error	≤±2%	Wheelbase range Range	1200~1800 mm
Maximum load	1000 kg	Power indication error	≤±3%	Equipment Dim.	2560×1700×360 mm
Full loaded time	15 min	Equipment weight	700 kg	Power source	AC 220V,50Hz
Max. Absorb.Torque	3600 N	Roller Dim.	Φ318 mm	Max Power consum.	7.5 kW

Automatic Headlight Tester

Features

- ▶ Headlight tester is an important item during the inspection of safety performance of motor vehicles, right installation angle and sufficient luminous intensity are important guarantee for safety driving.
- ▶ The COS2800 headlight tester is fully automatic. Based on the characteristics of the luminous intensity distribution of high beams and low beams, the instrument adopts advanced image processing technology to accurately locate feature points. As a highly intelligent instrument, it can automatically measure the offset of the optic axis and the luminous intensity of the headlight.
- ▶ The instrument can be used in vehicle inspection stations, car manufacturers, and car repair workshops.



Technical Data

Item	COS 2800
Application range	Headlight of the vehicle (light- & heavy-duty vehicles): Halogen, Xenon, Led
Positioning ways	Justification: Linear laser aid Centering: Point laser aid
Communication	PC, RS-232
Measurement range	Above:0-350 mm / 10 m (0-2°) Below:0-525 mm / 10 m (0-3°) Left:0-525 mm / 10 m (0-3°) Right:0-525 mm / 10 m (0-3°) Measuring distance:0.5m, can be set in accordance with the practical needs Height measuring range:250-1400 mm
Light intensity	Measuring range of high beam illuminating intensity:0-120000 Candela (cd)
Error of indicating value	Error of indicating value of high beam illuminating intensity:±10% Error of indicating value of high beam & near light axis offset:±12%
Working condition	Temperature:-5 ~ 40°C Relative humidity:20-80%
Voltage supply	Power supply:AC 220V ±10% 50/60Hz Battery:DC 12 V
Net. Dimensions (w x h x d)	703 × 616 × 1810 mm
Weight	120 kg

Manual Headlight Tester

Features

- ▶ Accurate inspection for high beam and low beam of automobiles. Independent testing and fog light testing option available
- ▶ Bright LCD screen, with professional Windows graphical operating system
- ▶ "Arbitrary" 2D moving mechanism, laser-assisted positioning system to ensure easy lights center alignment operation
- ▶ Standard RS232 communication port (optional) to computer, reliable network software
- ▶ Optional Bluetooth wireless communication module, with an optional mini printer for convenient operation
- ▶ Easy for manually adjusting the tester's height for the testing vehicle
- ▶ Optional rechargeable battery module, adaptable to a variety of work environments
- ▶ Optional rail install version



Technical Data

Item	CSB-600M / MQD-3C
Measuring range of high light illuminating intensity	0~120000 cd
Measuring range	vertical direction: up 350mm/10m ~ down 525mm/10m (up2° ~ down3°) horizontal direction: left 525mm/10m ~ right 525mm/10m (left3° ~ right3°)
Height measuring range	35~130 cm
Measuring distance	500m ±5mm
Indicated value error of high light illuminating intensity	±10%
Indicated value error of high light & near light axis offset	±12%
Temperature	-5~40°C
Relative humidity	≤90%
Power supply	AV 220 ±10% 50/60HZ
Outer dimensions (l×w×h)	680×570×1580 mm
Weight	25 kg

Exhaust Gas Analyser

Features

- ▶ It is used for measuring automotive emission exhaust including CO, HC, CO₂, O₂, and NO
- ▶ LCD display of operation menu with Chinese / English languages
- ▶ Advanced inside bench that meets OIML Class 0, equipped with sensors sourced from global brand products
- ▶ Integrate functions including auto - zero, auto - calibration, and leak check
- ▶ Flexible probe can suit almost all kinds of tail tubes
- ▶ It is equipped with the newest aluminum alloy drain separator
- ▶ Original 30 seconds fast warm - up function
- ▶ Auto compensation ambient pressure and environmental temperature
- ▶ Auto calculate engine AFR, with O₂ sensor option
- ▶ It is equipped with double idle test functions
- ▶ Store more than 200 measuring results
- ▶ It's equipped with standard RS-232 interface
- ▶ Signal output for connecting computer easily



KWQ-5

Technical Data

Item	KWQ-5
Connection of sample gas	Specitic intake port
Sample gas flow rate	Approx. 6 L/min
Sample gas pressure	From 0.01 kPa to 1.0 kPa
Repeatability	CO: 0-10.00% within $\pm 0.02\%$ vol or $\pm 3\%$ of readings, 10.01-15.00% within $\pm 5\%$ of readings CO ₂ : 0-16.00% within $\pm 0.3\%$ vol or $\pm 3\%$ of readings, 16.01-18.00% within $\pm 5\%$ of readings HC: 0-2000 ppm within ± 4 ppm vol or $\pm 3\%$ of readings, 2001-5000 ppm vol within $\pm 5\%$ of readings, 5001-10000 ppm vol within $\pm 10\%$ of readings O ₂ : 0-10.00% within $\pm 0.4\%$ vol or $\pm 3\%$ of readings, 10.01-25.00% within $\pm 1.0\%$ vol NO: 0-5000 ppm vol within $\pm 8\%$ ppm vol or $\pm 3\%$ of readings
Power supply	AC 100-220V 50/60Hz
Mass	Approx. 7.5 kg
Warm-up time	30 seconds
Response time	10 seconds

Smoke Opacimeter

Features

- ▶ Split structure, separated measuring unit and control unit for easy operation
- ▶ Large LCD screen, Chinese or English interactive menu, with opacity reading and light absorption coefficient reading
- ▶ Available functions: free acceleration test, transients, test and automatic test, display of measuring results, licence plate number entry and review
- ▶ 15 minutes warm-up time, automatic zero reset
- ▶ Adopting advanced partial flow technology, the system directly measures the smoke emissions of diesel vehicles. The “scavenge air curtain” technology prevents the optical system from becoming polluted. Constant temperature control in the sample cell avoids condensation and maintains accuracy despite temperature changes
- ▶ Data printing and communication with the host computer, serial RS-232C interface
- ▶ The performance meets the requirement of ISO11614 and GB3847-1999



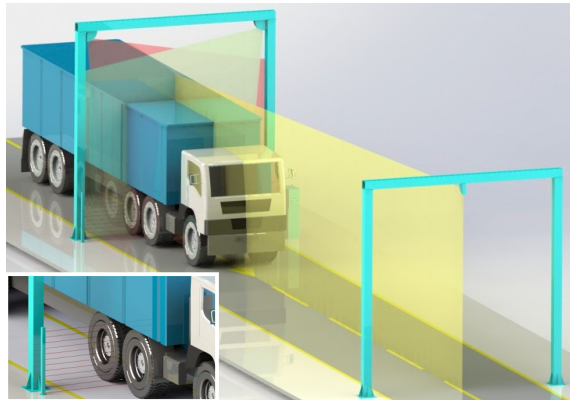
KYD-6

Technical Data

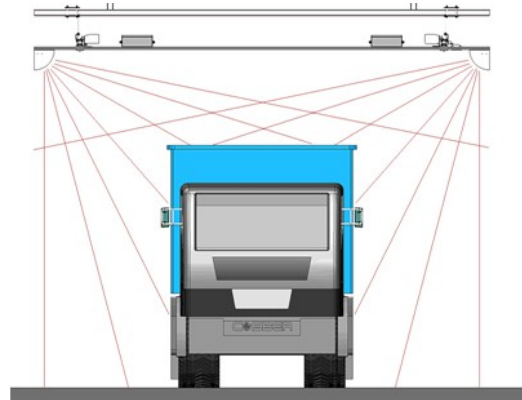
Item	KYD-6
Measuring Range	Opacity N: 0~99.9% Coefficient of light-absorption k: 0~16m ⁻¹
Resolution	Opacity N: 0.1% Coefficient of light-absorption k: 0.01m ⁻¹
Indication error	$\pm 2\%$
Stability	$\pm 1\%/h$
Ambient temperature	5~40°C
Relative humidity	0~90%
Power	AC 220V $\pm 10\%$ 50Hz $\pm 1\%$
Weight	10 Kg
Output	RS-232(1200, 2400, 4800, 9600, 19200)

Vehicle Dimension Scanning System

Based on the latest 3D laser and cloud data processing technology, COSBER has developed the C-VDSS1/2 system, a high-precision 3D laser radar dimension scanner suitable for all types of vehicles. High-performance laser radar sensors automatically scan the vehicle as it drives through, collecting 3D dimension information. The C-VDSS1/2 system has withstood years of real practice in Chinese inspection centres, testing millions of vehicles and demonstrating its robust functionality and high reliability.



C-VDSS-1



C-VDSS-2

Key Benefits

Automatic

Automatic measurement in the Drive-through mode takes less than 30 seconds, while the Vehicle Static mode takes less than 60 seconds.

Flexible Installation

Special design of the installation kit is suitable for Indoor, Outdoor, and inside testlane installation.

Large Dimension

The measurement range is from 0 to 6 meters in height and from 0 to 25 meters in length, depending on the site layout conditions.

All weather operation

Outdoor water-resistant with IP68 certificate, wide range of working temperature: -20°C~50 °C.

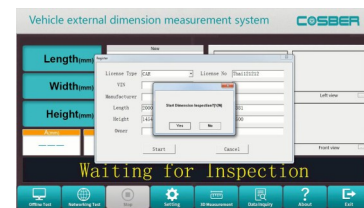
Accuracy

Professional 3D radar technology and Multipoint Matrix Algorithm ensure result accuracy within 1%, with display graduation in mm.

Database Access

Local Data management integrated and i-Cloud connection accessible.

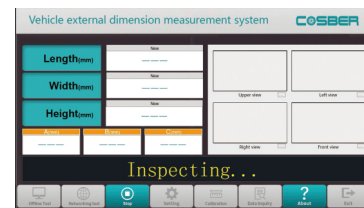
C-VDSS Working Process



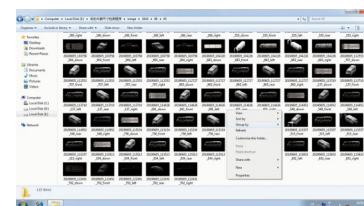
Start PC Software



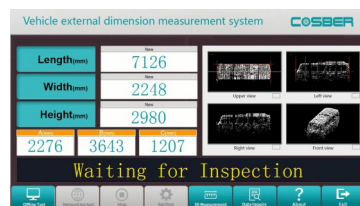
Vehicle ready in place



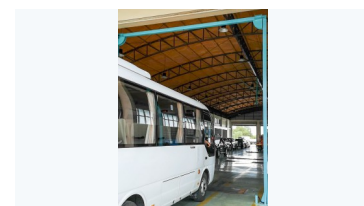
Start to scan



Data management



Dimension result display

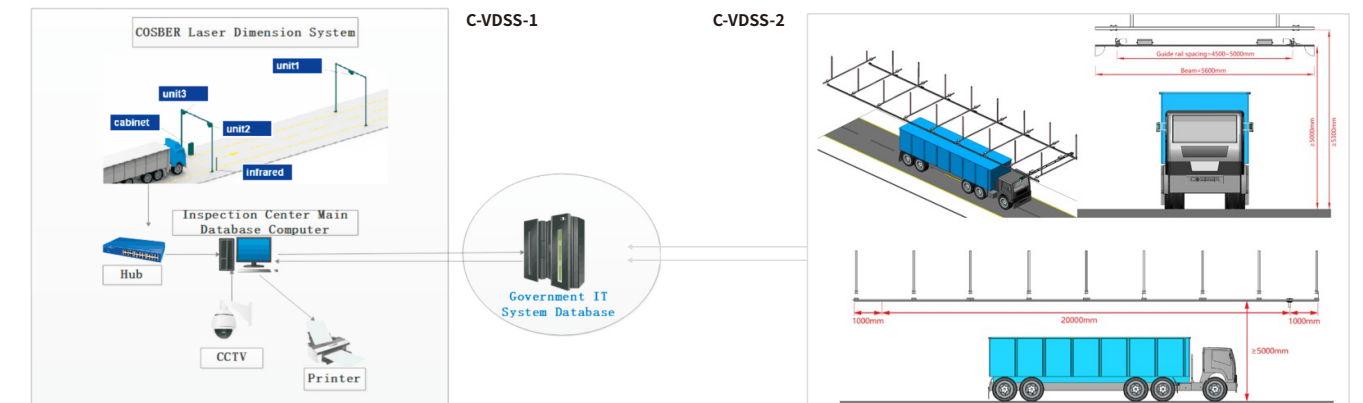


Drive through the zone

Technical parameters

Model	C-VDSS-1 (Dynamic)	C-VDSS-2 (Static)
Test Mode	Non contact, Vehicle Dynamic	Non contact, Vehicle Static
Test Time	< 30 seconds	< 60 seconds
Length Test range	0 ~22 meters	0 ~20 meters
Width Test range	0 ~ 5 meters	0 ~ 5 meters
Height Test range	0 ~ 6 meters	0 ~ 6 meters
Laser Accuracy	≤20 mm	≤20 mm
Test result Repeatability	99%-99.2%	99%
Resolution	1 mm	1 mm
Ground Flatness Requirement	± 20mm per 10 meter	± 10mm per 10 meter
Vehicle drive through speed	average speed within 10km/hour	Static during test
Protocol	Ethernet 100 Mbit TCP/ IP	Ethernet 100 Mbit TCP/ IP
Laser radar scanning unit	3 PCs fix positions	2 PCs movable by rails
Qualification	IP68 & CE	IP68 & CE
Power Supply	200W / 220V / 50Hz	1200W / 220V / 50Hz
Working condition	-30°C to 50 °C Temperature / 20 - 95% Humidity	-10°C + 45 °C Temperature / < 85% Humidity

IT & Equipment Structure of COSBER VDSS



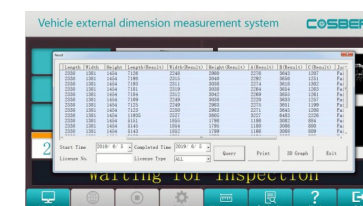
Outdoor Installation



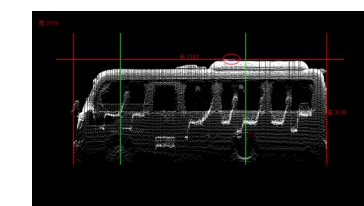
Within Testlane (C-VDD-2)



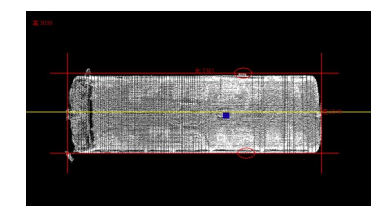
Independent Zone



Data Query



Profile Scanned

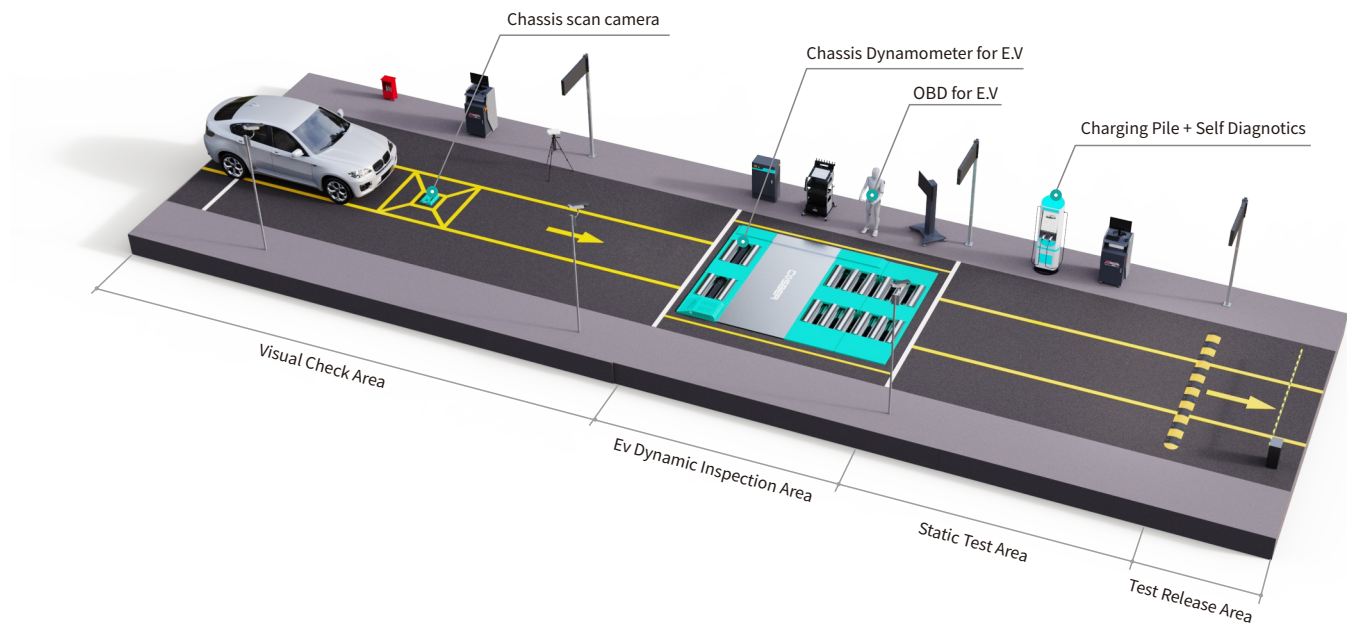


Vertical View

In Used Electric Vehicle Inspection Solutions

Background

According to the requirements of China's National New Energy Vehicle Development Plan (2021-2035), sales of new energy vehicles will represent 20% of total vehicle sales by 2025. To ensure on-road safety, charging safety, and driver safety with electric vehicles, in-use electric vehicles should be tested and evaluated using effective and pragmatic methods.



Inspection Process



Plan To Introduce

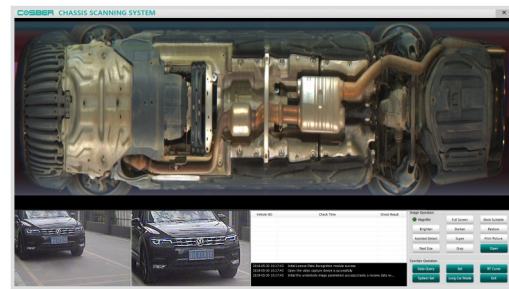
In 2020, the Ministry of Industry and Information Technology published three mandatory national standards for the safety regulation of electric vehicles in China (see below). Based on the operational safety, battery health, and driver and passenger safety of electric vehicles, these regulations set a direction for after-market services by outlining test procedures that include visual checks of vehicle appearance, electrical safety, charging and discharging safety, and analysis of the overall operational data of electric vehicles.



Chassis Scanning System

Features

- ▶ Automatic digital line scan camera, with high-resolution and clarity of the image
- ▶ The complete image of chassis scanning is clear, complete, no distortion, no omission, can be clearly observed that the object is not less 2mm in diameter
- ▶ Preparation of inspection processes to meet a variety of on-site needs
- ▶ Multiple scene image monitoring, recording function
- ▶ Multi-language user interface design
- ▶ Strong scalability to easily achieve a variety of system linkage control
- ▶ ALPR (Automatic Licence Plate Recognition) (optional)
- ▶ Multiple devices networked control functions (optional)



Software interface



C-CSS-1

Technical Data

Item	C-CSS-1
Vertical resolution	2048 pixle
Check the width viewing angle	< 4 meters
Vehicle pass speed	1~30 Km/H
Chassis clearance rang	50 - 600mm
Auxiliary light	2×25 W LED
Water-proof	IP68
Equipment gross weight	30 kg
Equipment dimension L×W×H	400 × 450 × 88 mm
Working temperature	-10~55 °C

EV Charging Simulation Tester

This charging safety tester terminal consists of an EV charger, integrated with High Voltage insulation, Potential Equalization, and Battery Management System (BMS) Communication.

In compliance with the latest Chinese GB-NEV Safety Technical Requirements, this computerized Charging Terminal Tester is capable of conducting comprehensive and effective safety tests for EV through real charging simulation and data communication with the electric vehicle.



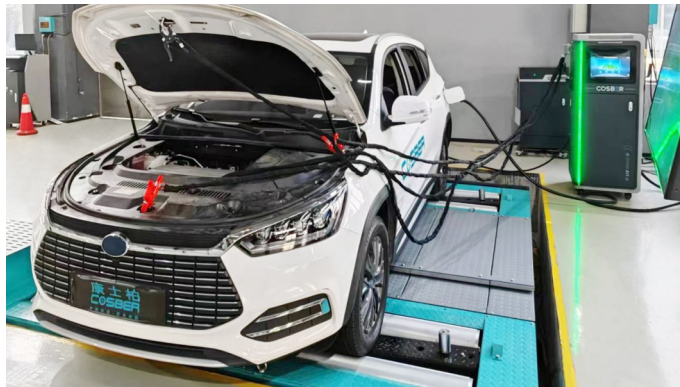
EV Charging & Discharging Test Functions

Test Items			Criteria
EV Battery Safety (BMS)	Battery on Charging	Maximum temperature of the battery	Ternary lithium battery≤ 60 °C Lithium iron phosphate battery ≤ 65°C
		Maximum voltage of a single battery	Ternary lithium Battery≤ 4.4V Lithium iron phosphate battery ≤ 3.7V
		Minimum voltage of a single cell	≥ 3V
		BMS total voltage indication accuracy	-1%~1%
	Battery Discharging	Maximum temperature of the battery	Ternary lithium battery≤ 60°C Lithium iron phosphate battery≤65°C
		Minimum voltage of a single battery Cell	Ternary lithium battery>1.8V Lithium iron phosphate battery>1.5V
	Capacity retention rate of the battery		≥ 70%
Driven Motor Safety	Drive motor temperature		≤ 175°C
	Motor controller temperature		≤ 95°C
Electrical Control System Safety	DC/DC converter temperature		≤ 95°C
EV Body Electrical Safety	Insulation resistance of DC charging socket		≥ 100 Ω/V
	Insulation resistance of AC charging socket		≥ 1MΩ
	Potential Equalization between EV body and Tester		≤ 0.1Ω
	Potential Equalization between test Point 1 and Point 2		≤ 0.2Ω

EV Charging & Electrical Safety Test Process

1 EV Electrical Safety & Charger Plug in

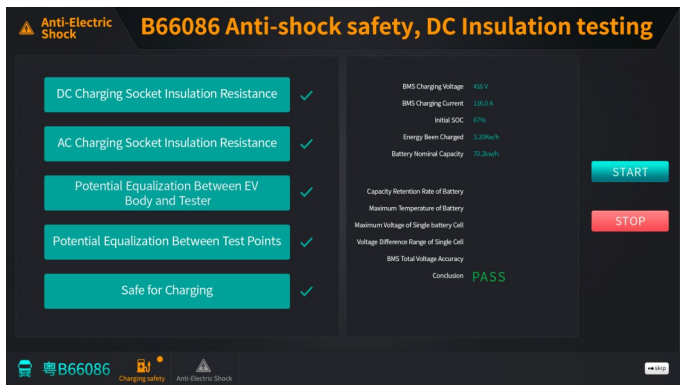
Connect the 3 probes of Potential Equalization from the tester terminal to the EV. Plug both the AC charger and DC charger from the tester terminal into the charging socket of the EV.



2 Safety Self-Test and Charging Communication with BMS

The tester terminal will automatically initiate the Safety SelfTest (for Insulation & Potential Equalization) and communicate with the EV' s BMS (Battery Management System). The test status of each step throughout the entire process will be displayed on the tester's moitor.

Tips: The health of BMS is critical to EV's safety, dysfunction of BMS in EV cause > 50% of safety issues.



3 Continual Charging Simulation & Monitoring

After the Safety Self-test, press "start" to initiate the Battery Charging process (5 mins). The tester will continuously monitor the parameters of BMS and the battery during the charging process. The test report will be generated after the charging test.

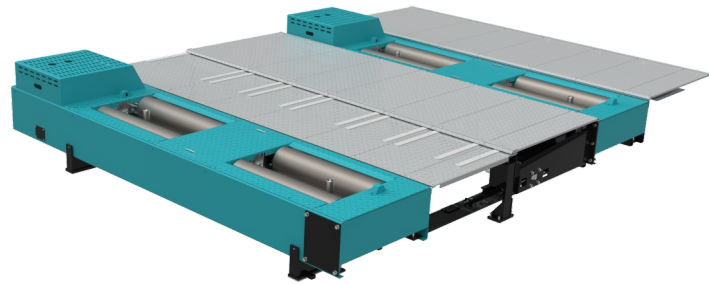


Equipment Parameter

Operational Power	AC 380V+10%, 50/60HZ+5%
No-Load/Full Load Power Consumption	20/ 40-60kW
Operational Environment	Temperature :0~40°C; Humidity:20~90%RH
Dimension (WLH)	670*620*1650 mm
Equipment Weight	150Kg

Z-Shaft Interlinked 4WD Dynamometer for EV

- ▶ Patented Z-Shaft interlinked Dynamometer designed for all types of EVs with different drive modes: Front-wheel-drive, Rear-wheel-drive, and Four-wheel-drive.
- ▶ Real-time synchronisation of four-wheel drive is achieved through automatic wheelbase adjustment (2300-3300mm). Simply input the value of wheelbase can automatically adjust the front and rear rollers bench via the Z-shaft transmission.

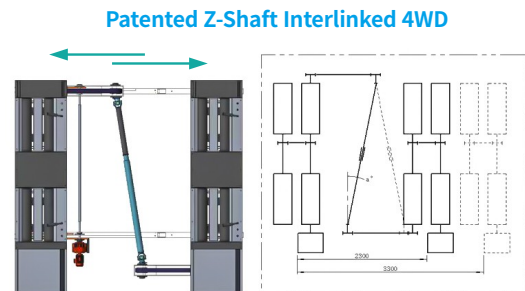


Why 4WD Synchronized?

Most of the 2WD EVs have high-accuracy wheel traction control. However, if the four wheels are not moving at the same speed, power take-off of the EV could be limited or suppressed.

For All-Wheel Drive (AWD) EV, the front wheels and rear wheels are usually powered by two different motors with different power grades. As a result, the front wheels and the rear wheels will not have the same speed during a regular DYNO test.

To address this issue, we must use the interlinked 4WD Dynamometer for a perfect simulation of the synchronous operation of wheels during testing.



EV Dyno Test Functions



Discharging Simulation

4WD Cycle Running at 0-130km/h on the Dyno chassis for the Battery Discharge Simulation.



BMS Monitoring and Driving Capacity test

Real-time monitoring of EV's driving state during the Dyno test (via EV-OBD or Dashboard). It is also capable of testing the stability of an EV's driving under specified conditions.



EV Output Power and Electric Regenerative Braking System Test (Optional)

EV output power test is conducted under a synchronous 4WD running condition. Comparison of drag power test for ERBS of EV during its cruising cycle (optional).



Technical Data

Item	4WD EV Dyno (Z-Shaft Linked)
Maximum carrying vehicle mass	5000 kg
Maximum bearing Axle mass	3000 kg
Maximum absorption driving force	0~6000 N × 2
Power test speed range	0-200 km/h
Roller diameter	Φ216 mm
Roller length	1000 mm
Center distance of rollers	442 mm
Wheel diameter	500~800 mm
Inside wheel thread	700 mm
Outer wheel thread	2700 mm
Minimum vehicle wheelbase	2300 mm (with a design option of 1800mm)
Maximum vehicle wheelbase	3300 mm (with a design option of 2800mm)
Basic inertia	907 kg
Eddy current rated power	160 kW × 2
Back drag motor power	7.5kW to 105km/h
Compressed air pressure	0.6~0.8 MP a
Equipment pitwork Dim.LWH	4000*4330*550 mm



Electric Vehicle Discharging Dyno System



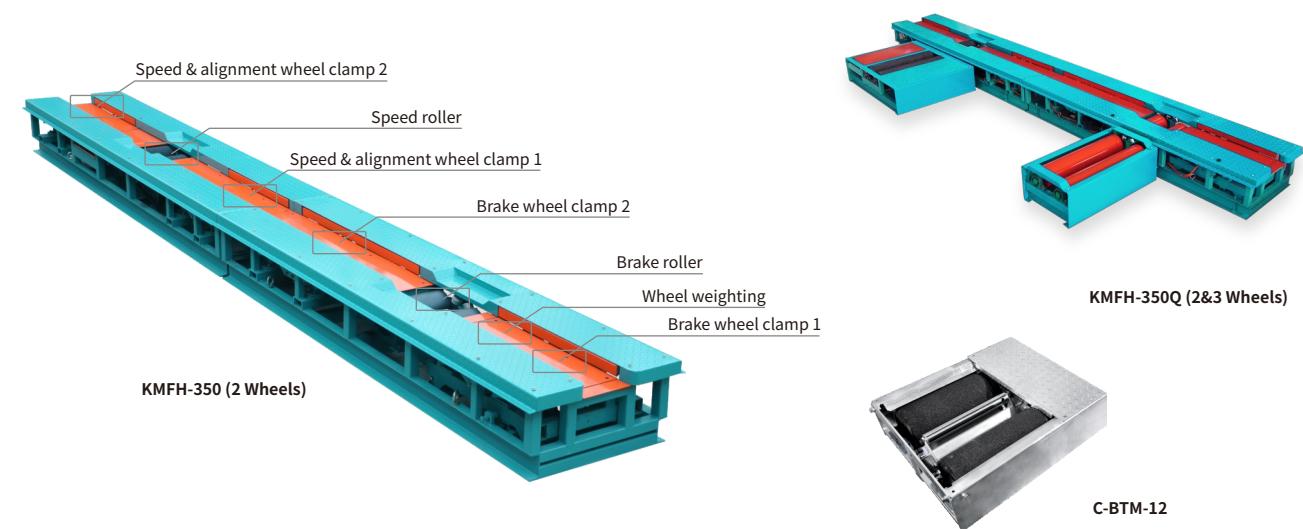
Electric Vehicle Discharging Dyno Interface



2&3 Wheels Motorcycle Testlane

Description

Motorcycle Tester is specially designed to inspect the brake performance and axle-load value of a motorcycle. Combined with the wheel clamp from the speedometer & wheel alignment machine. It's advanced equipment for Motorcycle Safety Technical Inspection Centre and is also widely used in the motorcycle repairing industry and assembly factories.



Features

- ▶ Automatic & pneumatic clamps control process for smooth and safe operation
- ▶ High - adhesion coating paint for extended working life
- ▶ High - precision sensors and high roller roundness ensure the accuracy of results
- ▶ Combination of wheel load measurement, brake test, speedometer, and wheel alignment test
- ▶ Standard RS - 232 connection port

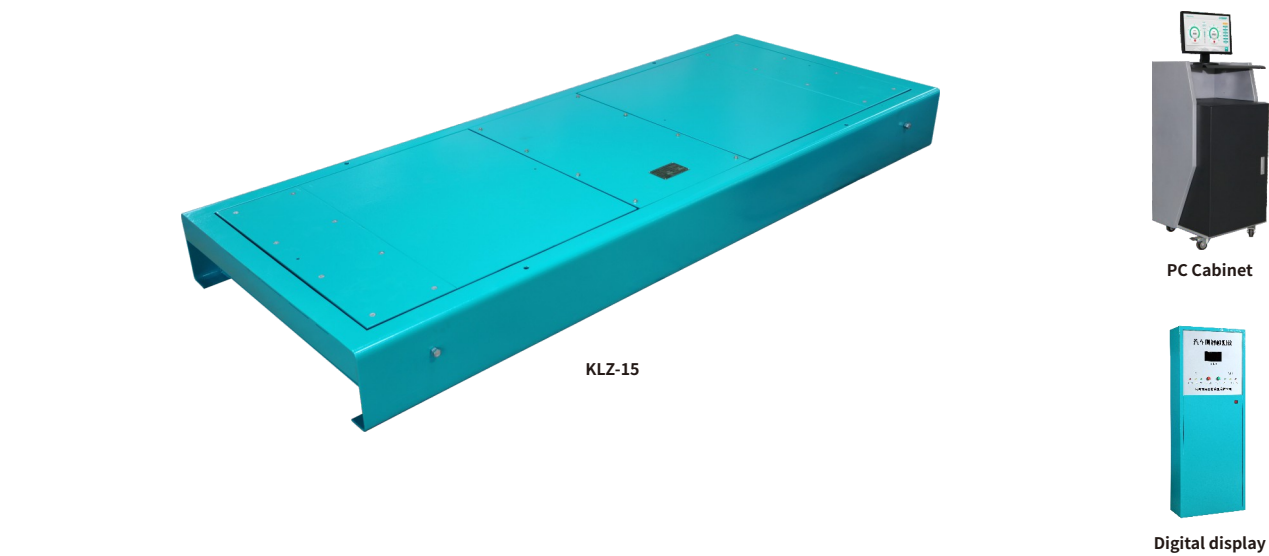
Technical Data

Item	KMX-350	KMX-350Q	C-BTM-12 (Brake Tester)
Measuring range	0-500 kg	0-1000 kg	0-2000 kg
Max. wheel weight	350kg	750 kg	1500 kg
Brake force	0-3000 N	0-3000 N × 2	0-6000 N
Measurement speed	0-80 km/h	0-80 km/h	--
Brake motor power	1.5 kW	2 × 1.5 kW	1 × 3 kW
Speed motor power	1.5 kW	2.2 kW	--
Motor type	Variable speed	Variable speed	--
Equipment weight	1250 kg	1850 kg	200 kg
Air supply	0.5-0.6 MPa	0.5-0.6 MPa	--
Power supply	AC 380V, 50Hz, ground	AC 380V, 50Hz, ground	AC 380V, 50Hz, ground

Vehicle Wheel Load Tester

Description

Wheel Load Tester is designed for weighing the wheel/ axle/ total mass of all kind of vehicles .



Features

- ▶ Quick drive-through testing mode
- ▶ Anti-slanting weighting design
- ▶ accurate and stable measurement
- ▶ Extra-strong structure body
- ▶ Wheel load or axle load data display
- ▶ Standard RS-232 connection port

Technical Data

Item	KLZ-15
Max. passing load/axle	30000 kg
Measuring range/axle	0-15000 kg
Max.wheel tread	2700 mm
Plate dimensions	1100x1000 mm
Power supply	AC 220V, 50Hz, ground