자동차 검사기기 및 시스템

Vehicle Inspection Equipment & System

www.qrotech.com

QRO TECH

큐로테크주식회사

큐로테크주식회사
QROTECH

· CAD, Solid Work에 의한 디자인 설계
· CCD카메라 데이터 처리 및 이미지 프로세싱(Image Processing)
· 상업용 저울, 계수용 저울(Load Cell) 신호처리
· 정밀 온/습도 신호처리 및 보상기술
· 자동차 엔진의 진동과 음향을 RPM 신호로 변환하는 Signal Processing
· OBD(On Board Diagnostics) 신호를 이용한 자동차 상태정보 처리기술
· 안정적인 보안 및 서버 관리시스템 구축

모든 제품은 "CE인증"을 받았고, 국제 기술표준과 안전규격을
충실히 이행하여 제작된 자동차 검사 솔루션입니다.
큐로테크의 앞선 기술력과 함께 하십시요.



· Design by CAD, Solid Work
· CCD camera data processing and image processing
· Commercial scale, Load cell signal processing
· Precision temperature / humidity signal processing and compensation technology
· Signal Processing for converting engine vibration and sound to RPM signals
· Vehicle status information processing technology using OBD (On Board Diagnostics) signal
· Stable security and server management system

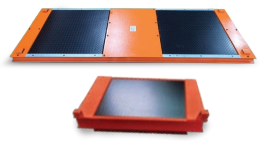
"All products are CE certified and automotive inspection solutions based on international technical standards and safety standards."
Please join with QROTECH's advanced technology.

Overview of QROTECH Products

www.qrotech.com

QROTECH

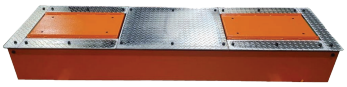
We produce more robust for users to use for a long time.
We will make it simple and robust in the future.



Sideslip tester

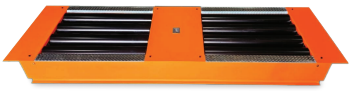


Speedometer tester



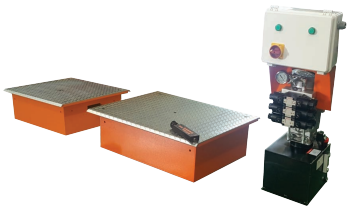


Roller brake tester

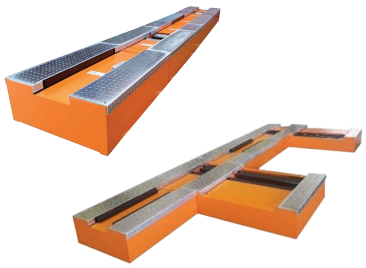


Bogie roller

Suspension tester



Axle Play Detector



2 Wheel & 3Wheel
motorcycle tester



Headlight Tester



Exhaust gas analyzer



Opacity Smoke Meter



RPM meter

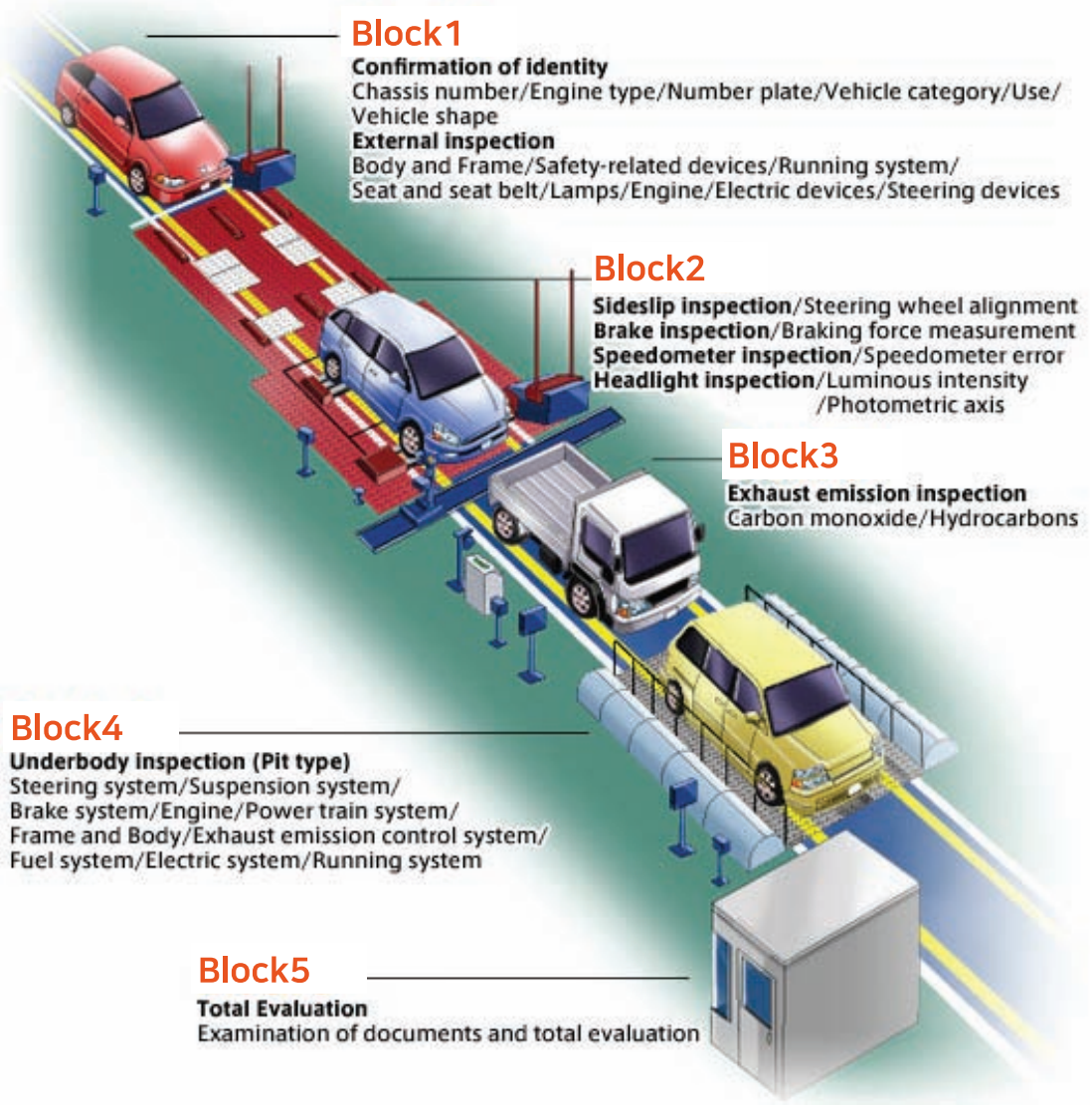
[Head office]

Techno-park 201-906, 388 songnae-daero, Bucheon-si,
Gyeonggi-do, 14502 Korea
Tel: 82-32-621-2451 Fax: 82-32-621-2450
E-mail address : qrotech@qrotech.com

[Second factory]

37-3, Geomdan-ro 326 beon-gil,
Incheon, 22661 Korea
Tel: 82-32-576-2451
Fax: 82-32-576-2452

Inspection center Layout



Essential equipment for vehicle inspection

· Sideslip tester, Brake tester, Speedometer tester, Headlight tester
Exhaust emission tester, Smoke meter, suspension tester, Play detector
rpm meter, sound level meter, Gas leak tester

Essential equipment for motorcycle inspection

· Brake tester, Speedometer tester, Headlight tester
Exhaust emission tester, sound level meter, Gas leak tester

QROTECH





Lifter

The air lifting of the brake tester's roller plate moves the wheels up and down to prevent any shock and damages."

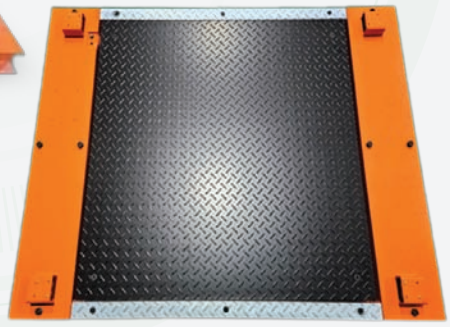


Sideslip tester

Align the camber, castor, toe, and toe out of the axle and both wheels.
It measures the amount of side slip of car wheel when driving.



Double plate



Single plate

Specification

Product name	Sideslip tester	
Item	QRO-ABS-10	
Max. Axle load	4.5Ton	15 Ton
Measuring range	In/out 10 ~ 15mm	In/out 10 ~ 15mm
Testing speed	5Km/h	5Km/h
Testing plate length	800 x 1000 mm	1000 x 1000 mm
Sensor	potentiometer	potentiometer
Power supply	AC220V 50/60Hz	AC220V 50/60Hz

Specifications are subject to change depending on performance and quality.

Roller brake tester

- Roller brake testers are designed and used to inspect and evaluate the braking force, braking efficiency, braking imbalance and friction efficiency.
- Raised rear roller to facilitate the exit of the vehicle
- Designed to automatically stop to protect the machine when overload occurs
- Capable of measuring brakes of 4WD vehicle
- The air lift function of the roller plate of the brake tester allows the wheel to go down and up to avoid any shock and damages.



Specification

Product name	Brake Tester	
Item	QRO-ABS-10	
Max. Axle load	4.5Ton	15 Ton
Testing speed	2~5Km/h	2~5Km/h
Roller length	900 mm	1,200 mm
Roller diameter	216 mm	216 mm
Lifting method	Pneumetic/Air spring	Pneumetic/Air spring
Motor	3.5Kw x 2	15Kw×2
Sensor	Load cell	Load cell
Roller surface	Welding or corundum coating surface	
Adhesion coefficient	0.9	0.9
Power supply	AC380V 50/60Hz, 3Phase	AC380V 50/60Hz, 3Phase

Specifications are subject to change depending on performance and quality.

Speedometer Tester

The speedometer tester is a device that checks whether the actual driving speed of the car matches the speedometer attached to the car.



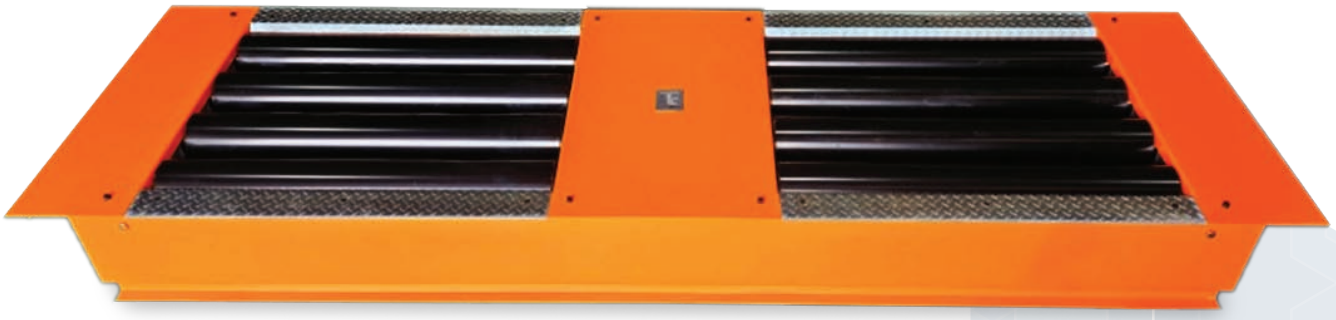
Specification

Product name	Speedometer tester	
Item	QRO-ABS-10	
Max. Axle load	4.5Ton	15 Ton
Measuring range	0~120 Km/h	0~120 Km/h
Roller length	900 mm	1,200 mm
Roller diameter	216 mm	216 mm
Lifting method	Pneumetic/Air spring	Pneumetic/Air spring
Sensor	Encoder	Encoder
Power supply	AC 220V 50/60Hz	AC 220V 50/60Hz

Specifications are subject to change depending on performance and quality.

Bogie roller

It is an idling roller to smoothly perform the braking force test and speedometer test of a vehicle with 2 drive shafts among large trucks.



Product name	Bogie roller
Item	QM-FR
Max. Axle load	15 Ton
Roller quantities	According to customer's demand quantities
Lift air pressure	10 Kgf/㎠
Roller length	1200 mm
Maximum test speed	120 Km/h
Roller diameter	Φ160

Specifications are subject to change depending on performance and quality.

Suspension tester

This equipment is designed to test the performance of suspension when the shock absorber is not separated from motor vehicle.



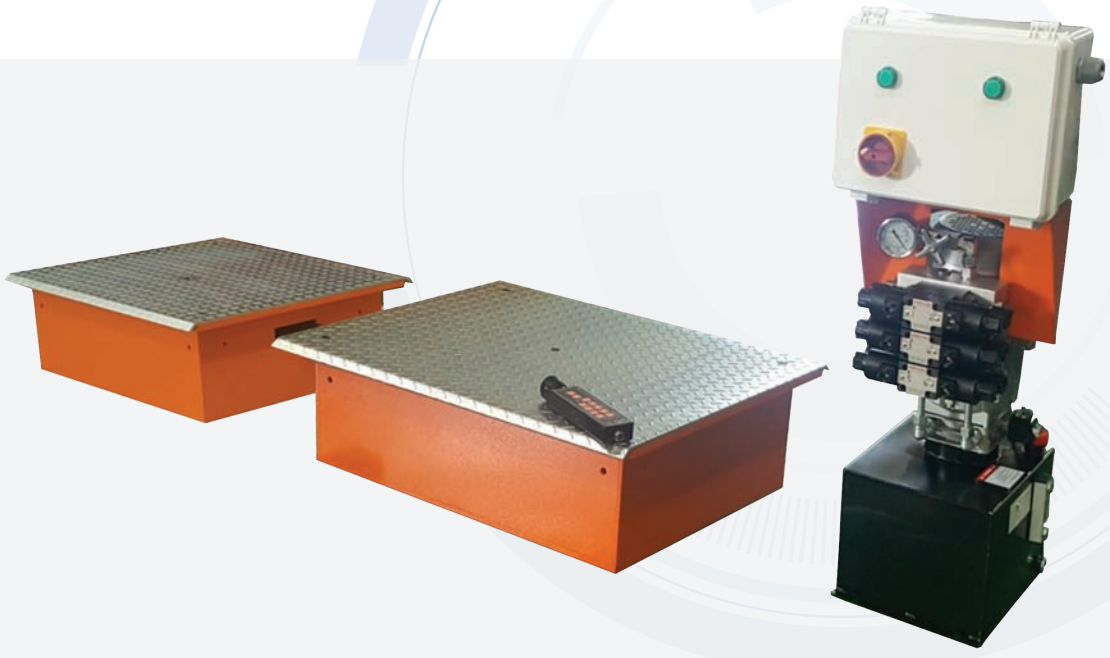
Specification

Product name	Suspension Tester
Item	QM-SUS
Max. load per axle	3,500 Kg
Amplitude	6 mm
Freqency	23 Hz
Dimension	2,390*678*310
Sensor	Load cell
Motor power	2.2Kw x 2
Power supply	AC380V 50/60Hz, 3Phase

Specifications are subject to change depending on performance and quality.

Axle Play Detector

Axle play detector is a device that inspects the wheel,
suspension and steering system of a vehicle by moving the plate by hydraulic power.



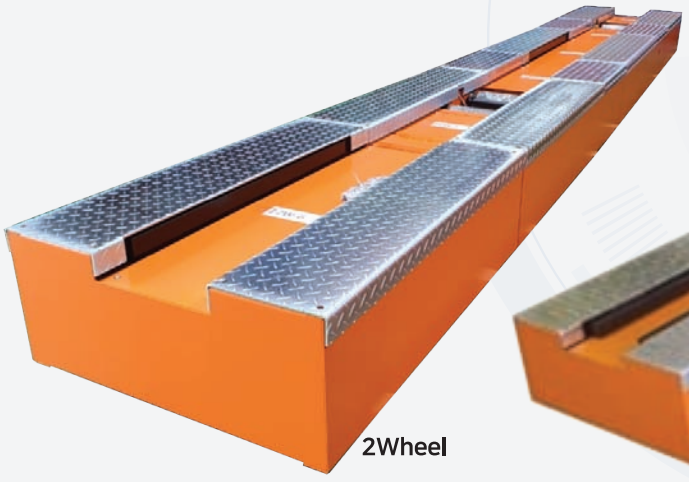
Specification

Product name	Axle Play Detector	
Item	QM-PD	
Max. Axle load	5,000 Kg	15,000 Kg
Movement of the plate	± 50 mm	± 50 mm
Motor power	1.5 Kw	2.2 Kw
Working method	Hydraulic pressure	Hydraulic pressure
Movement direction	4 directions	4 directions
Power supply	AC380V 50/60Hz 3Phase	AC380V 50/60Hz 3Phase

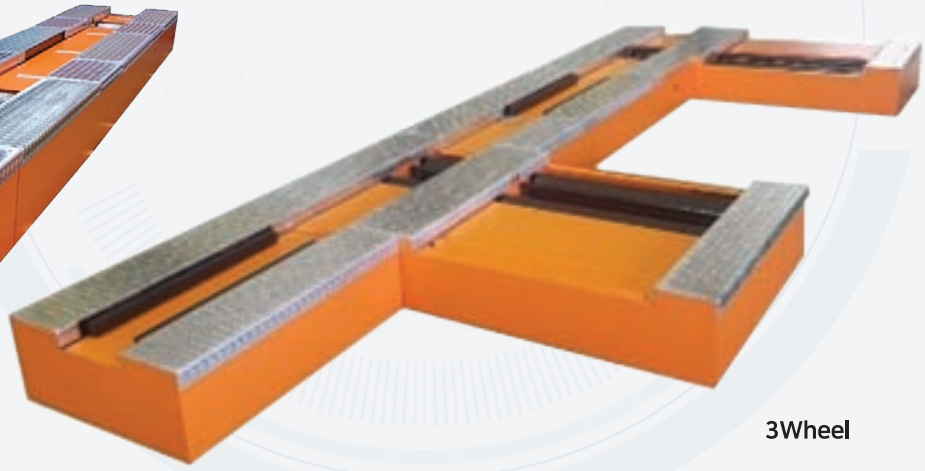
Specifications are subject to change depending on performance and quality.

Motorcycle brake/speedometer tester

This equipment tests the speedometer and braking force of the front and rear wheels for the safety of the motorcycle riders.



2Wheel



3Wheel

Specification

Product name	Motorcycle Tester	
Item	2 Wheel	3 Wheel
Max. Wheel weight	1,000 Kg	1,000 Kg
Brake motor power	1.5kW	1.5kW * 2
Brake testing speed	2 ~ 5 Km/h	2 ~ 5 Km/h
Brake lifting method	Pneumetic/Air cylinder	Pneumetic/Air cylinder
Clamping type	Outside and air cylinder	Outside and air cylinder
Roller surface	Welded or corundum coating	
Roller	Welding and special coating	Welding and special coating
Brake detection sensor	Load cell	Load cell
Motor for testing the front wheel	1.5kW	1.5kW
Speed detection sensor	Encoder	Encoder
Measurement speed	0 ~ 100Km/h	0 ~ 100Km/h
Speed lifting method	Pneumetic/Air cylinder	Pneumetic/Air cylinder
Power supplyT	AC 380V, 50/60Hz	AC 380V, 50/60Hz

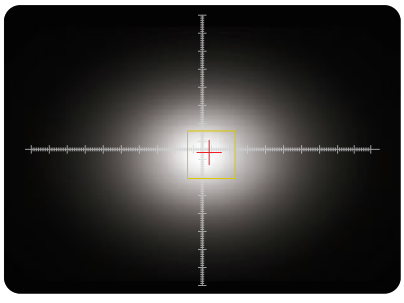
Specifications are subject to change depending on perfor mance and quality.

Headlight tester(Automatic)

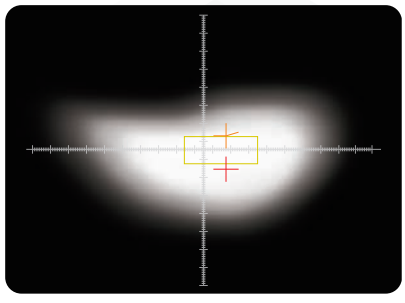
5 million pixel CMOS camera measurement
High beam & low beam measurement
Automatic alignment by camera and photocell
Halogen, xenon, LED measurement of motorcycle and vehicle
Safe inspection by warning light and alarm sound
Automatic pass/fail judgement
Measurement of hot point or cut-off line



[High beam]



[Low beam]



Specification

Item	Headlight Tester
Model	QLT-805A
Measurement method	CMOS camera, Automatic
Measurement items	High beam, low beam(optional)
Measuring distance	1m
Luminous intensity	0 ~ 120,000 cd
Beam angle	Up 0-350mm/10m (0~2 deg) Up : 0-350mm/10m (0~2°) Down : 0-525mm/10m (0~3°) Left : 0-525mm/10m (0~3°) Right : 0-525mm/10m (0~3°)
communication	RS232
Dimension	830 x 750 x 1,600 mm
Weight	95 Kg
Power	AC 220V ± 10%, 50/60Hz

Specifications are subject to change depending on performance and quality.

Exhaust gas analyzer

This analyzer is a equipment to measure the gas emission density of an automobile enabling to diagnose the automobile status and its preventive maintenance so that it can provide a function to prevent the air pollution in advance.

Features

- Outstanding accuracy, stability and durability
- NOx measurement upgradable(option)
- RS232 PC Program
- Display Ramda (λ), AFR
- Built-in printer (Option)
- Display RPM, Oil temperature (Option)



QRO-401



QRO-402

Specification

Product name	Exhaust gas analyzer
Model	QRO-401 / QRO402
Measurement item	CO, HC, CO2, O2, Lamda(λ), AFR NOx(Optional)
Measurement principle	NDIR(Non Dispersive Infra-Red) : CO, HC, CO2 Electrochemical : O2, NOx(optional)
Repeatability	Less than ±2%
Resolution	CO: 0.01%, HC: 1ppm, CO2: 0.1% O2 : 0.01%, λ: 0.001, AFR: 0.1
Response time	Within 10 seconds (over 90%)
Preheating time	2 ~ 8 minutes
Communication	RS232 method
Power	220V / 110V AC 50/60Hz
Weight	About 4.5kg
Dimensions	285(W) x 410(D) x 155(H) mm
Option	Built-in printer, RPM, Oil temperature

Specifications are subject to change depending on performance and quality.

Opacity meter

This opacity meter measures a diesel smoke density of automobile burning diesel as fuel to diagnose the condition of automobile and provide preventive maintenance in order to avoid air pollution.



OPA-102



Cabinet

Features

- Partial flow opacimeter
- Real-time measurement with fast response speed
- Measuring unit and result display unit in one main device
- "Quickly discharge smoke from vehicles with dual fans (to prevent pollution of lenses) "
- Free accelerator and peak hold function installed
- RS232 communication
- Remote controller and built-in thermal printer (Option)
- RPM and oil temperature (Option)

Specification

Product name	Opacity meter			
Model	OPA-102			
Measurement items	Smoke Opacity (%), Smoke Density (m^{-1})			
Measuring principle	Partial flow opacimeter			
Measuring range	Opacity(N)	0.0~100%	Absorption coefficient(K)	0.00~21.42m^{-1}
Resolution		0.10%		0.1
Measuring units	Green LED(565nm), Photodiode, optical length of 215mm			
Preheating time	3~6 minutes			
Power consumption	110V / 220V AC 50/60Hz(about 100W)			
Weight	About 7 Kg			
Dimension	450(W) x 200(D) x 245(425)(H) mm			
Option	Printer, Standard Filter, Remote controller RPM, Oil Temperature			

Specifications are subject to change depending on performance and quality.

RPM meter



Specification

Composition	Contents
Product	SMART RPM METER machine body
RPM Sensor	Sensor of measuring RPM (about 5m)
OIL Temp. Sensor	Sensor of measuring OIL Temp. (about 5m)
Communication	RS232 cable (about 10m: for Gas analyzer/Smoke meter)
Power	DC12V adapter

Technical specifications

Items		Contents	
Product name		Engine RPM & OIL temperature	
Model		SMART RPM METER	
Measuring item		Engine speed (rpm),Engine oil temperature (°C)	
RPM/Oil temp.	range	0 ~ 8,000 rpm / 0~200 °C	
	Resolution	1 rm / 0.1 °C	
RPM measuring method		Vibration Magnetic Sensor method	
Use Temperature Range	0 ~ 50 °C	Power Supply	DC 12V adapter (Input:220V/110V)
Use Humidity Range	30 ~ 90 %	Power Consumption	About 300 mA
Weight (body/set)	0.9 Kg / 1.7Kg	Communication	R$232
Dimensions	185(W) * 120(175)(H) * 45(D) mm		

Specifications are subject to change depending on performance and quality.

Roller brake tester

1



2



3



The air lifting of the brake tester's roller plate moves the wheels up and down to prevent any shock and damages.

Production management







Motorcycle inspection



Motor vehicle inspection



Vehicle Inspection Equipment & System

[Head office] Techno-park 201-906, 388 songnae-daero,
Bucheon-si, Gyeonggi-do, 14502 Korea
Tel: 82-32-621-2451 Fax: 82-32-621-2450
www.qrotech.com
E-mail address : qrotech@qrotech.com

QROTECH
큐로테크주식회사

[Second factory] 37-3, Geomdan-ro 326 beon-gil,
Incheon, 22661 Korea
Tel: 82-32-576-2451 Fax: 82-32-576-2452