

1.1 Gas Analyser KWQ-4/5M

KWQ-4/5M Gas Analyser

KWQ-4/5M series is designed for use in auto repairs, safety checks and general engine tune-ups, which offers a measuring range that is strictly set to the suitable levels for such operation. It allows you to simultaneously measure concentrations of CO, HC, CO₂, NO (Optional) and O₂ in engine emission in idle states. It can also measure the excess air ratio (λ) of test engines. Light weight and compact enough, it can be fit at any work situation. Moreover, with a clear LCD and effortless operation, it can be used as a simple measurement instrument in other than the auto repair field.



- It has the double-idle test function specified by GB14621 in accordance with the accelerated simulation condition test function specified by the latest national standard GB 18285.
- It not only has the vehicle emission pollutant test function (double idle test, accelerated simulation condition test) in line with national standards, but also can be tested according to the user's specified working conditions.
- The instrument platform is made up of a complete set of imported components.
- With automatic zero calibration function, high degree of automation.

- The instrument interface is graphically designed, menu-driven, and more convenient to use.
- Reliable air pump and filter system design is not only small in size, but also avoids contamination of the sensor caused by long-term use.
- Communication with the PC via RS-232 serial port.
- The tail gas emission process can be detected under the idle and double idle processes in a single machine.
- Quick and easy to upgrade through the ISP download line.
- Built-in micro printer with direct printing.
- Meets the international standard ISO 3930 or OIML R99 Level 1 accuracy requirements.
- 800 sets of data storage and review functions.
- Automatic calculation and display of Air-Fuel Ratio (Lambda).
- Equipped with RPM and Oil Temperature measure interface.
- With function of License Plate Number input and time display.
- Can be integrated with control system and stand alone.



**Optional
Trolley Stand**

1.1 Gas Analyser KWQ-4/5M

Specifications:

Application : Gasoline, LPG, CNG Cars

Monitor Display : LCD

Communication : RS-232

Printer : Built-in Mini Printer

Sensor Principle :

CO, HC, CO₂ : Non-Dispersive InfraRed

O₂, NO (Option.) : Electrochemical

Measurement Range :

CO : 0.00 – 15.00 % vol.

HC : 0 – 9999 ppm vol.

CO₂ : 0.00 – 18.00 % vol.

LAMBDA : 0.000 – 9.999

O₂ : 0.00 – 25.00 % vol.

NO (Option.) : 0 – 5000 ppm vol.

RPM : 0 – 9999 rpm

Oil Temp. : 0 – 150 °C

Resolution :

CO : 0.01 % vol.

HC : 1 ppm vol.

CO₂ : 0.01 % vol.

LAMBDA : 0.01

O₂ : 0.02 % vol.

NO (Option.) : 1 ppm vol.

RPM : 1 rpm

Oil Temp. : 1 °C

Sample Gas Flow Rate : Approx. 6 L/min.

Sample Gas Pressure : 0.0 – 1.0 kPa

Warm-Up Time : 15 min.

Respon Time :

CO, HC, CO₂ : 10 sec.

O₂ : 12 sec.

NO (Option.) : 10 sec.

Environment for Operation :

Temperature : 0 – 50 °C

Humidity : 85 %

Environment for Storage :

Temperature : -30 – 60 °C

Humidity : 90 %

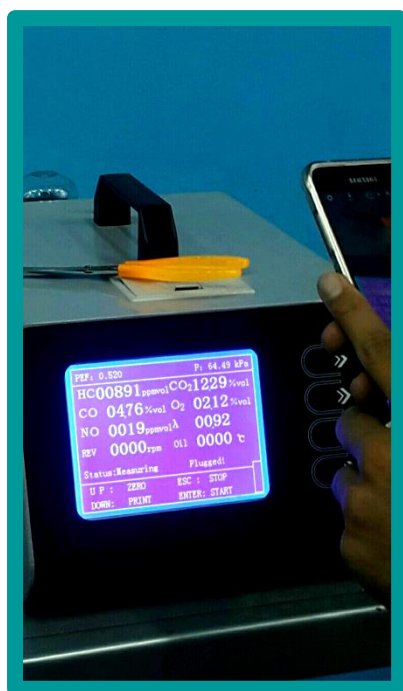
Power Supply : 220VAC ±10%, 50Hz ±2%

Weight : Approx. 8.5 kg

Complete Set:

- Sample Tube and Probe
- Filters
- Printer Paper
- Power Cable
- User Manual
- Certificate Warranty
- Trolley Stand (Option.)

1.1 Gas Analyser KWQ-4/5M



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2.1 Opacimeter KYD-6M

KYD-6M New Opacimeter

Also referred to as opacity meters, detect and measure the amount of light blocked in smoke emitted by diesel engines from cars, trucks, ships, buses, motorcycles and automotives operations.

The smoke meter readout displays the smoke density giving a measure of the efficiency of combustion. This makes the smoke meter an excellent diagnostic tool to ensure proper maintenance of diesel engines for improved fuel economy and protection of the environment.



- With real-time testing and free acceleration testing.
- With oil temperature, ambient temperature and humidity test function.
- Large-screen LCD display, clear font, graphical display, and friendly interface.
- Equipped with RS232 interface to communicate with external computers.
- Built-in mini printer.
- Optional tachometer to measure engine speed.
- Can be integrated with control system and stand alone.

- Take the style (split) measurement method. The "air curtain" protection technology, patented optical platform, the optical system is protected from smoke pollution and improve the stability of the instrument.
- The measurement room is controlled by constant temperature to prevent the measurement result from being inaccurate due to condensation of water and gas in the exhaust.
- The lower position machine adopts DC 24V low voltage power supply, which is more safe and prevents safety accidents. The upper and lower machine communication adopts 485 communication with stronger anti-interference ability.



Optional
Trolley Stand

2.1 Opacimeter KYD-6M

Specifications:

Monitor Display : LCD

Communication : RS-232

Printer : Built-in Mini Printer

Unit : Unit Control & Unit Measurement

Measuring Range :

Absorption Ratio (N) : 0 – 99.99 %

Light Absorption Coefficient (K) :

0 – 16.08 m-1

Rotating Speed : 300 – 6000 r/min

Oil Temperature : 0 – 200 °C

Flue Gas Temperature : 0 – 150 °C

Indication Error :

Absorption Ratio (N) : ± 2.0 %

Rotating Speed : ± 50 r/min

Oil Temperature : ± 5 °C

Flue Gas Temperature : ± 5 °C

Resolution :

Absorption Ratio (N) : 0.01 %

Light Absorption Coefficient (K) :

0.01 m-1

Rotating Speed : 1 r/min

Oil Temperature : 1 °C

Flue Gas Temperature : 1 °C

Ambient Temperature : 0 – 40 °C

Relative Humidity : ≤ 95 %

Power Supply : AC 220±22 V, 50±1 Hz

Power Consumption : 150 W

Complete Set:

- Sample Tube and Probe
- Printer Paper
- Power Cable
- Connection Cable
- User Manual
- Certificate Warranty
- Trolley Stand (Option.)

2.1 Opacimeter KYD-6M



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3.3 Speedometer Tester KCS-15

KCS-15 Speedometer Tester

Automobile speedometer detection table is a detection device used to detect the indication error of the speedometer of a motor vehicle under driving conditions. It is widely used in automobile supervision departments and repair industries.

- Using of reinforced steel guarantees strong and durable structure-bodies
- High adhesion coating paint for longer working life
- High precision sensor and high roundness of roller ensure the exactitude of result
- Air-lifter and roller brake system eases the exit of vehicles
- 0-130km/h measurement range, wireless remote controller
- Standard RS-232 connection port
- Can be integrated with control system and stand alone

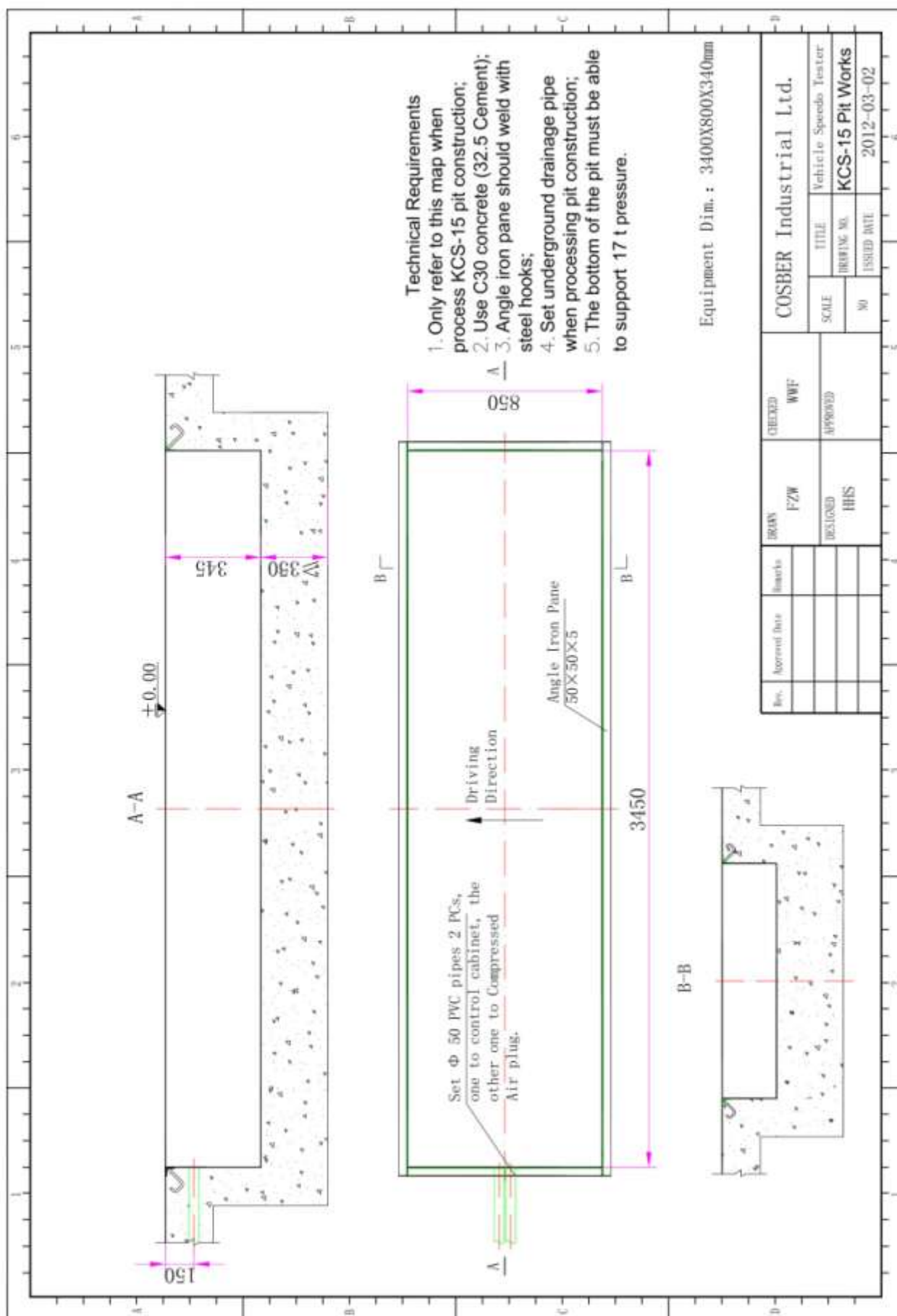


Technical Data :

Max. Axle Load	: 15000 kg
Measurement Range	: 0 – 120 km/h
Roller Diameter	: \varnothing 190 mm
Roller Length	: 1100 mm
Roller Tread	: 405 mm
Min. Wheel Distance	: 750 mm (inner)
Max. Wheel Distance	: 2850 mm (outer)
Air Source Pressure	: 0.7 – 0.8 MPa
Power Supply	: AC 220V, 50 Hz, ground
Indicator Display	: Seven Segment
Printer	: Bulit-in indicator display



3.3 Speedometer Tester KCS-15



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4.3 Side Slip Tester KCH-15

KCH-15 Side Slip Tester

The automobile skid inspection table is a testing device used to measure the amount and direction of wheel slippage by using the left and right movements of the sliding plate during the straight running of the front wheels of the motor vehicle, and to determine whether it is qualified.

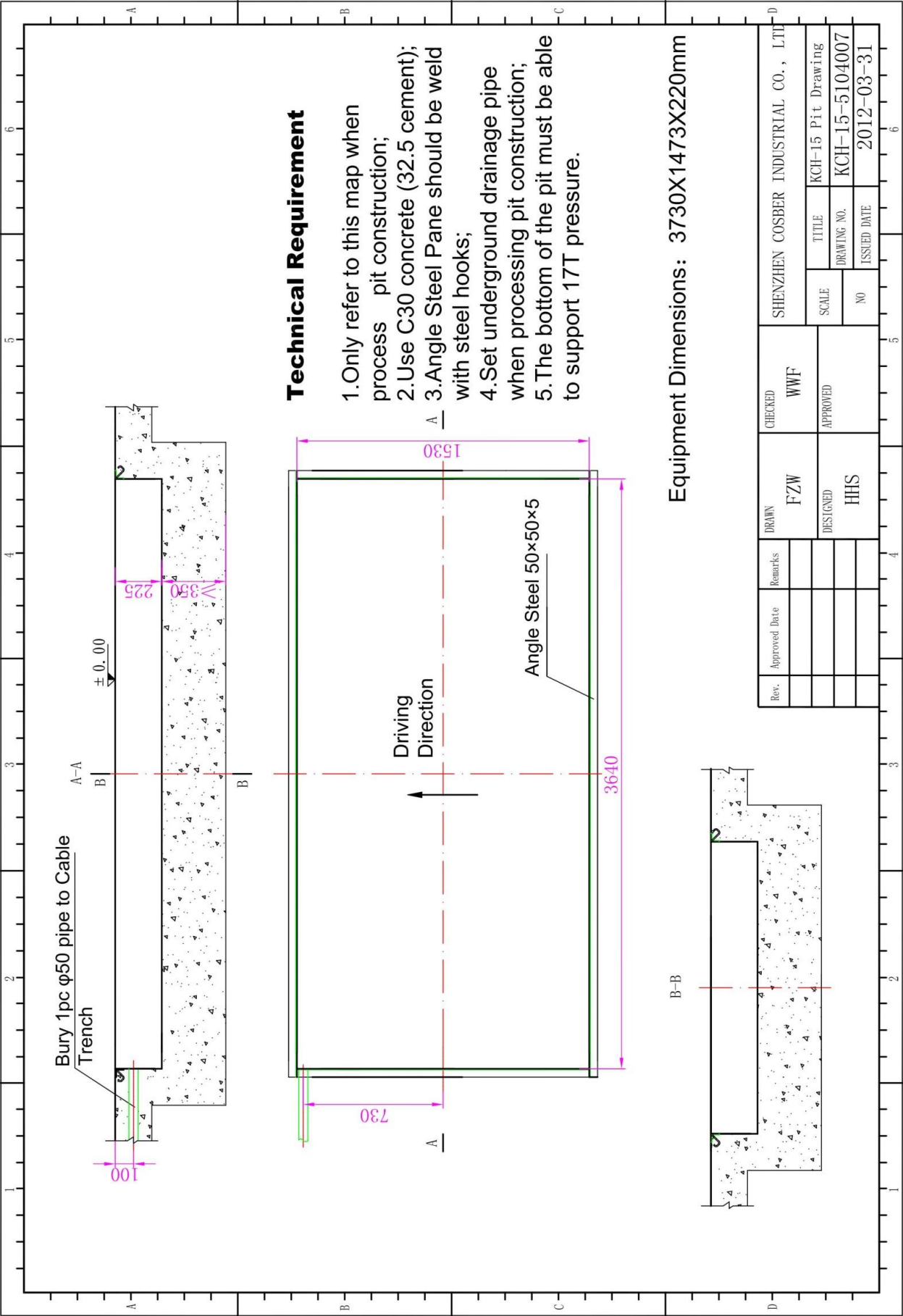
- Sideslip Plate & Protection Frame integrated structure
- Sideslip plate locker with inner key
- Maintenance-free body design
- Galvanized plate surface for longer service life
- High precision sensor to ensure the exactitude of result
- Upper and lower Dual Bearing System makes smooth movement
- Options of synchronic or independent motion type for different regulation requirements
- Over-value alarm function
- Standard RS-232 connection port
- Can be integrated with control system and stand alone

Technical Data :

Max. Axle Load	: 15000 kg
Measurement Range	: ± 15.0 m/km
Structure Type	: L-R Double Plate
Power Supply	: AC 220V, 50 Hz, ground
Indicator Display	: Seven Segment
Printer	: Bulit-in indicator display



4.3 Side Slip Tester KCH-15



4.3 Side Slip Tester KCH-15



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KZZD-18 Roller Brake & Axle Load Tester

KZZD series automobile brake axle weight composite test bench is a new generation of testing equipment for automobile braking performance and axle weight developed by our company incorporating advanced foreign technology.

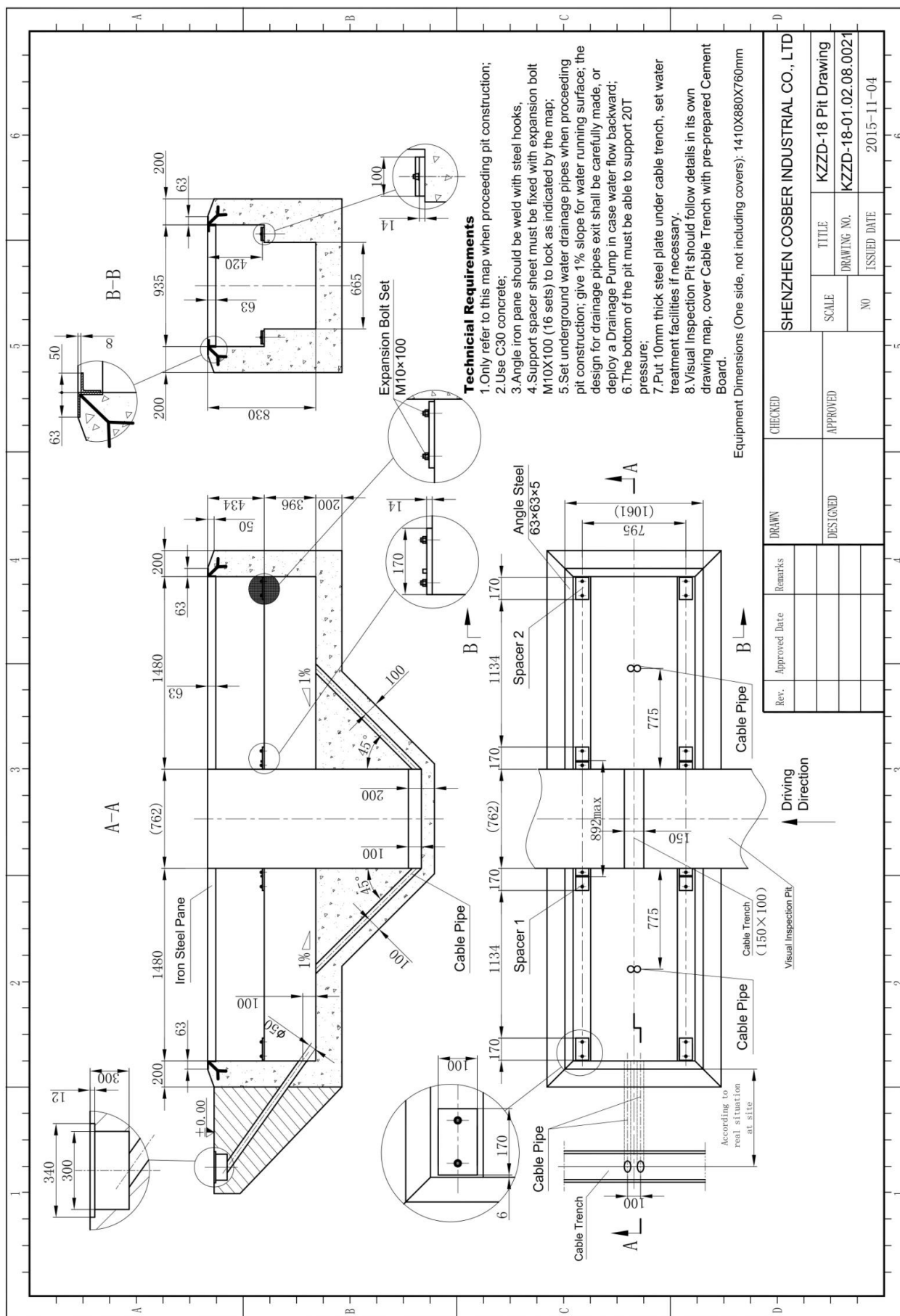
- Equipped with underneath Weight Unit
- Corundum binding roller set for high adhesion in both dry and wet condition
- High precision sensor ensures the exactitude of inspection result
- Indicator with function button and wireless remote control unit (Optional).
- Using of reinforced steel, strengthen and durable structure body
- High performance motor and gearbox
- Electronic subordinate roller (sensor roller) and speed sensor
- Automatic start and tyre anti-skid program
- Roller driven-out program (air-lifter/motorlock system) is optional
- Standard RS-232 interface connection
- Manual operation and automatic
- Can be integrated with control system and stand alone



Technical Data :

Max. Axle Load	: 20000 kg
Measurement Range Axle Weight	: 18000 kg
Measurement Range Brake Force	: 0 – 45000 N x 2
Wheel Diameter	: < 700 – 1200 mm
Track Range	: 850 – 2800 mm
Roller Diameter	: \varnothing 245 mm / \varnothing 280 mm
Roller Length	: 1000 mm
Motor Power	: 13/17 kW x 2
Power Supply	: AC 380V, 50 Hz, ground
Indicator Display	: Seven Segment
Printer	: Bulit-in indicator display

7.5 Brake & Axle Load KZZD-18



7.5 Brake & Axle Load KZZD-18



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9.2 Headlight Tester KSB-600A

KSB-600A Automatic Headlight Tester

KSB-600A Headlight Tester is applied as an automatic measuring device for inspecting automobile headlamps. Its testing ability covers high beam luminous intensity, high beam offset; low beam offset; headlamp benchmark center height etc. The device meets the national standard GB7258, GB 21861, GB18565 and other related technical requirements by vehicle testing organizations. This device is largely used in vehicle testlines, vehicle repairing shops, and automobile manufactories etc.

The driving line should keep parallel to driving marker line(vertical to rail) on the ground. The Distance between headlamp and opti-electronic case is between 0.8-1.2m.



Headlight Tester for measuring motor vehicle headlamp low beam lamp luminous intensity and optical axis offset. Applicable to the motor vehicle repair shop, vehicle inspection stations, automobile factory for motor vehicle headlamps detection and adjustments.

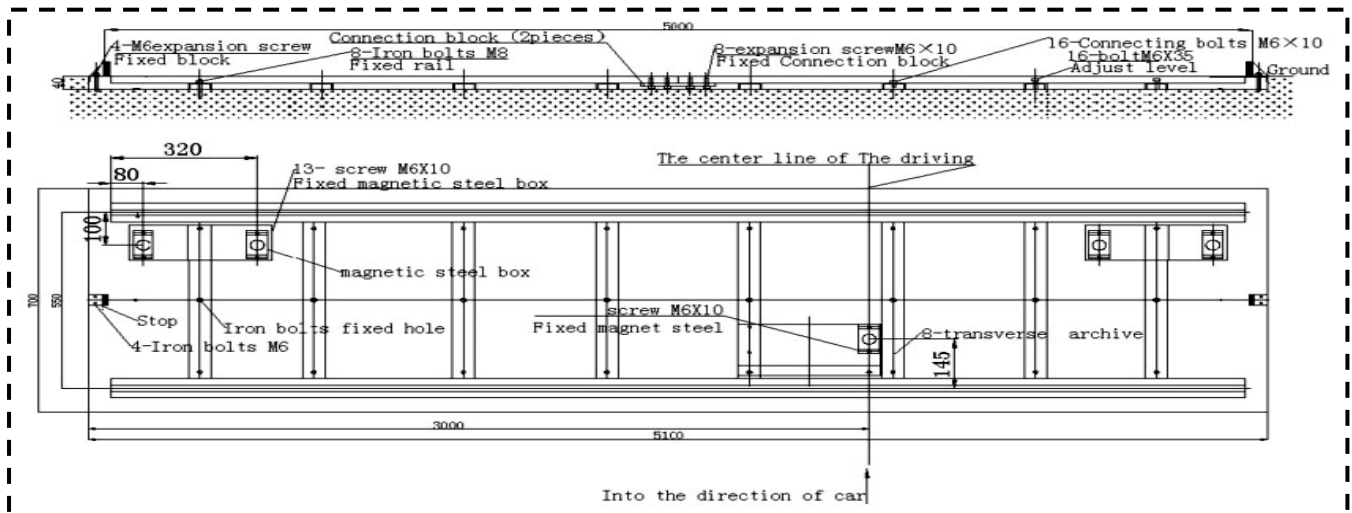
Features:

- State-of-art appearance design, high-speed DSP6000 image processing technology, automatically searching for headlamp high beam, accurate detection for low beam.
- Dual CCD technology, independent testing, allow to adjust automobile headlamp low beam.
- Multi-point auxiliary light searching system, special CCD light searching to speed up the inspection.
- Double positioning system effectively prevent interference.
- Equipment allocates the standard RS232 communication interface , has the reliable networked software and rich communication instruction.
- Bright digital display system.
- Support line adjustment mode.
- Light control detector application of high quality silicon optoelectronic devices and high-precision CCD, and the match as recommended by the International Commission on Illumination V (λ) curve, luminous intensity measure high precision.
- Support Dual-lamp inspection mode available to shorten inspection speed.
- Suitable for use in various vehicle detecting organizations, vehicle inspection stations, automobile industry, repair and maintenance garages.
- Optional rechargeable battery module, adapt to a variety of work environments.
- Can be integrated with control system and stand alone.

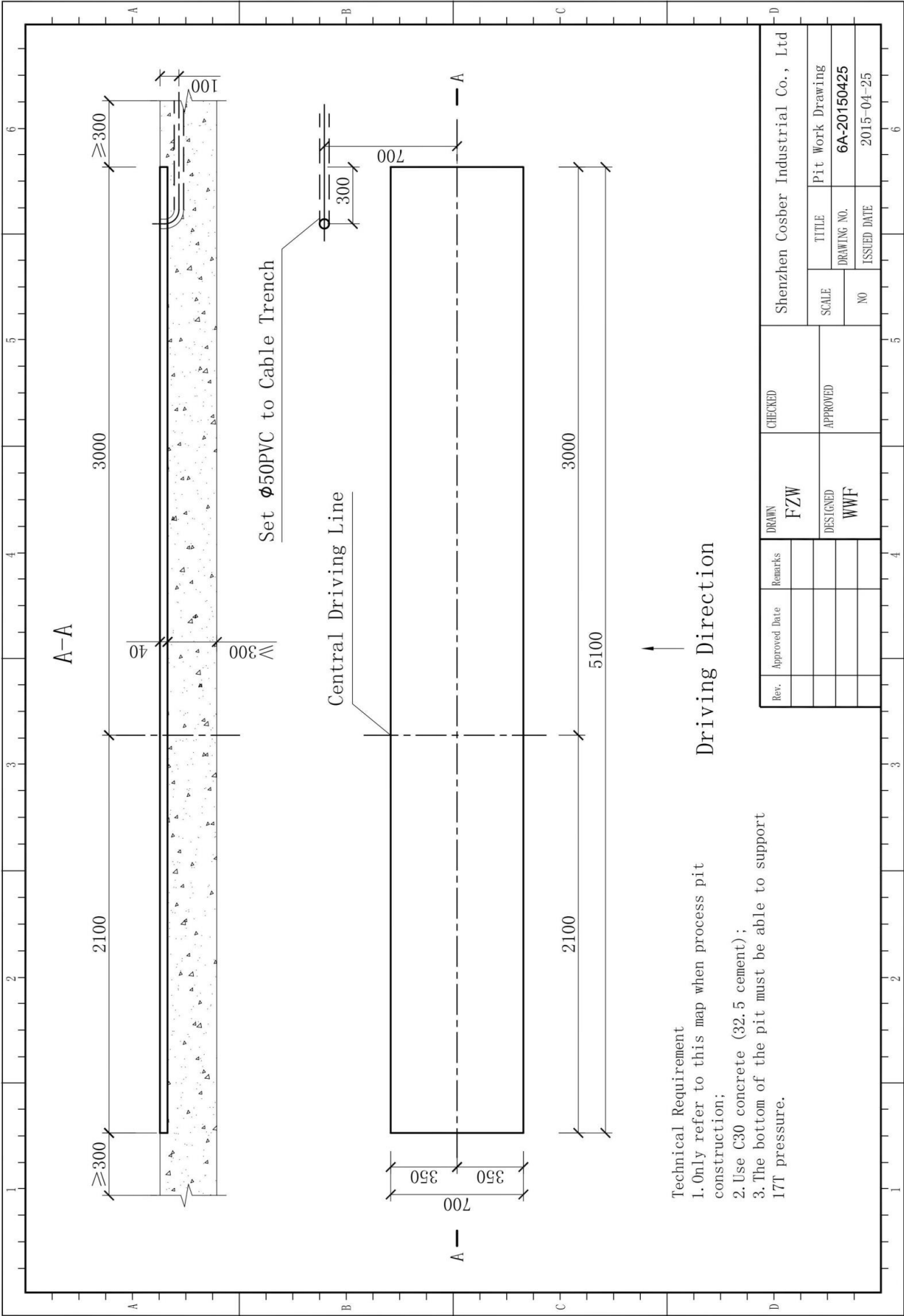
9.2 Headlight Tester KSB-600A

Specification:

- Environmental Condition :
 - Temperature : $-5^{\circ}\text{C} \sim 40^{\circ}\text{C}$
 - Relative Humidity : $\leq 90\%$
- Inspection Distance : 80 – 120 cm
- Inspection High : 350 – 1400 cm
- Length of The Guide Rail : 5m
- Power Consumption : 200 W
- Power Supply :
 - AC 220V $\pm 10\%$, 50Hz $\pm 1\%$
- Weight : Approx. 100 kg
- Dimension : 800 x 670 x 1700 mm
- Measurement Accuracy :
 - Luminous Intensity $\pm 10\%$
- Light Intensity : 0 – 120.000 cd
- Deviation of Optical Axis :
 - High Beam & Low Beam :
 - Vertical :
 - (Up) 400mm/10m
 - (Down) 560mm/10m
 - Horizontal :
 - (Left) 560mm/10m
 - (Right) 560mm/10m
 - Central Height of Photovoltaic Box : $\pm 10\text{mm}$



9.2 Headlight Tester KSB-600A



9.2 Headlight Tester KSB-600A



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10.1 Sound Level HY-114

HY-114 Sound Level Meter

HY-114 digital sound level meter is designed to measure the time-weighted sound level of the instrument, it can be displayed on the display of the measured noise A frequency weighting F timeweighted sound level or C frequency weighting F time meter The sound level and their maximum value. It has a digital output interface, can be downloaded to the measured data connected to the computer. Through the noise measurement processing program, can be controlled by the computer HY114 to achieve automatic measurement of noise and data processing.



HY-114 digital sound level meter in line with national standards GB / T 3785.1-2010 and the international standard IEC 61672-1:2002 "Electroacoustic sound level meter Part 1: Specifications" on the two X-class sound level meter requirements apply It is suitable for on-line measurement of noise,

environmental noise, traffic noise, workplace noise and social noise. It is particularly suitable for online noise detection and noise data acquisition.

The HY-114 digital sound level meter is specially designed to meet the requirements of computer detection on the vehicle safety detection line. It calculates and processes the measured data through the internal computer's smallest system. The RS232 serial interface on it can convert the sound level data Sent to the computer. Therefore, when used in conjunction with external computers, it can be used as a noise data logger.

Specification:

- Performance Level :
GB / T 3785.1-2010 / IEC 61672-1:2002
- Electromagnetic Field Radiation and Immunity :
Class X as Defined in IEC 61672-1:2002
- Frequency Weighting : A, C
- Measurement Range :
30 – 130 dBA, 40 – 140 dBC
- Power : 6 V Battery and 5 VDC
- Time Weighting : F, S
- Communication : RS-232
- Display : LCD
- Operation System :
Can be integrated with control system and stand alone.

10.1 Sound Level HY-114



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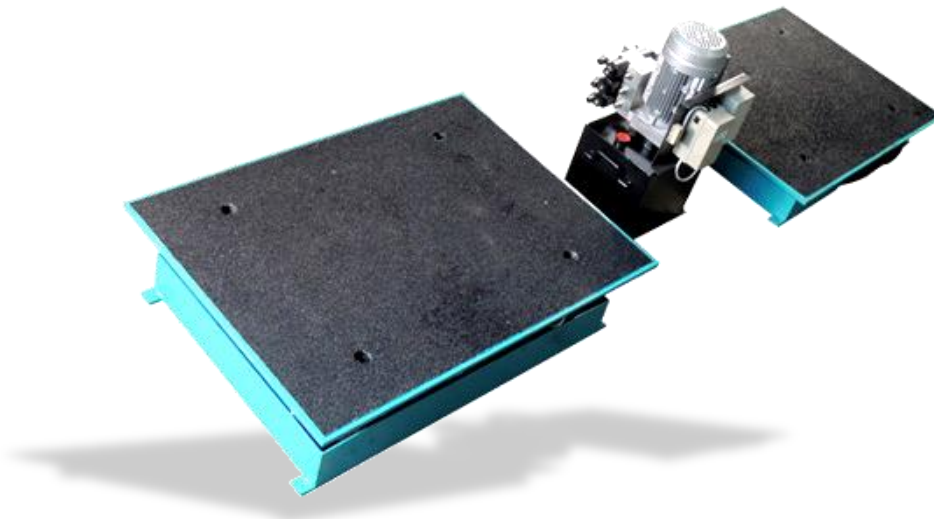


8.2 Axle Play Detector KJX-18

KJX-18 Hydraulic Play Detector

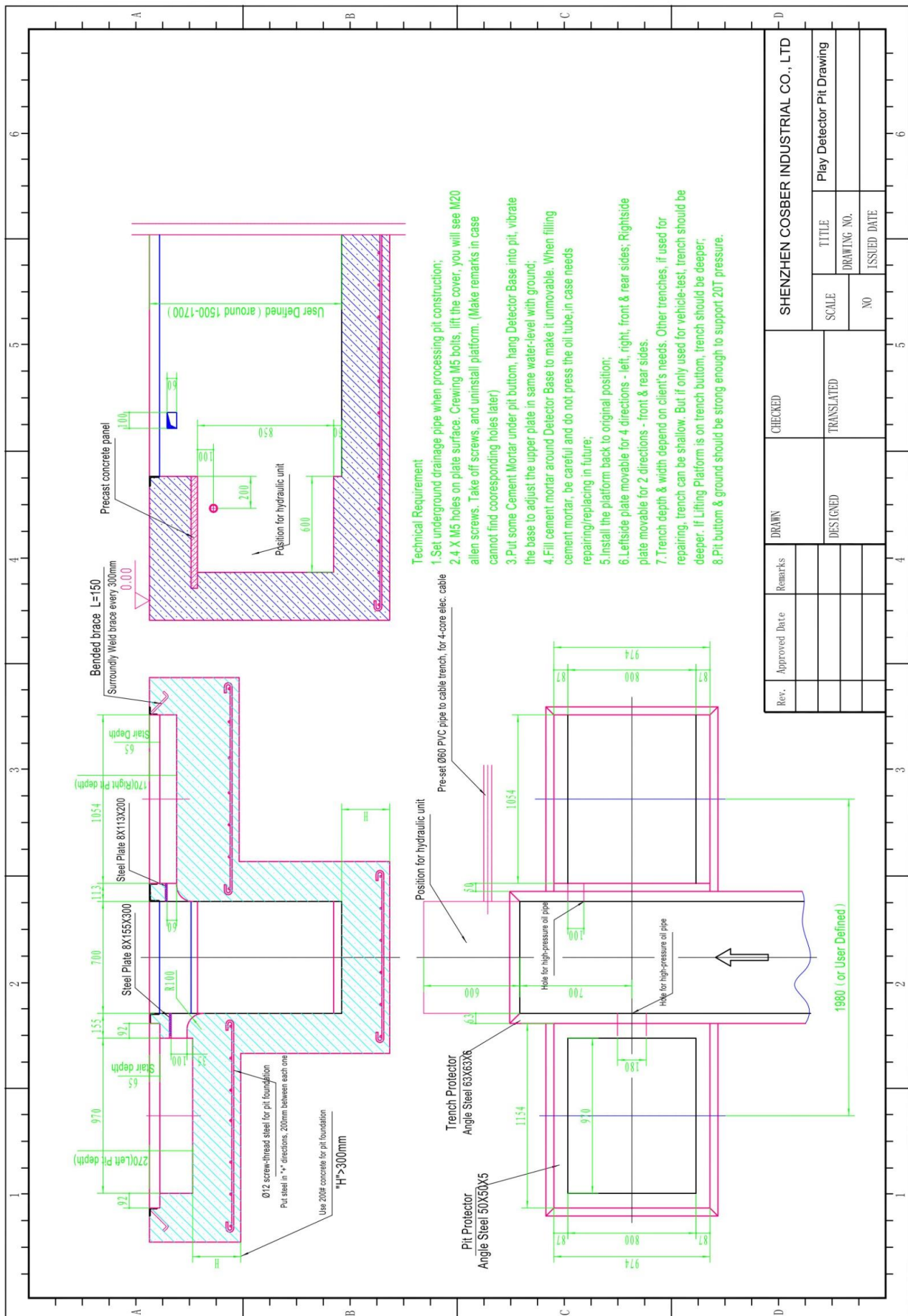
The hydraulic play detector, with two moving plates of play detector, is assisted to verify the joint play condition in a vehicle chassis. The play detector is made by three parts: 2x moving plates, hydraulic system and electric control system (with handhold remote & torch).

- Different movements of the plates are available
- Hydraulic unit increases user convenience
- Extra heavy duty structure, robust and lower noise design

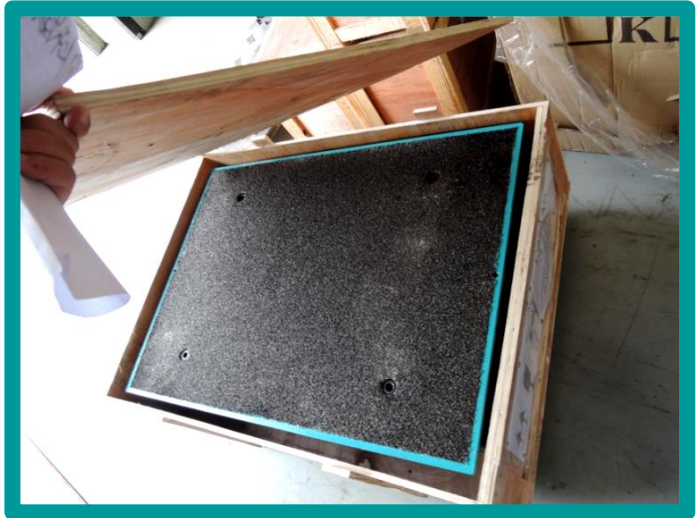


Technical Data :

Plate Dimension	: 1000 x 750 mm
Max. Displacement of Plate	: 100 x 100 mm
Max. Axle Load	: 18.000 kg
Max. Wheel Load	: 9.000 kg
Movement Direction	: 8 Direction (Both Left and Right Plate has 4 Direction Movement)
Max. Displacement Force of Plate	: 30 kN
Material Platform	: Corundum Binding
Control	: Individually per Platform
Power Supply	: AC 380V, 50 Hz, ground



8.2 Axle Play Detector KJX-18



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AUTOLIGHT™

Why **AUTOLIGHT™**?

Window tinting can diminish driver vision through vehicle windows. This compromises the safety of driver and their passengers.

Safety is jeopardised when approaching vehicles with dark, non-regulatory approved window tinting. The internal space of the vehicle and its passenger's movements are not clearly visible.

What is **AUTOLIGHT™**?

AUTOLIGHT™ is a portable Light Transmission Meter. The meter measures the level of light transmitted through a tinted window to determine its safety level.

It is a lightweight, accurate and easy to operate tool for law enforcement officers. Some local regulations also require testing of tinted glass to ensure conformance, during vehicle safety inspections. The **AUTOLIGHT™** meter provides inspectors with accurate readings that would otherwise be impossible by simple visual inspection.

How does **AUTOLIGHT™** work?

The light transmission meter consists of a light sensor built into the body of the instrument, a precision light source and a LCD display.

By aligning the light source and the sensor on either side of the window, the percentage of light transmitted through the window is measured. The degree of visibility is obtained from the reading.



AUTOLIGHT™

Three easy testing steps with **AUTOLIGHT™**



STEP 1



STEP 2



STEP 3

STEP 1: Align **AUTOLIGHT™** to the side of the test window or windscreen so that the light source and light sensor overlap.

STEP 2: After aligning **AUTOLIGHT™**, press the measurement button to take a reading of the light transmitted through the window.

STEP 3: After the test is completed, the display shows the percentage of light transmitted through the window.

Features

- Easy to operate by aligning two reader tubes
- Simple one button operation
- Can be used for side windows or windscreens
- Calculates the percentage of light transmitted through windows
- Lightweight (350g)
- Compact (190mm x 60mm)
- Automatic start function

Specifications

Monitoring

- Spectral sensitivity conforming to photopic curve V (λ) of relative illuminous efficiency of the CIE 1931 standard observer for photopic vision
- Compliant with ISO 3538:1997

Output

- 2856°K \pm 50°K, conforming to CIE illuminant A
- Lamp voltage stabilised within $\pm 0.1\%$
- Display: LED readout 0 - 100%, linear from 20 - 100%, $\pm 3\%$

Power Source

- 2 x MN 1604 batteries (9 volt)

METERAN LASER DIGITAL

PRAYA tech



BLACK COLOR LED BACKLIGHT
NYAMAN DIMATA - HEMAT BATERAI

- | | |
|-------------------------|-----------------------------|
| ✓ DUAL BUBBLE LEVEL | ✓ UNIT METER/FEET/INCH |
| ✓ SINGLE MEASUREMENT | ✓ 20 GROUP DATA RECORD |
| ✓ CONTINUES MEASUREMENT | |
| ✓ AREA | ✓ ACCURACY $\pm 2\text{MM}$ |
| ✓ VOLUME | ✓ SERTIFICATION CE & ISO |
| ✓ PYTHAGOREAS | ✓ RESOLUTION 1MM |
| ✓ PLUS AND MINUS | ✓ LASER CLASS II |
| ✓ SCAN (MAX/MIN) | 620-690nm, <1mw |

S series



HDCP00101

Digital Tread Depth Gauge



Range : 0-25.4mm
Reading : 0.01mm
Battery 3V

Metric/inch system conversion at any position

11.1 Vehicle Inspection System

Vehicle Inspection System

The automatic Vehicle Inspection System (VIS) is an automatic control system for safety & environmental protection inspection of vehicle with computer, which can be used to perform safety & environmental protection test and all round properties inspection in accordance with China GB7258-2004 <Safe Operation Condition of Vehicle> and GB18565-2001 <All Round Properties Requirement & Test Method of Commercial Vehicle>.

The system consist of control system, database system, inspection operation system and safety & environmental protection test equipment. The digital communication between the computer and equipments ensures the accuracy of inspection data.



The computerized Vehicle Inspection System of COSBER is an automatic vehicle test operation management software for vehicle test and terminal administration, which, under being in conformity with the requirements of relevant nation standard, all round properties

of vehicle and safety control points, can meet the requirement of vehicle test and terminal administration. The software consist of server management, vehicle information access, online test management, equipment control, operation supervising, database management etc.

The data entry function is an input window of the VIS of vehicle, which can be used to enter information of vehicles and manage the listing vehicle for inspection and define the best item of vehicles on the test line. If the test items of one vehicle are completed, the test results will assessed and saved for further usage.

Operation management function is to control the all inspection operation, by using the signal collection card and intelligent distributor to connecting computer and equipment.

Inspection data management function is for searching the tested vehicle data, browse the test result and print out the report.

Database management function is to manage and back up of system database, user management, authority management and statistics task.

Can be integrated to:

- Gas Analyzer
- Opacimeter
- Speedometer Tester
- Sideslip tester
- Wheel Load Tester
- Brake tester
- Play Detector
- Headlight Tester
- Sound Level Meter

11.1 Vehicle Inspection System

