

GENERAL CATALOGUE



Ryme 
worldwide



*Automotive and Vehicle Inspection
Equipments*

Ryme 
worldwide

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- Wide range of inspection equipment
- Manufacturers since 1982
- Extensive Technical Service coverage
- Continuous development and design applying the latest technologies
- Online After-Sales Service
- Customer training courses and after-sales service
- Wide and consolidated commercial and distribution networks.



Headquartes in Burgos (Spain)

Online After-Sales Service

The after-sales philosophy is a fundamental part of Ryme's quality policy, which focuses on customer satisfaction. Ryme has created an on-line after-sales service which generates a new communication space and service offer.

Those customers who have an online connection anywhere in the world. They will enjoy services as innovative as:

- Real-time assistance through conference.
- Software update
- Parameter configuration.



Headquartes in Los Angeles (USA)

Certificates and Regulations

ISO 9001:2015 certified company

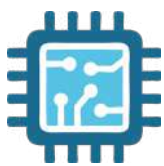
The company has a large R+D+I department with the latest technology and quality assurance.

It complies with the Manual of Procedure for the Inspection of Stations of PTI's.

Optionally, it can be adapted to the corresponding regulations.



Electronics



Latest generation processor

New high-speed processor
Increases the response and process of each in-vehicle test



Connections

Ethernet (TCP-IP) / RS-232 connection on the main board



Modular System

All electronics are expandable.
Specially designed for automotive and vehicle inspection centers

ANTES
AHORA

RAM memory
16 times faster new memory

ANTES
AHORA

Flash memory
New memory 4 times faster

Mechanics



Epoxy paint

Final finish with powder paint that ensures optimal and lasting protection



Perfect Fit Assembly

Mechanical design using Perfect-Fit technology, which guarantees the assembly and the perfect final finish on all our equipment



Electric brake

High performance that ensures reliability and safety in the tests carried out



Strongest Gearmotors

Tested for their durability that ensure optimum performance of them



High adhesion rollers

Roller coating with its own technology, which provides optimum adhesion even in adverse conditions and high durability



Tungsten Carbide Rollers

Rollers with tungsten carbide surface coating that ensures full adherence of the wheels as well as very high wear resistance



High Quality Rollers

Rollers with surface treatment that ensures perfect grip of the wheels even at high speeds

Software



More productive

Repeat partial tests



Safer

Ryme applications can encrypt your data, ... making a system more secure and reliable



More Intuitive

Incorporation of graphic icons. Ryme apps share the same menus.



Online Assistance

Possibility of remote connection of our technicians with their equipment
Check conditions



More Reliable and Accurate

Improvement in the main board calibration process
Allows adjustment of weighing and force calibration to very precise values.



More Compatible

Compatibility with more than 95% of the current database management systems, ORACLE, SQL SERVER, Postgre, SQLite, etc.
Compatibility with 32 and 64 Bit OS and with Android, Windows ...

PLAY DETECTORS

The ELECTRO-HYDRAULIC control unit is used to check the condition of the axles of 3,500 kg MMA light vehicles. It allows to observe the possible wear and tear caused by them.

Two test plates installed on the floor at ground level are guided in their longitudinal and transversal movements by the switches mounted on the hand lamp.

The latest technologies have been used to create this equipment, allowing a maximum accuracy in finish, achieving a strong machine with excellent appearance and with silent and precise functioning.

Standard Equipment

- 1 electro-hydraulic play detector with 4 movements
- 1 electro-hydraulic play detector with 2 movements
- Hydraulic group
- Electric box
- Wired control torch

Technical Data

Maximum axle load	4 Tn.
Motor	2,2 Kw
Voltage	400 V. 50 Hz.
Thermal Protector	10 A
Protection Fuse	3 A
LED Lamp	12 V / 6 W
Tank capacity hydraulic unit	15 L. SAE-10 oil
Hydraulic Pump	15 L. /minute
Power force	12.500 N
Max. Side movement	100 mm.
Stroke speed	26 cm / s
Wired lamp operation and control	

Operation Electro Hydraulic

Max load per axle **4 Tn.**

Motor **2,2 Kw**

Hydraulic Pump **15 l. / minute**

Mechanics



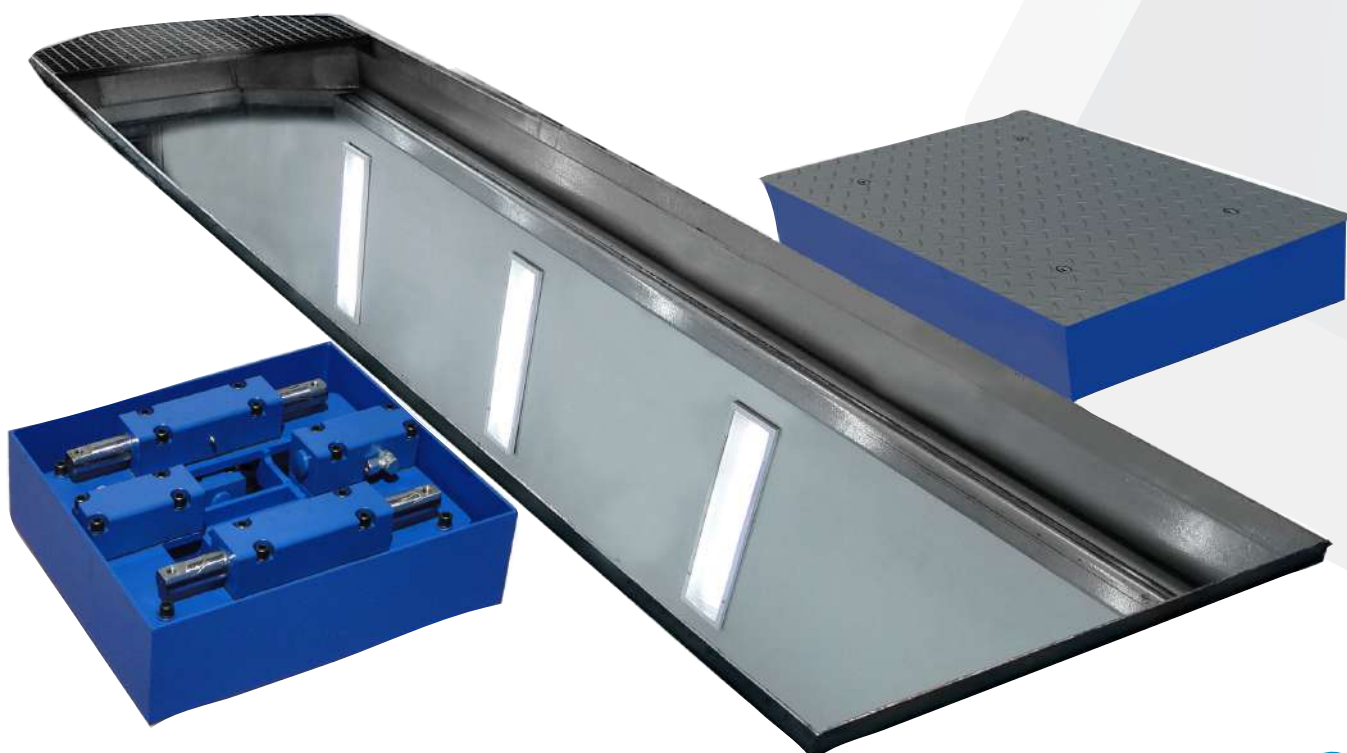
Epoxy Paint

Powder-coated finish ensures optimal and long-lasting protection



Perfect Fit Assembly

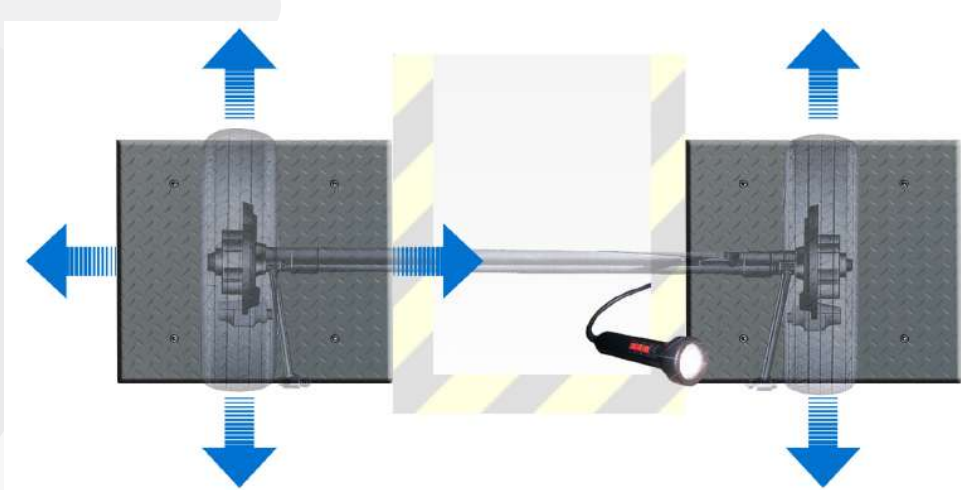
Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



Dimensions

Plate Dimensions	650 x 650 x 160 mm.
Packed equipment dimensions	1.150 x 845 x 930 mm.
Plate weight (unit)	132 Kg
Packed equipment weight	295 Kg

Longitudinal and transverse movement of the left plate and longitudinal movement of the right plate



Optional Equipment



DHL-PGH Hydraulic group desk
Dimensions: 420 x 550 x 1.460 mm.
Weight 92 Kg



DHL-230 Power supply 230 V. Threephasic
DH-LI Wireless control LED flashlight with rechar-geable lithium battery.

CIM-DHL-01 Civil work frame
GEN-40LRH 40 m. hydraulic hose assemblies and fittings

Debido a la continua evolución de nuestros productos, las características técnicas y de diseño podrían estar sujetas a modificaciones, sin previo aviso.

The ELECTRO-HYDRAULIC inspection equipment is used to check the condition of the axles of light vehicles of MMA 3,500 kg. It allows to observe the possible wear and play caused by them.

Two test plates installed on the floor at ground level are guided in their transverse movements by the switches mounted on the hand lamp.

The latest technologies have been used to create this equipment, allowing a maximum accuracy in finish, achieving a strong machine with excellent appearance and with silent and precise functioning.

The TOTAL DHL includes four movements per plate with a single control knob.

Operation Electro Hydraulic

Max load per axle 4 Tn.

Motor 2,2 Kw

Hydraulic Pump 15 l. / minute

Standard Equipment

- 2 electro-hydraulic play detectors with 4 movements
- Hydraulic group
- Electric box
- Wired control torch

Technical Data

Maximum axle load	4 Tn.
Motor	2,2 Kw
Voltage	230 V. 50 Hz.
Thermal Protector	10 A
Protection Fuse	3 A
LED Lamp	12 V / 6 W
Tank capacity hydraulic unit	15 L. SAE-10 oil
Hydraulic Pump	15 L. / minute
Power force	12.500 N
Max. Side movement	100 mm.
Stroke speed	26 cm / s
Wired lamp operation and control	

Mechanics



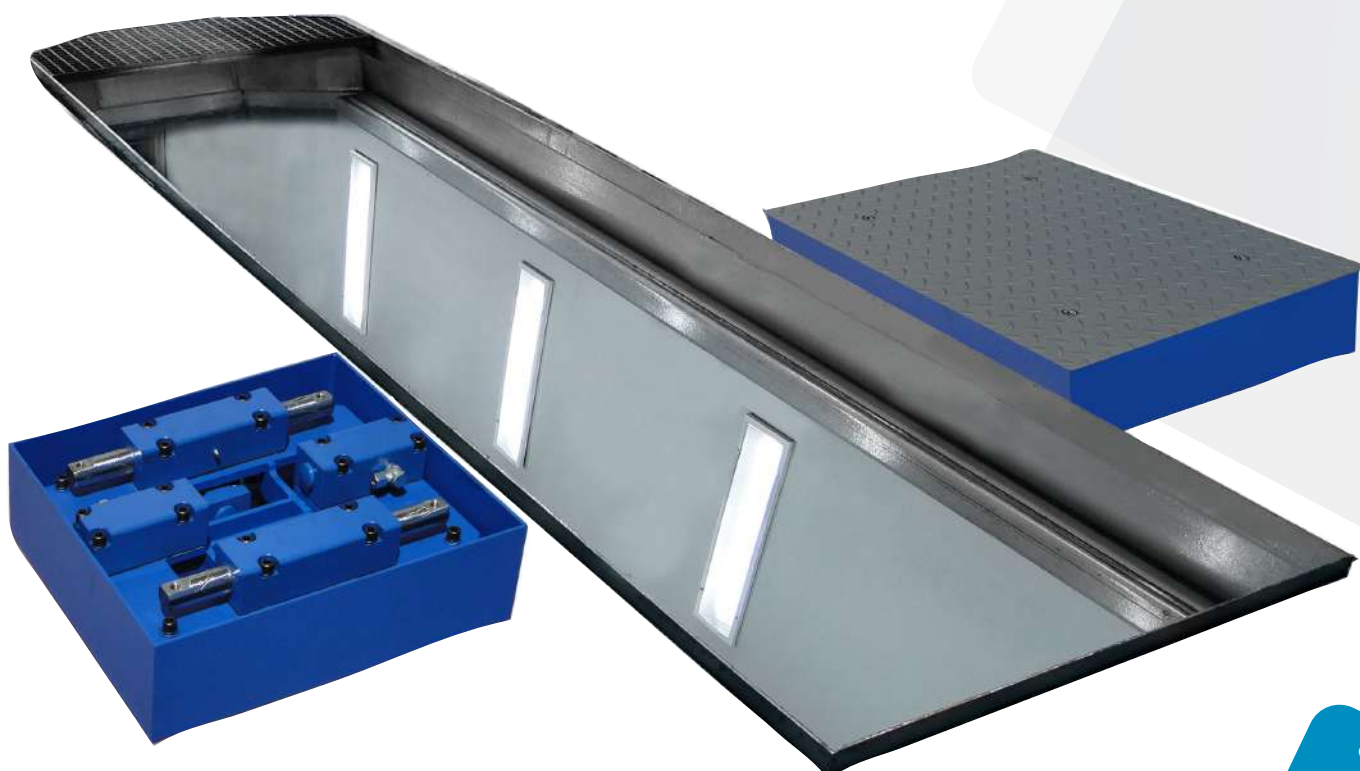
Epoxy Paint

Powder-coated finish ensures optimal and long-lasting protection



Perfect Fit Assembly

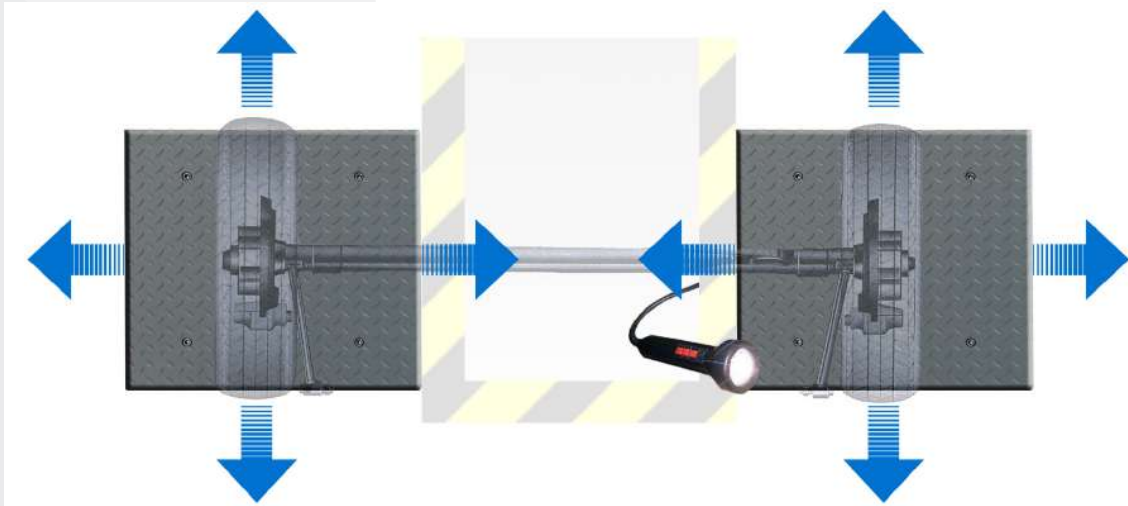
Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



Dimensions

Plate Dimensions	650 x 650 x 160 mm.
Packed equipment dimensions	1.150 x 845 x 930 mm.
Plate weight (unit)	132 Kg
Packed equipment weight	295 Kg

Longitudinal and transversal movement in both plates



Optional Equipment



DHL-PGH
Pupitre Hydraulic group
Dimensions: 420 x 550 x 1.460 mm.
Weight 92 Kg



DHL-230
DH-LI
Power supply 230 V. Threephasic
Wireless control LED flashlight with rechar-geable lithium battery.

DHL-BOC
GEN-40LRH
Civil work frame
40 m. hydraulic hose assemblies and fittings

Debido a la continua evolución de nuestros productos, las características técnicas y de diseño podrían estar sujetas a modificaciones, sin previo aviso.

The ELECTRO-PNEUMATIC control device is used for checking the condition of the axles of 3,500 kg MMA light vehicles. It allows to observe the possible wear and tear caused by them.

The check plates installed on the floor at ground level are guided in their transverse movements with the switches mounted on the hand lamp.

The latest technologies have been used to create the equipment, thus adding maximum precision in its finish, achieving a robust machine with excellent aesthetics, quiet and precise Operation.

Operation **Electro Pneumatic**

Max load per axle **2 Tn.**

Pneumatic Pressure (min./max) **7/12 Bar**

Standard Equipment

- 2 electro-pneumatic play detectors with 4 movements
- Electric box
- Wired control torch
- Civil work frame

Technical Data

Maximum axle load	2 Tn.
Voltage	230 V. - 50 Hz
Protection Fuse	3 A
LED Lamp	12 V / 6 W
Pneumatic Pressure (Min / Max)	7 / 12 bar
Minimum air flow	250 L. / minute
Power force	2.500 N
Max. Side movement	50 mm.
Wired lamp operation and control	
Longitudinal and transverse movement of both plates	

Mechanics



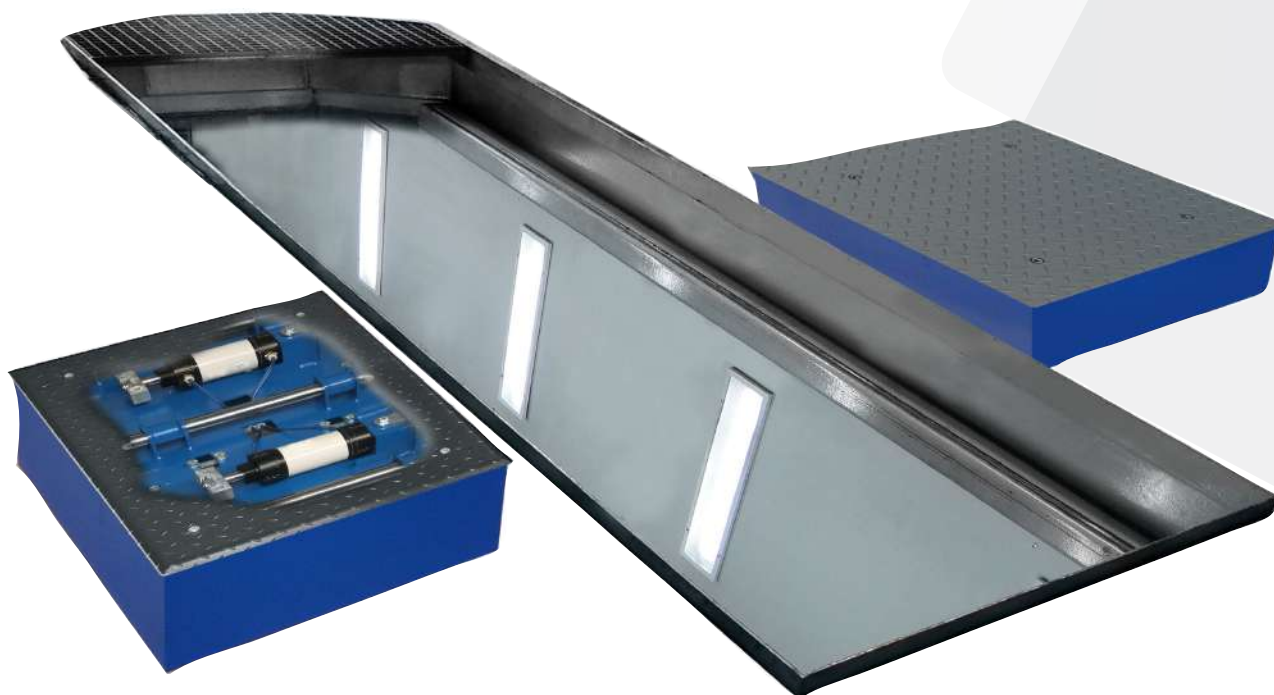
Epoxy Paint

Powder-coated finish ensures optimal and long-lasting protection



Perfect Fit Assembly

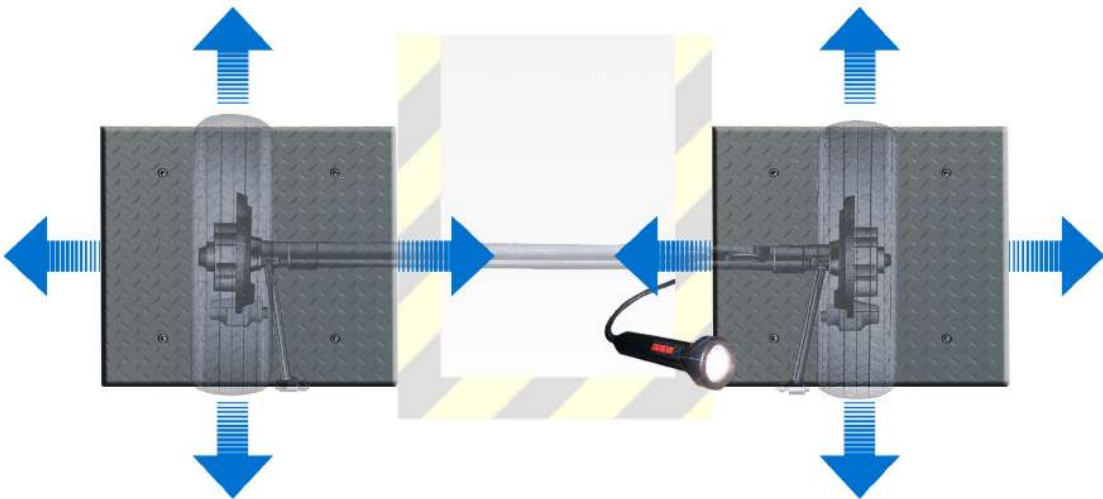
Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



Dimensions

Plate Dimensions	965 x 670 x 213 mm.
Packed equipment dimensions	980 x 710 x 450 mm.
Plate weight (unit)	105 Kg
Packed equipment weight	240 Kg

Longitudinal, transverse movement on both plates



Optional Equipment



DH-LI

Wireless control LED flashlight with rechargeable lithium battery.

DLJ5N-BOC

Civil work frame

GEN-40MNR

40 m. hydraulic hose assemblies and fittings

Debido a la continua evolución de nuestros productos, las características técnicas y de diseño podrían estar sujetas a modificaciones, sin previo aviso.

The PNEUMATIC play detector DLJ5-N has been designed to check the condition of the axle components of light vehicles with an MMA of 3,500 kg, for wear, breakage or play that occurs during the life of the vehicle.

The most advanced technologies have been used to produce the play detectors, that give the strength, durability and reliability equipment, and a flawless finish.

The play detector four plates is a smart composition of the classic two plates detector, since these are located such that all battles and gauges cover any light vehicle, and thus is possible to carry the test performing a unique placement. This reduces test time by almost half.

Operation

Electro
Pneumatic

Max load
per axle

2 Tn.

Pneumatic
Pressure
(min./max)

7/12
Bar

Standard Equipment

- 4 electro-pneumatic play detectors with 4 movements
- Electric box
- Wired control torch
- Civil work frame

Technical Data

Maximum axle load	2 Tn.
Voltage	230 v - 50 Hz
Protection Fuse	2 x 3 A
LED Lamp	12 V / 6 W
Nominal pressure	8 bar
Pneumatic Pressure (Min / Max)	7 / 12 bar
Minimum air flow	250 l / minute
Power force	2.500 N
Max. Side movement	50 mm.
Longitudinal and transversal movement in both plates	
Operation and control from a flashlight	

Mechanics



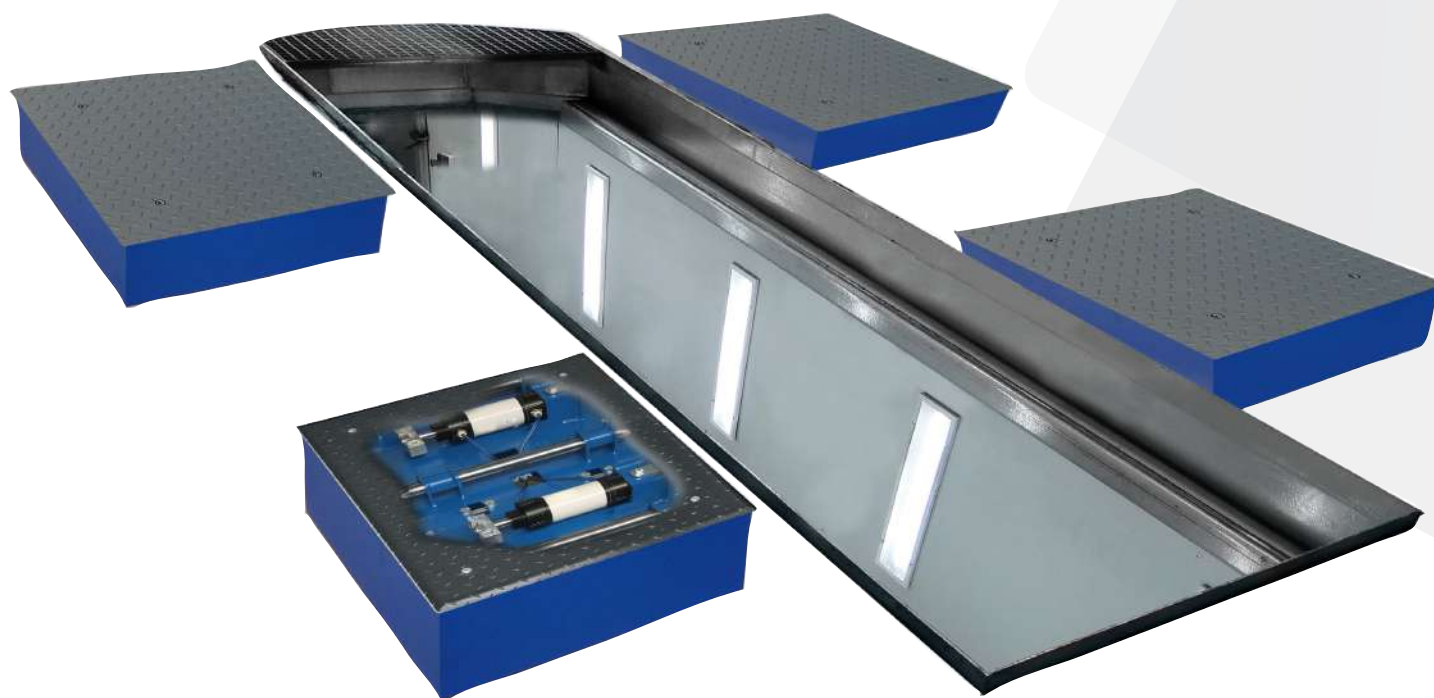
Epoxy Paint

Powder-coated finish ensures optimal and long-lasting protection



Perfect Fit Assembly

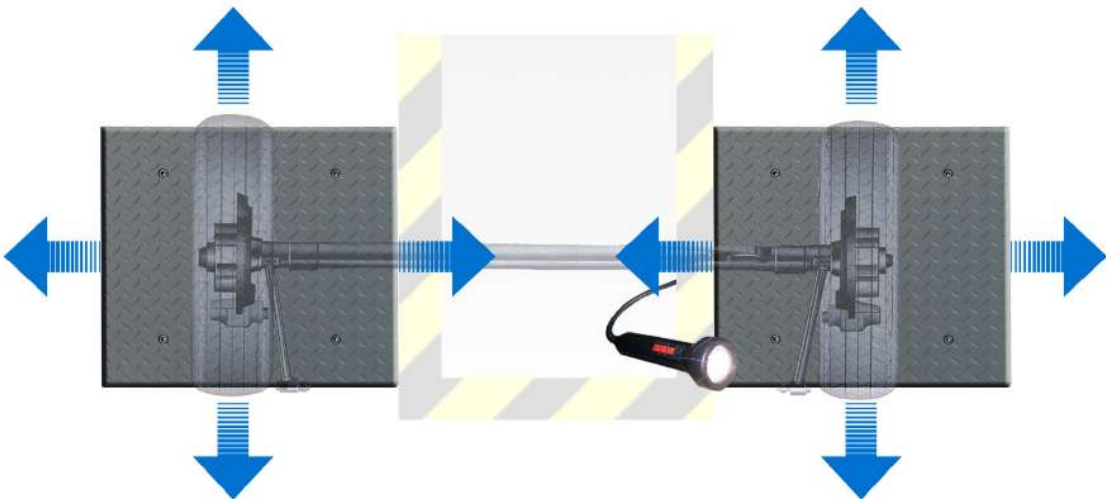
Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



Dimensions

Plate Dimensions	965 x 670 x 213 mm.
Packed equipment dimensions	980 x 710 x 450 mm.
Plate weight (unit)	105 Kg
Packed equipment weight	450 Kg

Longitudinal and transverse movement on all plates



Optional Equipment



DH-LI Wireless control LED flashlight with rechargeable lithium battery.

DLJ5N-BOC	Civil work frame
GEN-40MNR	40 m. hydraulic hose assemblies and fittings

Debido a la continua evolución de nuestros productos, las características técnicas y de diseño podrían estar sujetas a modificaciones, sin previo aviso.

The ELECTRO-HYDRAULIC control device is used to check the condition of the axles of 3,500 kg MMA light vehicles. It allows to observe the possible wear and tear caused by them.

Four test plates installed on the floor level at the same level, are guided in their movements forward or lateral / cross with switches on the hand torch.

The latest technologies have been used to create this equipment, allowing a maximum accuracy in finish, achieving a strong machine with excellent appearance and with silent and precise functioning.

It includes four movements per plate with a one single remote control

It includes an additional set of plates for moving the second axis in order to check the two axes without moving the vehicle. The equipment is governed by a single hydraulic unit for the whole plate.

Operation	Electro Hydraulic
Max load per axle	4 Tn.
Motor	2,2 Kw
Hydraulic Pump	15 l. / minute

Standard Equipment

- 4 electro-hydraulic play detectors with 4 movements
- Hydraulic group
- Electric box
- Wired control torch

Technical Data

Maximum axle load	4 Tn.
Motor	2,2 Kw
Voltage	400 V. 50 Hz.
Thermal Protector	10 A
Protection Fuse	3 A
LED Lamp	12 V / 6 W
Tank capacity hydraulic unit	15 L. SAE-10 oil
Hydraulic Pump	12 L / minute
Power force	12.500 N
Max. Side movement	100 mm.
Stroke speed	26 cm / s
Wired lamp operation and control	

Mechanics

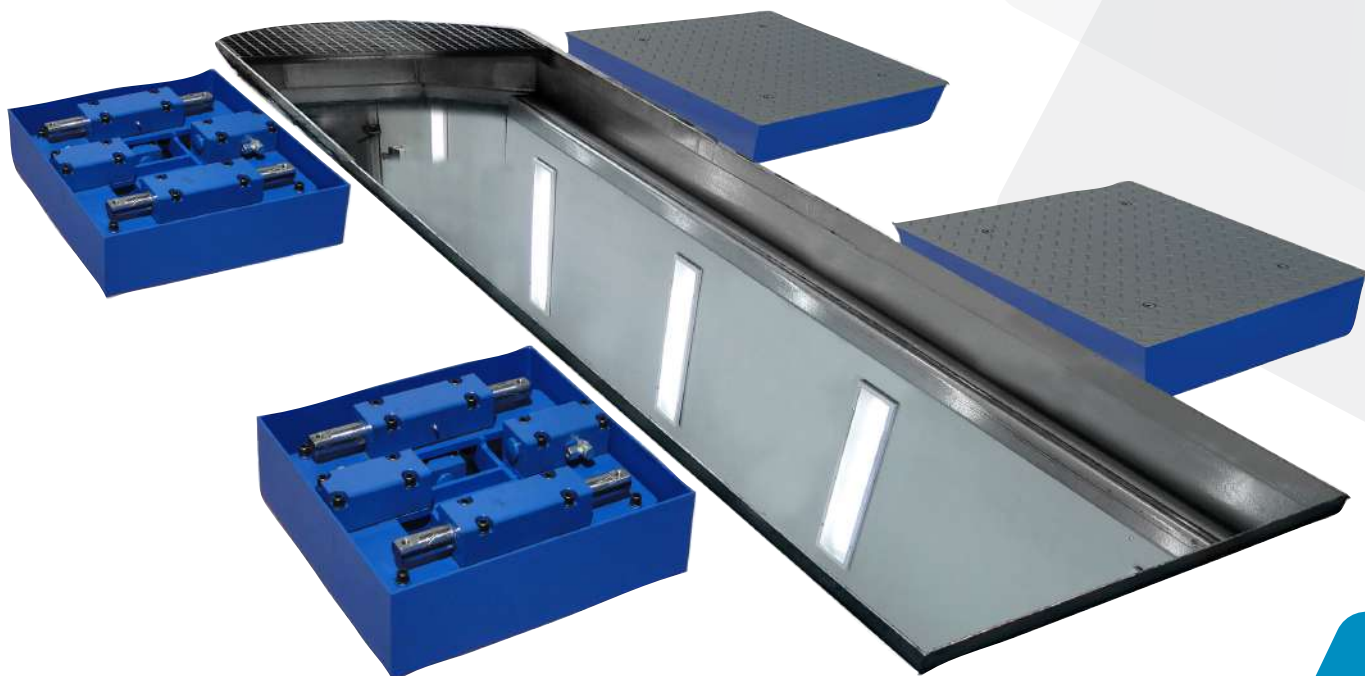


Epoxy Paint

Powder-coated finish ensures optimal and long-lasting protection

Perfect Fit Assembly

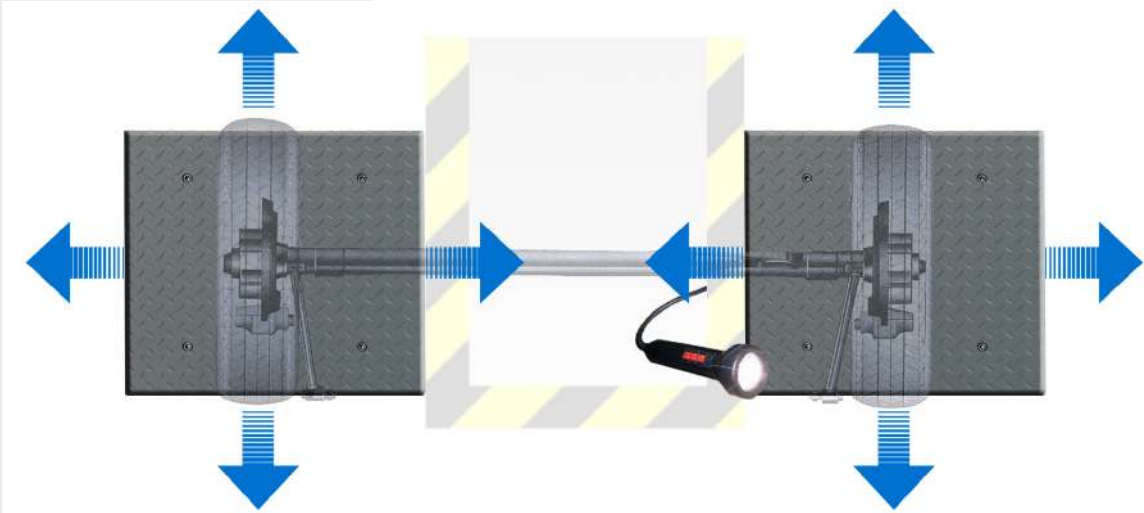
Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



Dimensions

Plate Dimensions	900 x 650 x 160 m m.
Packed equipment dimensions	(2) 1.280 x 980 x 980 mm.
Plate weight (unit)	160 Kg
Packed equipment weight	710 Kg

Longitudinal and transversal movement in all plates



Optional Equipment



DHL-PGH
Pupitre Hydraulic group
Dimensions: 420 x 550 x 1.460 mm.
Weight 92 Kg



DHL-230
Power supply 230 V. Threephasic
DHL-LI
Wireless control LED flashlight with rechar-
geable lithium battery.

DHL-BOC
Civil work frame
GEN-40LRH
40 m. hydraulic hose assemblies and fittings

Debido a la continua evolución de nuestros productos, las características técnicas y de diseño podrían estar sujetas a modificaciones, sin previo aviso.

The ELECTRO-HYDRAULIC control unit is suitable for testing the condition of axles of vehicles and their components. The device allows you to detect possible wears and plays on the axles.

The two testing plates which are installed at floor level in parallel are controlled by switches on the hand torch for forward / backward on sideway movements.

The latest technologies have been used to create this equipment, allowing a maximum accuracy in finish, achieving a strong machine with excellent appearance and with silent and precise functioning.

Standard Equipment

- 1 electro-hydraulic play detector with 4 movements
- 1 electro-hydraulic play detector with 2 movements
- Hydraulic group
- Electric box
- Wired control torch

Technical Data

Maximum axle load	18 Tn.
Motor	2,2 Kw
Voltage	400 V. 50 Hz.
Thermal Protector	10 A
Protection Fuse	3 A
LED Lamp	12 V / 6 W
Tank capacity hydraulic unit	15 L. SAE-10 oil
Hydraulic Pump	15 L. / minute
Power force	30.000 N
Max. Side movement	95 mm.
Stroke speed	12,75 cm / s
Wired lamp operation and control	

Operation

Electro Hydraulic

Max load
per axle

18 Tn

Motor

2,2 Kw

Hydraulic
Pump

15 l. / minute

Mechanics



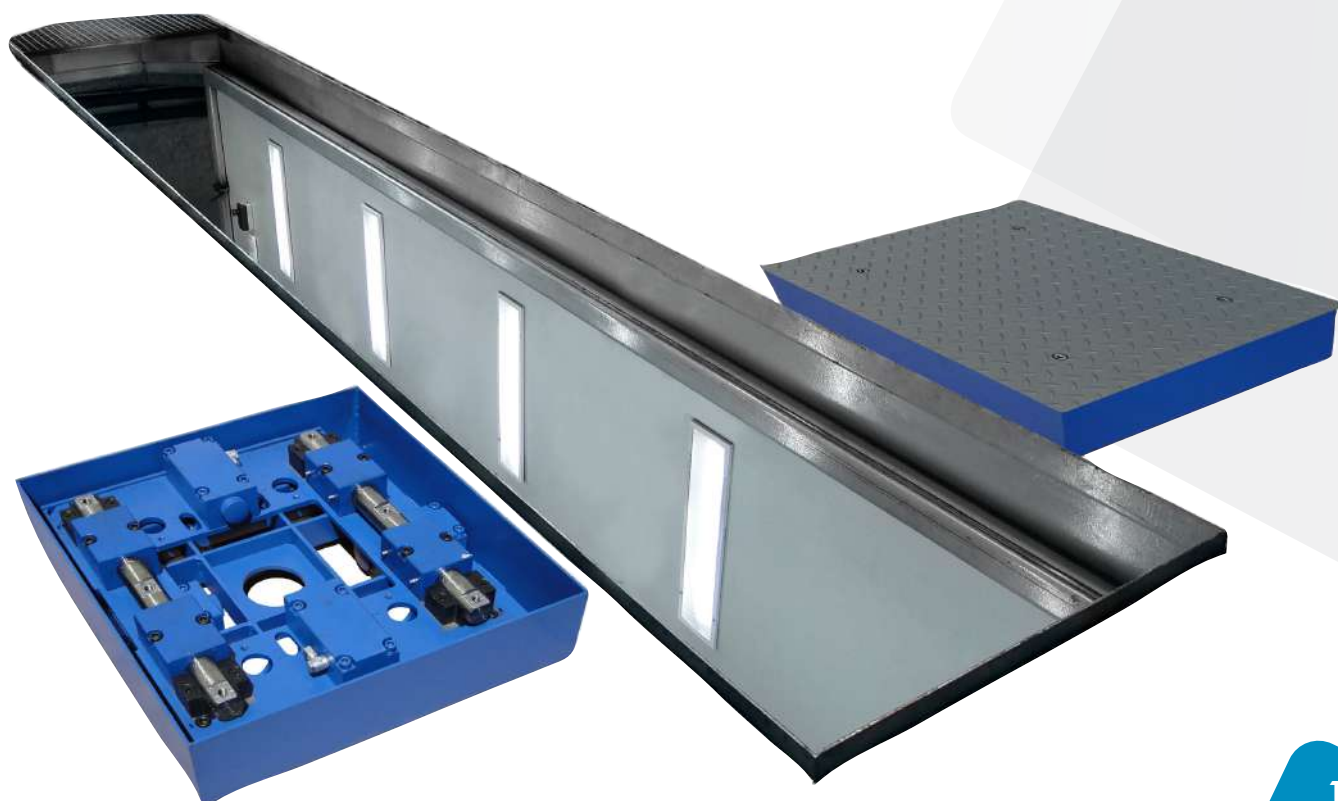
Epoxy Paint

Powder-coated finish ensures optimal and long-lasting protection



Perfect Fit Assembly

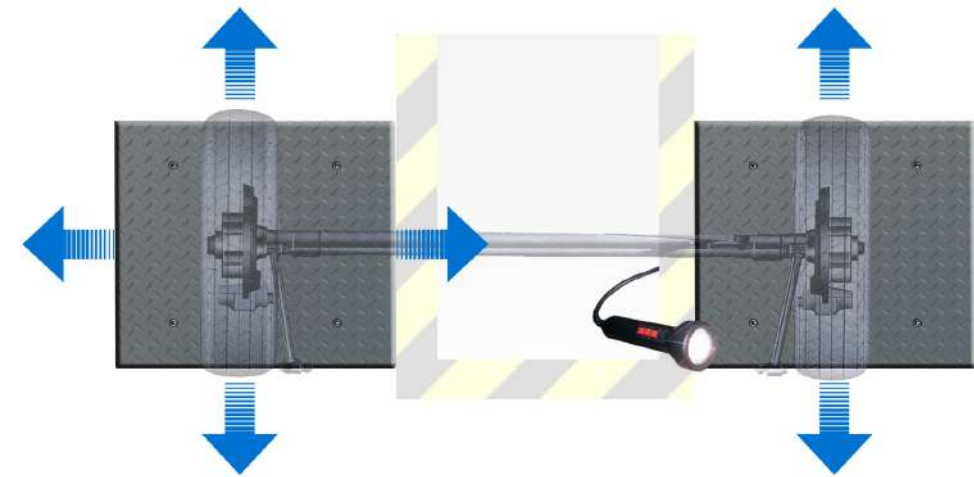
Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



Dimensions

Plate Dimensions	820 x 820 x 196 mm.
Packed equipment dimensions	1.280 x 1.000 x 980 mm.
Plate weight (unit)	290 Kg
Packed equipment weight	660 Kg

Longitudinal and transverse movement of the left plate and longitudinal movement in the right plate



Optional Equipment



DHL-PGH
Pupitre Hydraulic group
Dimensions: 420 x 550 x 1.460 mm.
Weight 92 Kg



DHL-230
DH-LI
Power supply 230 V. Threephasic
Wireless control LED flashlight with rechargeable lithium battery.

DHL-BOC
GEN-40LRH
Civil work frame
40 m. hydraulic hose assemblies and fittings

Debido a la continua evolución de nuestros productos, las características técnicas y de diseño podrían estar sujetas a modificaciones, sin previo aviso.

The ELECTRO-HYDRAULIC control device is used to check the condition of vehicle axles and their components. It allows to observe the possible wear and tear and the play caused by them

Four test plates installed on the floor at ground level are guided in their transverse movements with the switches mounted on the hand lamp.

The latest technologies have been used to create this equipment, allowing a maximum accuracy in finish, achieving a strong machine with excellent appearance and with silent and precise functioning.

Includes four movements per plate with a single remote control

Operation	Electro Hydraulic
Max load per axle	18 Tn
Motor	2,2 Kw
Hydraulic Pump	15 l. / minute

Standard Equipment

- 2 Electro hydraulic play detectors with 4 movements
- Hydraulic group
- Electric box
- Wired control torch

Technical Data

Maximum axle load	18 Tn.
Motor	2,2 Kw
Voltage	400 V. 50 Hz.
Thermal Protector	10 A
Protection Fuse	3 A
LED Lamp	12 V / 6 W
Tank capacity hydraulic unit	15 L. SAE-10 oil
Hydraulic Pump	15 L. / minute
Power force	30.000 N
Max. Side movement	95 mm.
Stroke speed	12,75 cm / s
Wired lamp operation and control	

Mechanics

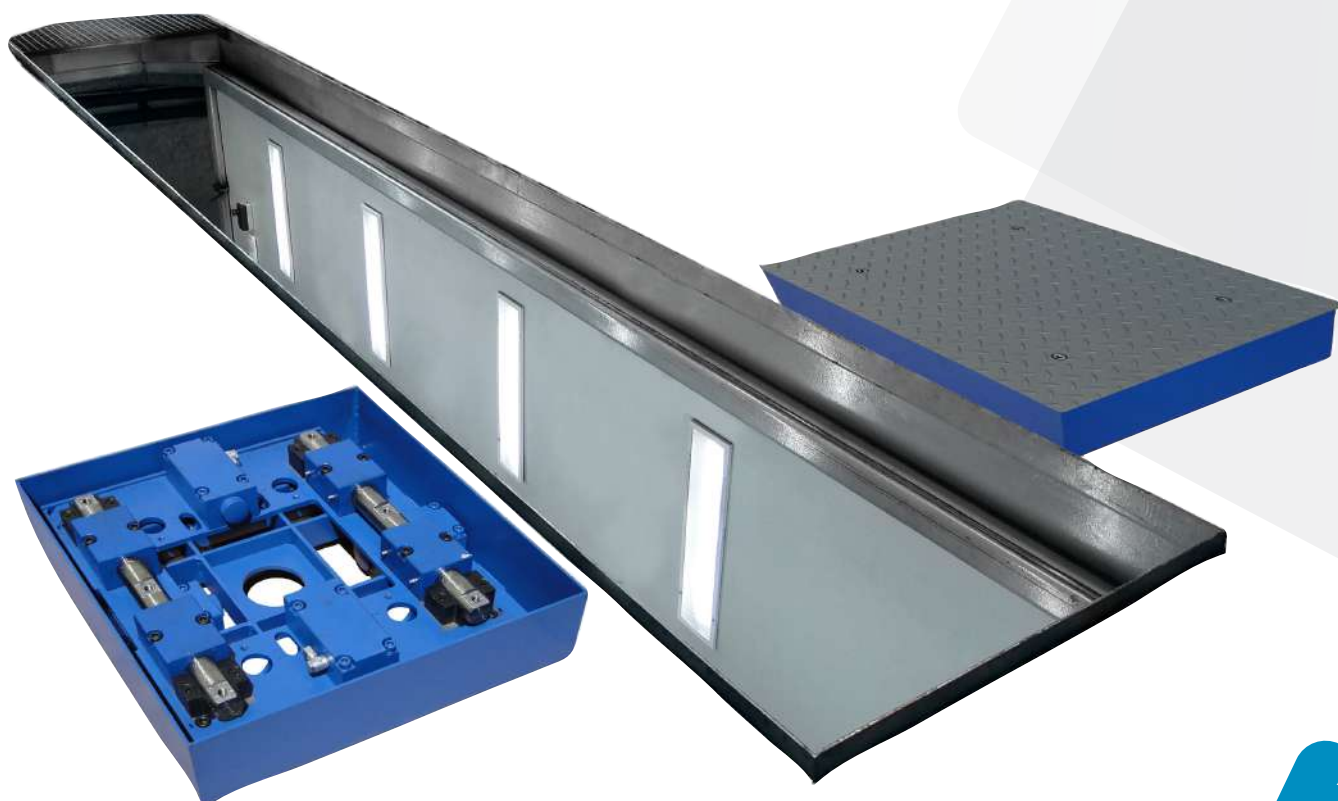


Epoxy Paint

Powder-coated finish ensures optimal and long-lasting protection

Perfect Fit Assembly

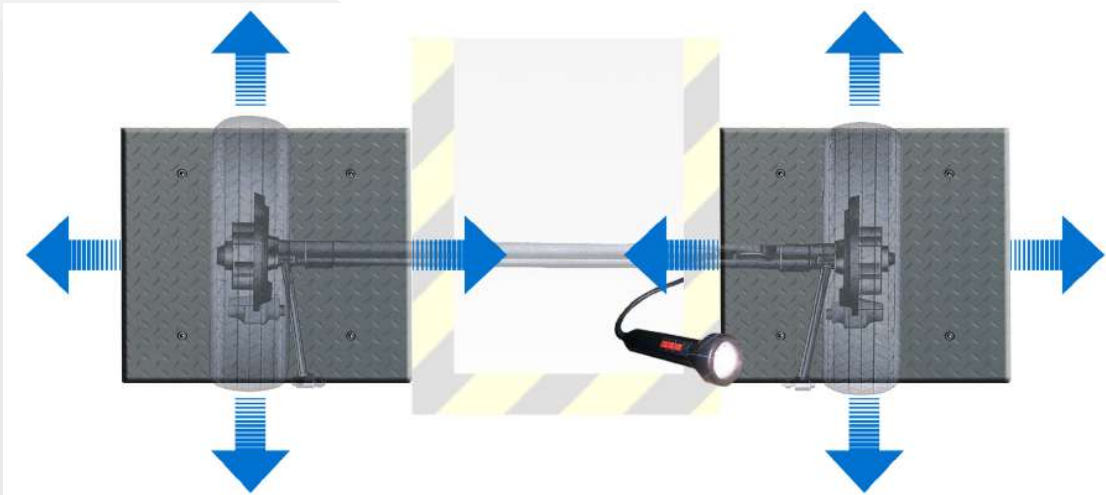
Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



Dimensions

Plate Dimensions	820 x 820 x 196 mm.
Packed equipment dimensions	1.280 x 1.000 x 980 mm.
Plate weight (unit)	290 kg
Packed equipment weight	640 kg

Longitudinal, transverse movement on both plates



Optional Equipment



DHL-PGH
Pupitre Hydraulic group
Dimensions: 420 x 550 x 1.460 mm.
Weight 92 Kg



DHL-230
DH-LI
Power supply 230 V. Threephasic
Wireless control LED flashlight with rechargeable lithium battery.

DHL-BOC
GEN-40LRH
Civil work frame
40 m. hydraulic hose assemblies and fittings

Debido a la continua evolución de nuestros productos, las características técnicas y de diseño podrían estar sujetas a modificaciones, sin previo aviso.

The ELECTRO-HYDRAULIC control device is used to check the condition of vehicle axles and their components. It allows to observe the possible wear and tear and the play caused by them

Four test plates installed on the floor at ground level are guided in their transverse movements with the switches mounted on the hand lamp.

The latest technologies have been used to create this equipment, allowing a maximum accuracy in finish, achieving a strong machine with excellent appearance and with silent and precise functioning.

Includes four movements per plate with a single remote control

Operation **Electro Hydraulic**

Max load per axle **18 Tn**

Motor **2,2 Kw**

Hydraulic Pump **15 l. / minute**

Standard Equipment

- 4 Electro hydraulic play detectors with 4 movements
- Hydraulic group
- Electric box
- Wired control torch

Technical Data

Maximum axle load	18 Tn.
Motores	2,2 Kw
Voltage	400 V. 50 Hz.
Thermal Protector	10 A
Protection Fuse	3 A
LED Lamp	12 V / 6 W
Tank capacity hydraulic unit	15 l. SAE-10 oil
Hydraulic Pump	15 l / minute
Power force	30.000 N
Max. Side movement	95 mm.
Stroke speed	12,75 cm / s
Wired lamp operation and control	

Mechanics



Epoxy Paint

Powder-coated finish ensures optimal and long-lasting protection

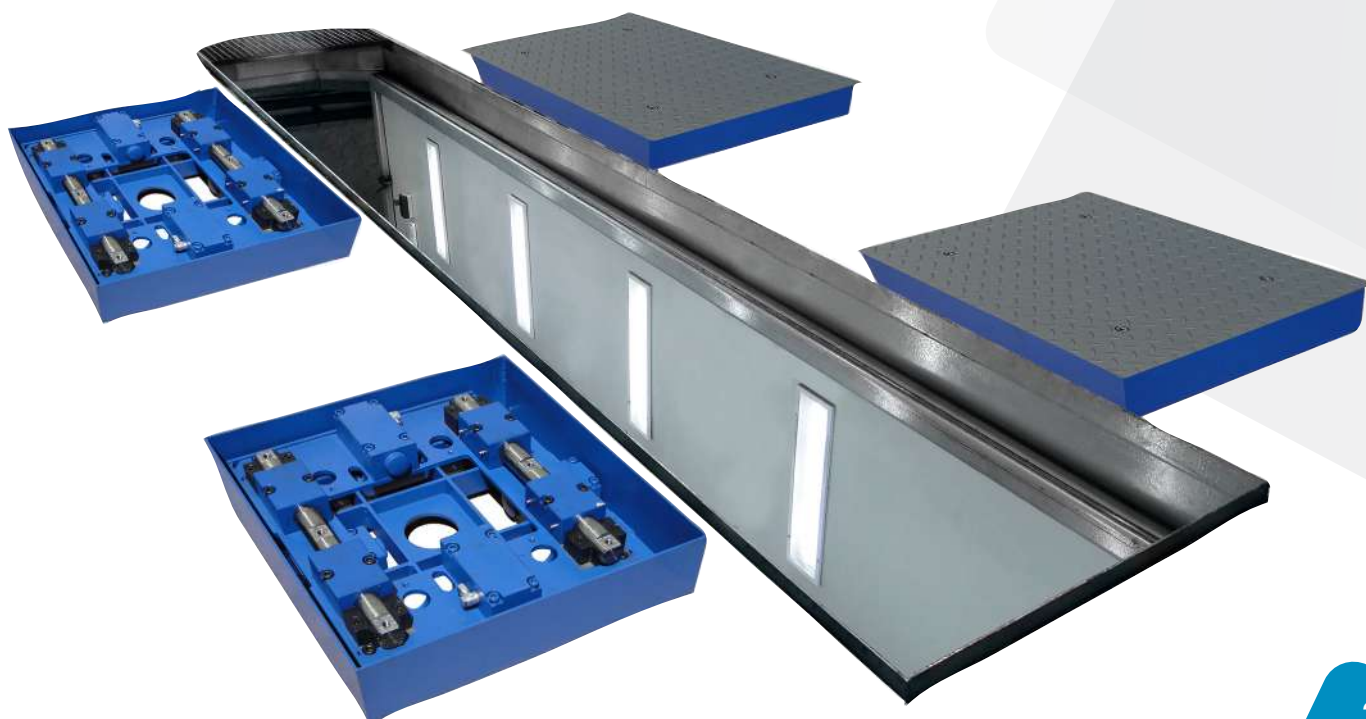


Perfect Fit Assembly

Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment

It includes an additional set of plates for the movement of the second axle in order to check both axles without moving the vehicle. The equipment is governed by a single Hydraulic unit for the whole set of plates.

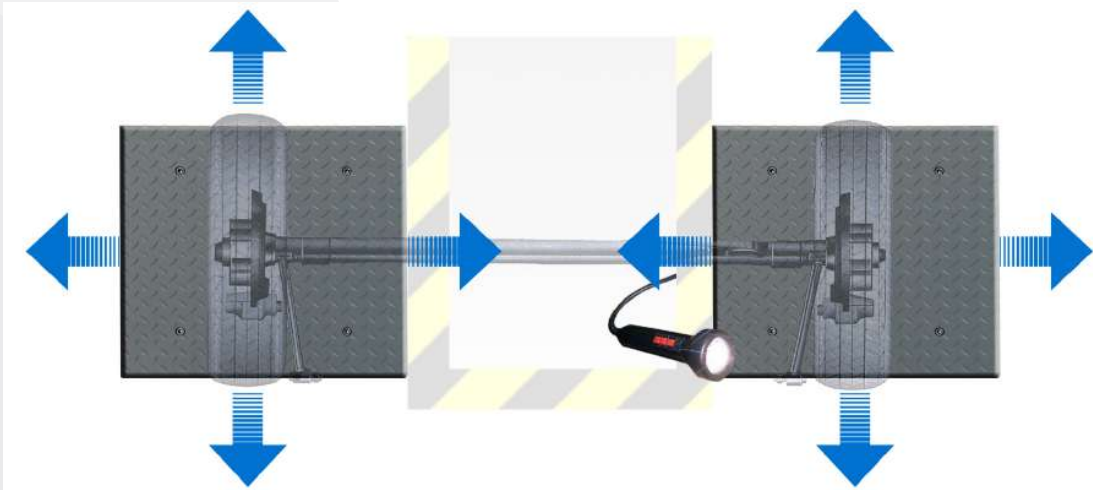
* As long as the wheelbase matches the distance between the plates



Dimensions

Plate Dimensions	820 x 820 x 196 mm.
Packed equipment dimensions	1.280 x 1.100 x 980 mm.
Plate weight (unit)	290 Kg
Packed equipment weight	1.260 Kg

Longitudinal, transverse movement on both plates



Optional Equipment



DHL-PGH
Pupitre Hydraulic group
Dimensions: 420 x 550 x 1.460 mm.
Weight 92 Kg



DHL-230
DH-LI
Power supply 230 V. Threephasic
Wireless control LED flashlight with rechar-
geable lithium battery.

DHL-BOC
GEN-40LRH
Civil work frame
80m. hydraulic hose assemblies and fittings

Debido a la continua evolución de nuestros productos, las características técnicas y de diseño podrían estar sujetas a modificaciones, sin previo aviso.

The ELECTRO-HYDRAULIC control device is suitable for checking the axles of agricultural vehicles and their components, of the possible wear and tear and the play caused by it.

The test plates installed on the floor at ground level, is guided in its movements by the switches mounted on the lamp handheld.

The latest technologies have been used to create the equipment, adding the maximum precision in its finish, achieving a Robust machine with excellent aesthetics, quiet operation and precise.

Supplied in two independent plates, extensible connecting beam and access ramps for easy assembly and disassembly.

Standard Equipment

- Hydraulic play detector with transversal and longitudinal movement
- Hydraulic group
- Electric box
- Coupling hoses
- Wired control torch

Technical Data

Maximum axle load	3 Tn.
Motor	5,5 CV.
Voltage	230 V.
Max. Side movement	100 mm.
Cylinder Thrust Force	7.000 N
Working pressure	70 bars

Operation **Electro Hydraulic**

Max load per axle **3 Tn.**

Motor **5,5 Cv.**

Mechanics



Epoxy Paint

Powder-coated finish ensures optimal and long-lasting protection

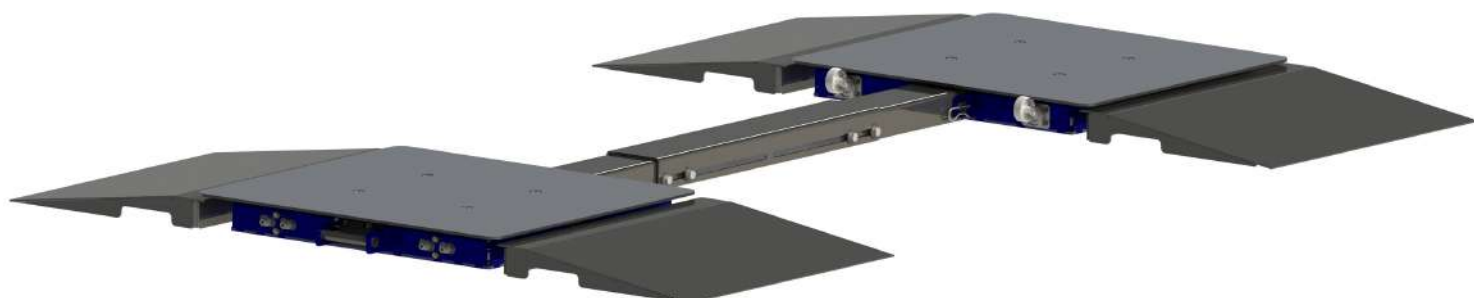


Perfect Fit Assembly

Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



Scan the QR code and view the video



Dimensions

Dimensions del Hydraulic group	500 x 660 x 1.000 mm.
Plate Dimensions	700 x 650 x 72 mm.
Packed equipment dimensions	850 x 750 x 350 mm.
Weight del Hydraulic group	100 Kg
Plate weight (unit)	69,5 Kg
Packed equipment weight	290 Kg



Optional Equipment



DHA-GH

Hydraulic jack for agricultural vehicles.
Lifting power: 5 Tn. Travel: 250 mm.
Operated by means of a torch wired.



DH-LI

Wireless control LED flashlight with rechargeable lithium battery.

GEN-80LRH

80 m. hydraulic hose assemblies and fittings

Debido a la continua evolución de nuestros productos, las características técnicas y de diseño podrían estar sujetas a modificaciones, sin previo aviso.

The RY-LIFT is an electro-hydraulic scissor lift specially designed for alignment, with a capacity of 5,000 kg. and a length of 5 meters. The alignment plates can be placed in three different positions to adapt to the wheelbase of the vehicles.

Four check plates installed on the lift and adapted to RD920/2017. The four check plates are guided in their transverse movements by switches mounted on the hand lamp. It includes four movements per plate with a single control knob.

Latest technologies have been used to create the equipment, thus adding maximum precision in its finishing, achieving a robust machine with excellent aesthetics, silent and precise operation. It includes a second pair of plates to watch both axes without moving the vehicle.

Rise/Down time **65/70 seconds**

Max. load per axle **5 Tn.**

Motor **2,6 Kw**

Hydraulic pump **15 l. / minute**

Equipamiento Estándar

- 4 electro-hydraulic play detectors with 4 movements
- Hydraulic group
- Electric box
- Scissor lift
- Wired control torch

Datos Técnicos DH

Max load per axle	4 Tn.
Motors	2,6 Kw
Voltage	230 V. 50 Hz.
Thermal fuse	10 A
Protection fuse	3 A
LED lamp	12 V / 6 W
Hydraulic unit tank capacity	15 l. oil SAE-10
Hydraulic pump	12 l / minute
Max thrust force	12.500 N
Displacement per side	105 mm.
Travel speed	26 cm / s
Drive and control in lamp with cable	

Datos Técnicos elevador

Max load per axle	5 Tn.
Motors	2,6 Kw
Voltage	380 V / 2,6 kw
Lift max height	2,16 m.
Lift min height	0,29 m.
Auxiliary elevator height	0,45 m.
Platform length	5,00 m.
Overall width	2,20 m.
Length of access ramps	1,35 m.
Lifting time	65 s.
Weight	2.690 kg.

Mechanics



Epoxy Paint

Powder-coated finish ensures optimal and long-lasting protection



Perfect Fit Assembly

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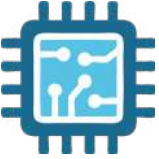
SIDE SLIP ALIGNER

The Side Slip Aligners make a quick and efficient verification of the geometry of the front and rear axles of the different vehicles checked.


Thanks to a very intuitive software we can observe the deviation detected by each axis in m/km, indicating at the same time, by means of graphic figures, if the mentioned deviation has been in positive (convergent) or negative (divergent) sense, as well as if the readings made are correct and within the margins adaptable to the current regulations of each country, and which are recorded in the configuration of the application.

The operation and testing process of the system is extremely simple, as only one of the wheels of the vehicle needs to pass over the measuring plate, for the application to store and display the data for the various axles of the vehicle being tested (up to a maximum of ten axles, steered only, per vehicle).


Electronics




Latest generation processor
New high-speed processor
Increase the response and process
of each vehicle test




Connections
Ethernet (TCP-IP) / RS-232 connection
on the main board



RAM memory
New memory 16 times faster



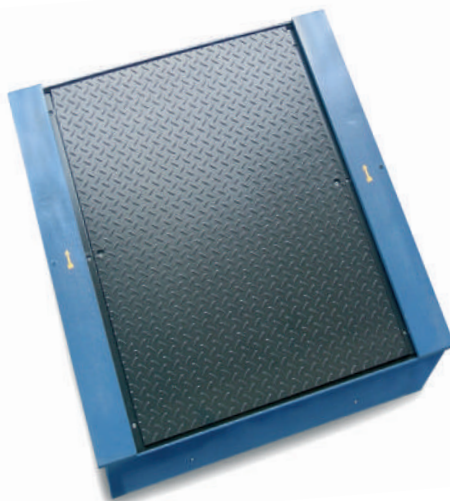
Flash Memory
New memory 4 times faster



Modular System
All electronics are expandable.
Specially designed for automotive and
vehicle inspection centers

Standard Equipment

- Side slip tester bench
- Control cabinet
- Software and electronic control
- Test control through remote control



Máx. Weight

2 Tn.


Range of measurement

0,1 m / km


Test speed

5-10 km / h

Mechanics



Epoxy Paint
Powder-coated finish ensures optimal and long-lasting protection



Perfect Fit Assembly
Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



Software

- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Intuitive, simple and fast configuration software
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Self test of auto-zero in the beginning of each test
- Very intuitive control software guided by graphic icons
- Graphical and numerical display of results
- Automatic test
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests.
- Translation module which the user will be able to translate the program into his own language or modify any sentence or word on it.
- Customized advertising on screen
- Digital measurement indication with error less than 1% of full scale.
- Memorization up to 10 axles
- Communication USB / RS232 / Ethernet (TCP-IP) Protocol



Software



More Productive

Repetition of partial tests



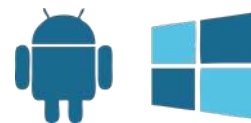
Safer

Ryme application can encrypt data, make them safer



More Intuitive

Incorporation of graphic icons. RYME applications share the same menus..



More Compatible

Compatibility with more than 95% of the database management systems on the market today, ORACLE, SQL SERVER, Postgre, SQLite, etc. OS support for 32 and 64 Bits and with Android, Windows...



Online support

Possibility of remote connection from our technicians with your equipment
Consult conditions



More Reliable & Precise

Improvement in the process of calibrating the main board Allows the adjustment of the weighing and force calibration to very precise values.



Software adaptations

Possibility of analysis and study, under budget, for adaptation to new regulations in any region and/or country



Technical Data



Step speed	5-10 km/h
Maximum axle step weight	2 Tn.
Range	-20 y 20 mm / m
Range of measurement	0,1 m. / km
Voltage Monophase	230 V - 50 Hz
3 valuation levels	A) m / km (max. 20 m / km) B) Degrees and minutes C) Diagnosis
Visualization on screen	Convergent, divergent y correct

Dimensions



Bench dimensions	998 x 646 x 98 mm.
Packed bench dimensions	1.200 x 780 x 110 mm.
Bench weight	128 Kg
Packed bench weight	180 Kg
Cabinet dimensions	720 x 420 x 1850 mm.
Packed cabinet dimensions	800 x 600 x 1.580 mm.
Cabinet weight	55 Kg
Packed cabinet weight	80 Kg

Optional Equipment


	Multi-function wireless device, keyboard, mouse and remote control
GEN-EIN	Computer equipment
GEN-IMP	Printer
GEN-TD	Data display terminal
GEN-STD	Second Data display terminal
	GEN-EST Voltage Stabilizer

	AL-CAL	Calibration kit
	AL-BOC	Civil work frame
	GEN-SSA	Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Other versions

	AL-INT	Mechanical frame and control equipment for integration into existing Ryme equipment * Consult Ryme integration compatibility table.
	AL-KIT	Electronic box with software and mechanical frames Dimensions of the electronic box: 600 x 600 x 300 mm.

Optional cabinet

	GEN-MCP	PREMIUM CABINET Cabinet only Dimensions: 730 x 600 x 1.800 mm.
--	---------	---

The Side Slip Aligners make a quick and efficient verification of the geometry of the front and rear axles of the different vehicles checked.

Thanks to a very intuitive software we can observe the deviation detected by each axis in m/km, indicating at the same time, by means of graphic figures, if the mentioned deviation has been in positive (convergent) or negative (divergent) sense, as well as if the readings made are correct and within the margins adaptable to the current regulations of each country, and which are recorded in the configuration of the application.

The operation and testing process of the system is extremely simple, as only one of the wheels of the vehicle needs to pass over the measuring plate, for the application to store and display the data for the various axles of the vehicle being tested (up to a maximum of ten axles, steered only, per vehicle).

Max
weight

20 Tn.

Range of
measurement

0,1
m./km.

Speed
of test

5-10
km / h

Mechanics



Epoxy Paint

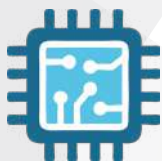
Powder-coated finish ensures optimal and long-lasting protection



Perfect Fit Assembly

Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment

Electronics



Latest generation processor

New high-speed processor
Increase the response and process
of each vehicle test

ANTES
AHORA

RAM memory

New memory 16 times faster



Connections

Ethernet (TCP-IP) / RS-232 connection
on the main board

ANTES
AHORA

Flash Memory

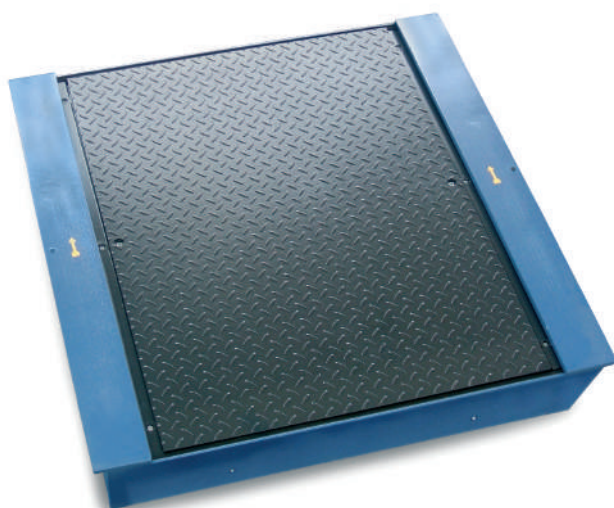
New memory 4 times faster

Modular System

All electronics are expandable.
Specially designed for automotive and
vehicle inspection centers

Standard Equipment

- Side slip tester bench
- Control cabinet
- Software and electronic control
- Test control through remote control



Software

- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Intuitive, simple and fast configuration software
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Self test of auto-zero in the beginning of each test
- Very intuitive control software guided by graphic icons
- Graphical and numerical display of results
- Automatic test
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests.
- Translation module which the user will be able to translate the program into his own language or modify any sentence or word on it.
- Customized advertising on screen
- Digital measurement indication with error less than 1% of full scale.
- Memorization up to 10 axles
- Communication USB / RS232 / Ethernet (TCP-IP) Protocol



Software adaptations

Possibility of analysis and study, under budget, for adaptation to new regulations in any region and/or country

Technical Data

Step speed	5 - 10 km/h.
Maximum axle step weight	Up to 20 Tn.
Range	-20 y 20 mm / m
Range of measurement	0,1 m/km
Voltage Monophase	220 V 50 Hz
3 valuation levels	A) m/km (máx. 20 m /km) B) Degrees and minutes C) Diagnosis
Visualization on screen	Convergent, divergent, correct

Software



More Productive
Repetition of partial tests



Safer
Ryme application can encrypt data, make them safer



More Intuitive
Incorporation of graphic icons. RYME applications share the same menus..



More Compatible
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Online support
Possibility of remote connection from our technicians with your equipment
Consult conditions



More Reliable & Precise
Improvement in the process of calibrating the main board Allows the adjustment of the weighing and force calibration to very precise values.

Dimensions

Bench dimensions	1.015 x 1.000 x 130 mm.
Packed bench dimensions	1.300 x 1.200 x 160 mm.
Bench weight	260 Kg
Packed bench weight	300 Kg
Cabinet dimensions	720 x 420 x 1.850 mm.
Packed cabinet dimensions	800 x 600 x 1.580 mm.
Cabinet weight	55 Kg
Packed cabinet weight	80 Kg

Optional Equipment



Multi-function wireless device, key-board, mouse and remote control

GEN-EIN Computer equipment

GEN-IMP Printer

GEN-TD Data display terminal

GEN-STD Second Data display terminal

GEN-EST Voltage Stabilizer



AU-CAL Calibration kit



AU-BOC Civil work frame



GEN-SSA Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Other versions



AU-INT Mechanical frame and control equipment for integration into existing Ryme equipment
* Consult Ryme integration compatibility table.



AU-KIT Electronic box with software and mechanical frames
Dimensions of the electronic box: 600 x 600 x 300 mm.

Optional cabinet



GEN-MCP **PREMIUM CABINET**
Cabinet only
Dimensions:
730 x 600 x 1.800 mm.

BRAKETESTERS

The RYME Brake Tester is a very suitable system for checking the state of the brakes of motorbikes allowing loads up to 1000 Kg. The measurement of the braking force is obtained from an electric signal produced by an extensimetric gauge to the data acquisition system driven by a micro-processor. The braking force is measured by means of strain gauges.

The system consists of a frame with a roller coated in weld or synthetic fiber which assures a good adherence of the tyres even in adverse conditions. The frame includes safety systems which detect the presence of the motorbike during all the test, and the adherence of the tyres during measurement.

The most significant measures obtained are:

- Measurement of the braking force in the hand and foot brake
- Rolling resistance
- Ovality and weight measurement
- Pedal effort (hand clip and dynamometric pedal)
- Braking efficiency
- Getting reports with test, graphics and numerical constants

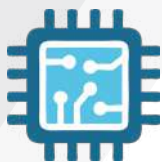
Max load per axle **1 Tn.**

Motor **4,6 Kw.**

Minimum wheel diameter **10''**



Electronics



Latest generation processor

New high-speed processor
Increase the response and process
of each vehicle test

ANTES
AHORA



RAM memory

New memory 16 times faster



Connections

Ethernet (TCP-IP) / RS-232 connection
on the main board

ANTES
AHORA



Flash Memory

New memory 4 times faster

Modular System

All electronics are expandable.
Specially designed for automotive and
vehicle inspection centers



Standard Equipment

- Brake roller bench
- Rollers coated in welded steel or synthetic fiber
- Control cabinet
- Electronic control & software
- Remote control for test control

Software

- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Intuitive, simple and fast configuration software
- Graphical and numerical display of results
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Self test of auto-zero in the beginning of each test
- Very intuitive control software guided by graphic icons
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests.
- Translation module which the user will be able to translate the program into his own language or modify any sentence or word on it.
- Customized advertising on screen
- Test control by remote control
- Retention, and possibility of repetition of data until next vehicle test
- Possibility of automatic or manual start and stop
- Automatic auto-check
- Strain gauge measurement system
- Measurement display with error less than 1%.
- Communication USB / RS232 / Ethernet (TCP-IP) Protocol



Software



More Productive

Repetition of partial tests



Safer

Ryme application can encrypt data, make them safer



More Intuitive

Incorporation of graphic icons. RYME applications share the same menus...



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Online support

Possibility of remote connection from our technicians with your equipment

Consult conditions



More Reliable & Precise

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Software adaptations

Possibility of analysis and study, under budget, for adaptation to new regulations in any region and/or country

Mechanics



Epoxy Paint

Powder-coated finish ensures optimal and long-lasting protection



Perfect Fit Assembly

Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



High adherence rollers

Roller coating with our own technology, which provides optimal adhesion even in adverse conditions and high durability



Strongest Gearmotors

Tested for durability to ensure optimum performance

Technical Data

Maximum load per step	1.000 Kg
Electric motor power	4,6 kW
Test Speed	5,5 Kw / h
Voltage	400 V. 50 Hz. Threephasic
Protection Fuse	3 x 16 A
Thermal Protector	1 x 12,5 A
Minimum wheel diameter	10"
Roll diameter	202 mm.



Length of the rollers	440 mm.
Useful length of the rollers welded steel / Synthetic fiber	410 / 410 mm.
Distance between rollers	400 mm.
Friction coefficient	0,9 dry 0,7 wet
Maximum braking force	3.500 N
Range of measurement	10 N

Dimensions

Bench dimensions	1.255 x 680 x 285 mm.
Bench dimensions packed	1.390 x 830 x 510 mm.
Bench weight	230 Kg
Equipment weight packed	250 Kg

Cabinet dimensions	720 x 420 x 1.850 mm.
Packed cabinet dimensions	800 x 600 x 1.580 mm.
Cabinet weight	55 Kg
Packed cabinet weight	80 Kg

Optional Equipment


	Multi-function wireless device, keyboard, mouse and remote control
GEN-EIN	Computer equipment
GEN-IMP	Printer
GEN-TD	Data display terminal
GEN-STD	Second Data display terminal
GEN-EST	Voltage Stabilizer
FRM-SA	Delayed static retarder 400 V.
FRM-SA230	Delayed static retarder 230 V.
GEN-230	Power supply 230 V. Threephasic
GEN-60HZ	Power supply 60 Hz
FRM-BAS	Scale for weighing mopeds (4 cells)
 GEN-DPR	Pedal dynamometer with wireless PC communication. Includes wireless receiver and software
 FRM-DMR	Wireless handheld dynamometer

FRM-FM	Self-locking rollers for easy exit
 GEN-SRA	Automatic front clamp for wheel fixing
 GEN-PNS	Pneumatic front wheel clamp 800 x 1.040 x 90 mm. *Requires cabinet GEN-MC2
 GEN-PES6	Calibration weight 6 kg
 GEN-PES10	Calibration weight 10 kg
 GEN-PES30	Calibration weight 30 kg
 GEN-PAL2	Calibration lever
FRM-BOC	Civil work frame
 GEN-SSA	Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Other versions

 FRL-KIT	Electronic box with software and mechanical frames Dimensions of the electronic box: 600 x 600 x 210 mm.
---	---

Other Cabinet

 GEN-MC	PREMIUM CABINET Cabinet Dimensions 730 x 600 x 1.800 mm.
--	---

Ryme Portable Brake Tester for motorcycles is a modular and detachable device suitable for motorcycle and mopeds up to 125 cc. brake system inspections "in situ".

The measurement of the braking force is obtained from the electrical signal that provides a strain gauge to the strain gauge acquisition system data governed by a microprocessor.

The system consists of two synthetic fiber rollers on a frame to which a motor is attached independently.

In this way it is possible to operate the equipment in a modular way for transport and installation to the place of use. In addition the frame includes safety systems for the protection of the tyre.

The most significant information obtained from the control of computer are:

- Front, rear and handbrake force
- Rolling resistance
- Measurement of ovality
- Braking performance

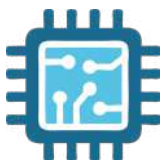
PATENTED

Max load per axle **400 kg**

Motor **1,1 Kw.**

Minimum wheel diameter **10''**

Electronics



Latest generation processor
New high-speed processor
Increase the response and process of each vehicle test



RAM memory
New memory 16 times faster



Connections
Ethernet (TCP-IP) / RS-232 connection on the main board



Flash Memory
New memory 4 times faster

Modular System
All electronics are expandable.
Specially designed for automotive and vehicle inspection centers



Standard Equipment

- Brake roller bench
- Synthetic fiber rollers
- Control cabinet & software in an electronic box
- Aluminium accessing ramps
- Footrest to facilitate the test performance
- Remote control for test control



Software

- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Intuitive, simple and fast configuration software
- Graphical and numerical display of results
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Self test of auto-zero in the beginning of each test
- Very intuitive control software guided by graphic icons
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests.
- Translation module which the user will be able to translate the program into his own language or modify any sentence or word on it.
- Customized advertising on screen
- Retention, and possibility of repetition of data until next vehicle test
- Possibility of automatic or manual start and stop
- Strain gauge measurement system
- Measurement display with error less than 1%.
- Communication USB / RS232 / Ethernet (TCP-IP) Protocol

Software



More Productive

Repetition of partial tests



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Roller coating with our own technology, which provides optimal adhesion even in adverse conditions and high durability



Strongest Gearmotors

Tested for durability to ensure optimum performance

Technical Data

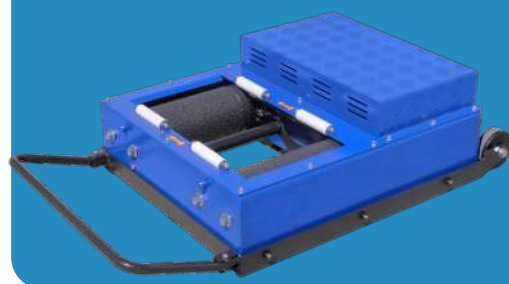
Maximum axle load	400 Kg
Electric motor power	1,1 kW
Test Speed	3 km / h
Voltage	400 V. 50 Hz. Three-phase
Protection Fuse	3 x 10 A
Thermal Protector	10 A
Minimum wheel diameter	10"

Roll diameter	122 mm.
Length of the rollers	260 mm.
Useful length of the rollers	240 mm.
Distance between rollers	362 mm.
Friction coefficient	0,9 dry 0,7 wet
Maximum braking force	3.000 N
Range of measurement	10 N

Dimensions


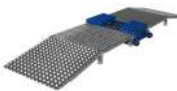

Dimensions of the installed equipment	2.003 x 1.100 x 275 mm.
Packed equipment dimensions	800 x 600 x 900 mm.
Bench weight	80 Kg
Ramp weight (unit)	13 Kg
Packed equipment weight	120 kg
Electric box dimensions	400 x 210 x 500 mm.

Frame installed on trolley for easy transport




Optional Equipment

	Multi-function wireless device, keyboard, mouse and remote control
GEN-EIN	Computer equipment
GEN-IMP	Printer
GEN-TD	Data display terminal
	GEN-EST Voltage Stabilizer
GEN-STD	Second Data display terminal
FRMP-SA	Delayed static retarder
FRMP-SA230	Delayed static retarder 230 V.
GEN-230	Power supply 230 V. Three-phase
GEN-230M	Power Supply 230 V. Monophase
GEN-60HZ	Power supply 60 Hz
	FRM-BAS Scale for weighing mopeds (3 cells)
GEN-DPR	Pedal dynamometer with wireless PC communication. Includes wireless receiver and software

	FRMP-DMR	Wireless handheld dynamometer
	GEN-SRA	Automatic front clamp for wheel fixing
	FRMP-SPP	Aluminium platform to facilitate the performance
	GEN-PES6	Calibration weight 6 kg
	GEN-PES10	Calibration weight 10 kg
	GEN-PES30	Calibration weight 30 kg
	GEN-PAL1	Calibration lever
	GEN-SSA	Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Other Cabinet

	GEN-MC2	Cabinet only Dimensions: 620 x 580 x 1.700 mm.
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The FRL light vehicle brake tester is designed for light vehicles of up to 3,500 kg of MMA, and supports loads of up to 4 Tn. per axle on the road. Its main task is to carry out a quick and efficient verification of the operational status of the braking control on the vehicle, accurately measuring the maximum braking on the front and rear axles, hand brake, as well as the existing ovality in the discs and drums of the braking system.

The equipment has independent motors to drive the rollers. It also incorporates safety systems that detect the presence of the vehicle during the entire test and the loss of wheel adherence at the time of measurement. The indication is independent on each wheel.

A computer takes care of controlling the entire measuring system and machine operation. Control can be by keyboard, mouse or remote control and data display is graphical and numerical and even by needles. The indication is independent on each wheel.


Max load per axle to the step **4 Tn.**

Motor 2x **4,6 Kw.**


Maximum Track Width **2.220 mm.**

Minimum Track Width **855 mm.**


Electronics




Latest generation processor
New high-speed processor
Increase the response and process of each vehicle test




Connections
Ethernet (TCP-IP) / RS-232 connection on the main board



RAM memory
New memory 16 times faster



Flash Memory
New memory 4 times faster



Modular System
All electronics are expandable.
Specially designed for automotive and vehicle inspection centers



Standard Equipment

- Brake roller bench
- Control cabinet
- Electronic control & software
- Electric blockage of rollers to facilitate the vehicle entry/exit
- Remote control for test control
- Rollers coated in welded steel or synthetic fiber




Software


- Automatic 4WD vehicle detection
- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- Braking lock difference less than 20 ms
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Intuitive, simple and fast configuration software
- Graphical and numerical display of results
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Self test of auto-zero in the beginning of each test
- Very intuitive control software guided by graphic icons
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests.
- Translation module which the user will be able to translate the program into his own language or modify any sentence or word on it..
- Customized advertising on screen
- Test control by using a remote control
- Carrying out a test for each individual wheel for differential observation per individual wheel
- Automatic slip cut-off: new system for measuring the slip, the safety of the tyre is considerably increased, taking into account the performance of the engine in the lowering of the rolling speed
- Possibility of repetition and independent analysis of each wheel
- Possibility of automatic or manual start and stop
- Strain gauge measurement system
- Measurement display with error less than 1%.
- Manual entry of the vehicle weight
- Communication USB / RS232 / Ethernet (TCP-IP) Protocol
- Calibration software
- Software for automatic operation




Software




More Productive
Repetition of partial tests




Safer
Ryme application can encrypt data, make them safer




More Intuitive
Incorporation of graphic icons. RYME applications share the same menus..



More Compatible
Compatibility with more than 95% of the database management systems on the market today, ORACLE, SQL SERVER, Postgre, SQLite, etc. OS support for 32 and 64 Bits and with Android, Windows...



Online support
Possibility of remote connection from our technicians with your equipment
Consult conditions



More Reliable & Precise
Improvement in the process of calibrating the main board Allows the adjustment of the weighing and force calibration to very precise values.



Software adaptations

Possibility of analysis and study, under budget, for adaptation to new regulations in any region and/or country

Mechanics



Epoxy Paint

Powder-coated finish ensures optimal and long-lasting protection



Perfect Fit Assembly

Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



High adherence rollers

Roller coating with our own technology, which provides optimal adhesion even in adverse conditions and high durability



Strongest Gearmotors

Tested for durability to ensure optimum performance

Technical Data

Maximum load per step	4 Tn
Drive Motors	2 x 4,6 kW
Test Speed	5,7 km / h.
Maximum Track Width	2.220 mm.
Minimum Track Width	855 mm.
Voltage	400 V. 50 Hz. Threephasic
Protection Fuse	3 x 25 A
Thermal Protector	2 x 12,5 A

Roll diameter	202 mm.
Length of the rollers	685 mm.
Useful length of the rollers welded steel / Synthetic fiber	685 mm.
Distance between centers	400 mm.
Friction coefficient	0,9 dry 0,7 wet
Measurement Ranges	0 - 6 kN
Range of measurement	10 N
Measurement indication error	1 %

Dimensions

Bench dimensions	2.320 x 680 x 285 mm.
Packed bench dimensions	2.400 x 800 x 520 mm.
Bench weight	445 Kg
Packed bench weight	495 Kg


Cabinet dimensions	620 x 510 x 1.660 mm.
Packed cabinet dimensions	800 x 600 x 1.580 mm.
Cabinet weight	55 Kg
Packed cabinet weight	80 Kg

Optional Equipment


		Multi-function wireless device, keyboard, mouse and remote control
	KIT AL	Integration kit side slip aligner
	KIT BSU	Integration kit suspension bench
	GEN-EIN	Computer equipment
	GEN-IMP	Printer
	GEN-TD	Data display terminal
	GEN-STD	Second Data display terminal
	GEN-EST	Voltage Stabilizer
	FRL-SA	Delayed static retarder
	FRL-SA230	Delayed static retarder 230 V.
	GEN-230	Power supply 230 V. Threephasic
	GEN-60HZ	Power supply 60 Hz
	FRL-BAS	Weighing scale for vehicle axles (4 cells)
	FRL-RAS	Access ramps for floor mounting without civil works
	GEN-DPR	Pedal dynamometer with wireless PC communication. Includes wireless receiver and software

	FRM-DMR	Wireless handheld dynamometer
	FRL-4WD	Autoportable set of rollers for 4WD vehicles (4 units)
	FRL KPM	Software and mechanical kit to develop test on motorbikes
	FRL-EPR	Roller covers platform (2 units)
	GEN-PES6	Calibration weight 6 kg
	GEN-PES10	Calibration weight 10 kg
	GEN-PES30	Calibration weight 30 kg
	GEN-PAL2	Calibration lever
	FRL-BOC	Civil work frame
	GEN-SSA	Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Other versions

	FRL-KIT	Electronic box with software and mechanical frames Dimensions of the electronic box: 600 x 600 x 210 mm.
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Other Cabinet

	GEN-MC	PREMIUM CABINET Cabinet only Dimensions: 730 x 600 x 1.800 mm.
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The light vehicle brake tester is designed to withstand loads of up to 8 tons. per axle to the step, its main task being to carry out a quick and effective verification of the state of operation of the braking control in the vehicle, accurately measuring the maximum braking on the front and rear axles, handbrake, as well as the existing ovality on the discs and drums of the braking system.

The bench has independent motors to drive the rollers. It also incorporates safety systems that detect the presence of the vehicle during the entire test and the loss of adhesion of the wheels at the time of the measurement. The indication is independent on each wheel.

A computer takes care of controlling the entire measuring system and machine operation. Control can be by keyboard, mouse or remote control and data display is graphical and numerical and even by needles. The indication is independent on each wheel

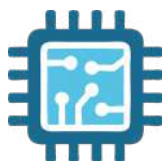
Max load per axle to the step **8 Tn.**

Motor 2x **5,5 Kw.**

Maximum Track Width **2.500 mm.**

Minimum Track Width **840 mm.**

Electronics



Latest generation processor

New high-speed processor
Increase the response and process of each vehicle test

ANTES
AHORA



RAM memory

New memory 16 times faster



Connections

Ethernet (TCP-IP) / RS-232 connection on the main board

ANTES
AHORA



Flash Memory

New memory 4 times faster

Modular System

All electronics are expandable.
Specially designed for automotive and vehicle inspection centers



Standard Equipment

- Brake roller bench
- Rollers coated in welded steel or synthetic fiber
- Control cabinet
- Electronic control & software
- Electric blockage of rollers to facilitate the vehicle entry/exit
- Remote control for test control



Software

- Automatic 4WD vehicle detection
- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- Braking lock difference less than 20 ms
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Intuitive, simple and fast configuration software
- Graphical and numerical display of results
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Self test of auto-zero in the beginning of each test
- Very intuitive control software guided by graphic icons
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests.
- Translation module which the user will be able to translate the program into his own language or modify any sentence or word on it..
- Customized advertising on screen
- Test control by using a remote control
- Carrying out a test for each individual wheel for differential observation per individual wheel
- Automatic slip cut-off: new system for measuring the slip, the safety of the tyre is considerably increased, taking into account the performance of the engine in the lowering of the rolling speed
- Possibility of repetition and independent analysis of each wheel
- Possibility of automatic or manual start and stop
- Strain gauge measurement system
- Measurement display with error less than 1%.
- Manual entry of the vehicle weight
- Communication USB / RS232 / Ethernet (TCP-IP) Protocol
- Calibration software
- Software for automatic operation



Software



More Productive
Repetition of partial tests



Safer
Ryme application can encrypt data, make them safer



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Consult conditions



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Mechanics



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Perfect Fit Assembly

Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



High adherence rollers

Roller coating with our own technology, which provides optimal adhesion even in adverse conditions and high durability



Strongest Gearmotors

Tested for durability to ensure optimum performance

Technical Data

Maximum load per step	8 Tn
Drive Motors	2 x 5,5 kW
Test Speed	4 km / h.
Maximum Track Width	2.500 mm.
Minimum Track Width	840 mm.
Voltage	400 V. 50 Hz. Threephasic
Protection Fuse	3 x 32 A
Thermal Protector	2 x 16 A
Roll diameter	202 mm.
Length of the rollers	831 mm.




Useful length of the rollers	831 mm.
Welding / Synthetic fiber	
Distance between centers	400 mm.
Friction coefficient	0,9 dry 0,7 wet
Measurement Ranges	0 - 12 kN
Range of measurement	10 N
Measurement indication error	1 %

Dimensions

Bench dimensions	2.600 x 680 x 285 mm.
Packed bench dimensions	2.600 x 800 x 520 mm.
Bench weight	500 Kg
Packed bench weight	550 Kg

Cabinet dimensions	620 x 510 x 1.850 mm.
Packed cabinet dimensions	800 x 600 x 1.880 mm.
Cabinet weight	55 Kg
Packed cabinet weight	80 Kg

Optional Equipment

	Multi-function wireless device, keyboard, mouse and remote control
KIT AL	Integration kit side slip aligner
KIT BSU	Integration kit suspension bench
GEN-EIN	Computer equipment
GEN-IMP	Printer
GEN-TD	Data display terminal
	GEN-STD Second Data display terminal
GEN-EST	Voltage Stabilizer
FRM-SA	Delayed static retarder
FRM-SA230	Delayed static retarder 230 V.
GEN-230	Power supply 230 V. Threephasic
GEN-60HZ	Power supply 60 Hz
FRL-BAS	Weighing scale for vehicle axles (4 cells)
FRL-RAS	Access ramps for floor mounting without civil works
	GEN-DPR Pedal dynamometer with wireless PC communication. Includes wireless receiver and software

	FRM-DMR	Wireless handheld dynamometer
	FRL-4WD	Autoportable set of rollers for 4WD vehicles (4 units)
	FRL KPM	Software and mechanical kit to develop test on motorbikes
	FRL5.5-EPR	Roller covers platform (2 units)
	GEN-PES6	Calibration weight 6 kg
	GEN-PES10	Calibration weight 10 kg
	GEN-PES30	Calibration weight 30 kg
	GEN-PAL2	Calibration lever
	FRM-BOC	Civil work frame
	GEN-SSA	Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Other versions



FRL-KIT	Electronic box with software and mechanical frames Dimensions of the electronic box: 600 x 600 x 210 mm.
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Other Cabinet



GEN-MC	PREMIUM CABINET Cabinet only Dimensions: 730 x 600 x 1.800 mm.
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The FRQ brake tester is designed for testing cars, quad, quads, mopeds and motorcycles.

Its main task a quick and effective verification of operating status of the brake control, by accurately measuring the maximum braking in the front and rear axles, hand brake and existing ovality in the disc and drum of the brake system.

The system consists of two independent roller frames that guarantee perfect adhesion of the tyres in adverse conditions and is equipped with strain gauges for measuring braking effort. The brake bench has independent motors to drive the rollers. It also incorporates safety systems that detect the presence of the vehicle during the whole test and the loss of adherence of the wheels at the time of measurement. The indication is independent on each wheel and the braking range is from 0 to 6 KN.

The indication is independent on each wheel. The control can be by keyboard, mouse or remote control and the visualization is done by a highly intuitive software.

Max load per axle to the step **4 Tn.**

Motor 2x **4,6 Kw.**

Maximum Track Width **2.155 mm.**

Minimum Track Width **190 mm.**

Electronics



Latest generation processor

New high-speed processor
Increase the response and process of each vehicle test

ANTES
AHORA

RAM memory

New memory 16 times faster



Connections

Ethernet (TCP-IP) / RS-232 connection on the main board

ANTES
AHORA

Flash Memory

New memory 4 times faster

Modular System

All electronics are expandable.
Specially designed for automotive and vehicle inspection centers



Standard Equipment

- Brake roller bench
- Control cabinet
- Electronic control & software
- Electric blockage of rollers to facilitate the vehicle entry/exit
- Remote control for test control
- Rollers coated in welded steel or synthetic fiber



Software

- Automatic 4WD vehicle detection
- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- Braking lock difference less than 20 ms
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Intuitive, simple and fast configuration software
- Graphical and numerical display of results
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Self test of auto-zero in the beginning of each test
- Very intuitive control software guided by graphic icons
- Common database (on network as well as in local mode) that allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests.
- Translation module which the user will be able to translate the program into his own language or modify any sentence or word on it..
- Customized advertising on screen
- Test control by using a remote control
- Carrying out a test for each individual wheel for differential observation per individual wheel
- Automatic slip cut-off: new system for measuring the slip, the safety of the tyre is considerably increased, taking into account the performance of the engine in the lowering of the rolling speed
- Possibility of repetition and independent analysis of each wheel
- Possibility of automatic or manual start and stop
- Strain gauge measurement system
- Measurement display with error less than 1%.
- Manual entry of the vehicle weight
- Communication USB / RS232 / Ethernet (TCP-IP) Protocol
- Calibration software
- Software for automatic operation



Debido a la continua evolución de nuestros productos, las características técnicas y de diseño podrían estar sujetas a modificaciones, sin previo aviso.

Software



More Productive

Repetition of partial tests



Safer

Ryme application can encrypt data, make them safer



More Intuitive

Incorporation of graphic icons. RYME applications share the same menus..



More Compatible

Compatibility with more than 95% of the database management systems on the market today, ORACLE, SQL SERVER, Postgre, SQLite, etc. OS support for 32 and 64 Bits and with Android, Windows...



Online support

Possibility of remote connection from our technicians with your equipment
Consult conditions



More Reliable & Precise

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Software adaptations

Possibility of analysis and study, under budget, for adaptation to new regulations in any region and/or country

Mechanics



Epoxy Paint

Powder-coated finish ensures optimal and long-lasting protection



Perfect Fit Assembly

Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



High adherence rollers

Roller coating with our own technology, which provides optimal adhesion even in adverse conditions and high durability



Strongest Gearmotors

Tested for durability to ensure optimum performance

Technical Data

Maximum load per step	4 tn
Electric motor power	2 x 4,6 kW
Test Speed	5,5 km / h.
Voltage	400 V. 50 Hz. Threephasic
Protection Fuse	3 x 25 A
Thermal Protector	2 x 12,5 A
Maximum Track Width	2.155 mm
Minimum Track Width	190 mm

Roll diameter	202 mm
Length of the rollers	1.000 mm
Useful length of the rollers welded steel / Synthetic fiber	980 / 1.000 mm
Distance between centers	400 mm
Friction coefficient	0,9 dry 0,7 wet
Measurement ranges	0 - 6 kN
Range of measurement	10 N
Measurement indication error	1 %

Dimensions

Equipment dimensions	3.720 x 680 x 285 mm.
Bench dimensions	1.830 x 680 x 285 mm.
Packed equipment dimensions	2.400 x 800 x 930 mm.
Bench weight	560 Kg
Packed equipment weight	640 Kg


Cabinet dimensions	620 x 510 x 1.660 mm.
Packed cabinet dimensions	800 x 600 x 1.580 mm.
Cabinet weight	55 Kg
Packed cabinet weight	80 Kg

Optional Equipment


	Multi-function wireless device, keyboard, mouse and remote control
KIT AL	Integration kit side slip aligner
KIT BSU	Integration kit suspension bench
GEN-EIN	Computer equipment
GEN-IMP	Printer
GEN-TD	Data display terminal
GEN-STD	Second Data display terminal
GEN-EST	Voltage Stabilizer
	FRQ-SA Delayed static retarder
	FRQ-SA230 Delayed static retarder 230 V.
	GEN-230 Power supply 230 V. Threephasic
	GEN-60HZ Power supply 60 Hz
	FRQ-BAS Weight scale for vehicle axles (8 cells)
	FRQ-RAS Access ramps for floor mounting without civil works
	GEN-DPR Pedal dynamometer with wireless PC communication. Includes wireless receiver and software

	FRM-DMR	Wireless handheld dynamometer
	FRQ-4WD	Autoportable set of rollers for 4WD vehicles (4 units)
	FRQ-KPM	Software and mechanical kit to develop test on motorbikes
	FRQ-EPR	Roller covers platform (2 units)
	GEN-PES6	Calibration weight 6 kg
	GEN-PES10	Calibration weight 10 kg
	GEN-PES30	Calibration weight 30 kg
	GEN-PAL2	Calibration lever
	FRQ-BOC	Civil work frame
	GEN-SSA	Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Other versions

	FRL-KIT	Electronic box with software and mechanical frames Dimensions of the electronic box: 600 x 600 x 210 mm.
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Other Cabinet

	GEN-MC	PREMIUM CABINET Cabinet only Dimensions: 730 x 600 x 1.800 mm.
---	--------	---

FRQ CYCLE is a light range brake tester designed to test quad vehicles, ATVs, quads, tricycles and motorcycles.

Its main task a quick and effective verification of operating status of the brake control, by accurately measuring the maximum braking in the front and rear axles, hand brake and existing ovality in the disc and drum of the brake system.

The system consists on a pair of rollers which ensure perfect adhesion of the tires in adverse conditions and is equipped with strain gauges to measure the braking effort. The frame carries independent Motors for driving the rollers. It also incorporates safety systems that detect the presence of the vehicle during the test and the loss of adhesion of the wheels at the time of measurement. The indication is independent on each wheel and the braking range is from 0 to 3.5 KN.

A computer takes care of controlling the entire measuring system and machine operation. Control can be by keyboard, mouse or remote control and data display is graphical and numerical and even by needles. The indication is independent on each wheel and the brake range of 0-6 KN.

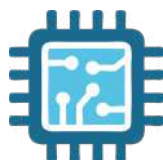
Max load per axle to the step  1 Tn.

Motor 2x 4,6 Kw.

Maximum Track Width 1.600 mm.

Minimum Track Width 190 mm.

Electronics



Latest generation processor

New high-speed processor
Increase the response and process
of each vehicle test

ANTES
AHORA

RAM memory

New memory 16 times faster



Connections

Ethernet (TCP-IP) / RS-232 connection
on the main board

ANTES
AHORA

Flash Memory

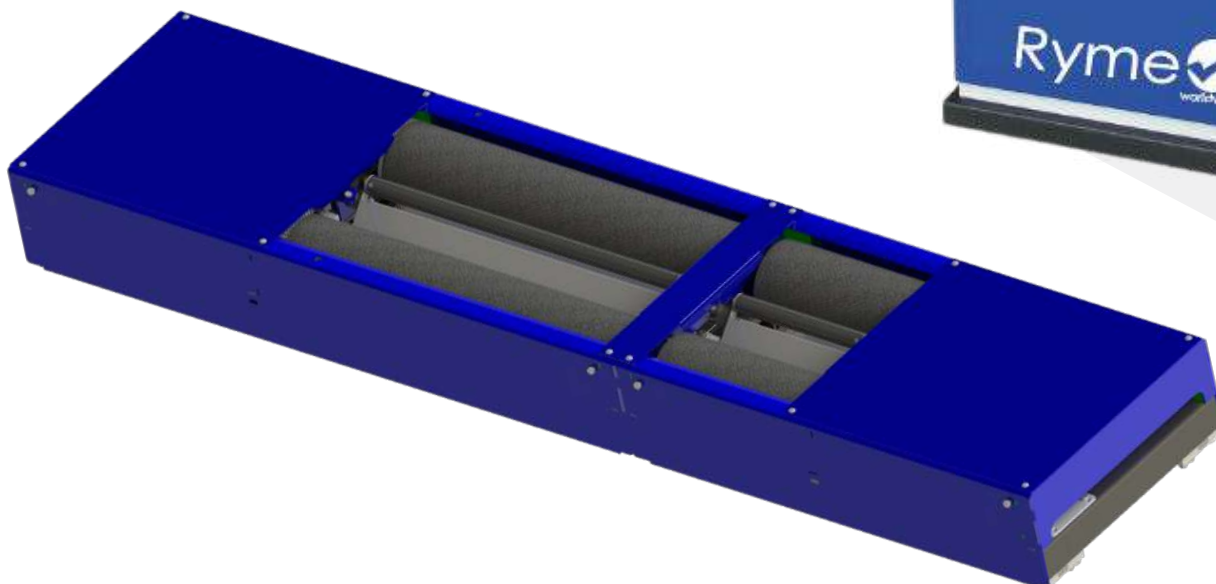
New memory 4 times faster

Modular System

All electronics are expandable.
Specially designed for automotive and
vehicle inspection centers

Standard Equipment

- Brake roller bench
- Control cabinet
- Electronic control & software
- Electric blockage of rollers to facilitate the vehicle entry/exit
- Remote control for test control
- Rollers coated in welded steel or synthetic fiber



Software

- Automatic 4WD vehicle detection
- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- Braking lock difference less than 20 ms
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Intuitive, simple and fast configuration software
- Graphical and numerical display of results
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Self test of auto-zero in the beginning of each test
- Very intuitive control software guided by graphic icons
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests.
- Translation module which the user will be able to translate the program into his own language or modify any sentence or word on it..
- Customized advertising on screen
- Test control by using a remote control
- Carrying out a test for each individual wheel for differential observation per individual wheel
- Automatic slip cut-off: new system for measuring the slip, the safety of the tyre is considerably increased, taking into account the performance of the engine in the lowering of the rolling speed
- Possibility of repetition and independent analysis of each wheel
- Possibility of automatic or manual start and stop
- Strain gauge measurement system
- Measurement display with error less than 1%.
- Manual entry of the vehicle weight
- Communication USB / RS232 / Ethernet (TCP-IP) Protocol
- Calibration software
- Software for automatic operation



Software



More Productive

Repetition of partial tests



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High adherence rollers

Roller coating with our own technology, which provides optimal adhesion even in adverse conditions and high durability



Strongest Gearmotors

Tested for durability to ensure optimum performance

Technical Data

Maximum axle load	1 tn
Electric motor power	2 x 4,6 kW
Test Speed	5,5 km / h.
Voltage	400 V. 50 Hz. Threephasic
Protection Fuse	3 x 25 A
Thermal Protector	2 x 12,5 A
Maximum Track Width	1.600 mm
Minimum Track Width	190 mm

Roll diameter	202 mm
Length of the rollers	1.000 / 446 mm
Distance between centers	400 mm
Friction coefficient	0,9 dry 0,7 wet
Measurement ranges	0 - 3,5 kN
Range of measurement	10 N
Measurement indication error	1 %

Dimensions

Equipment dimensions	3.085 x 685 x 295 mm.
Packed equipment dimensions	1.900 x 700 x 800 mm.
Bench weight	400 kg
Packed equipment weight	470 kg

Cabinet dimensions	620 x 510 x 1.660 mm.
Packed cabinet dimensions	800 x 600 x 1.580 mm.
Cabinet weight	55 kg
Packed cabinet weight	80 kg

Optional Equipment

	Multi-function wireless device, keyboard, mouse and remote control
GEN-EIN	Computer equipment
GEN-IMP	Printer
GEN-TD	Data display terminal
GEN-STD	Second Data display terminal
	GEN-EST Voltage Stabilizer
FRQ-SA	Delayed static retarder
FRQ-SA230	Delayed static retarder 230 V.
GEN-230	Power supply 230 V. Threephasic
GEN-60HZ	Power supply 60 Hz
FRQ-BAS	Weight scale for vehicle axles (8 cells)
	GEN-DPR Pedal dynamometer with wireless PC communication. Includes wireless receiver and software
	FRM-DMR Wireless handheld dynamometer

FRQ-RAS	Access ramps for floor mounting without civil works
	GEN-PNS Pneumatic front wheel clamp 800 x 1.040 x 90 mm.
	GEN-SRA Automatic front clamp for wheel fixing
	FRQ-CSP Footrests for complet Cycle lane
	FRQ-4WD Autoportable set of rollers for 4WD vehicles (4 units)
	FRQC-EPR Roller covers platform (2 units)
	GEN-PES6 Calibration weight 6 kg
	GEN-PES10 Calibration weight 10 kg
	GEN-PES30 Calibration weight 30 kg
	GEN-PAL2 Calibration lever
FRQ-BOC	Civil work frame
	GEN-SSA Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Other versions



FRQ-KIT	Electronic box with software and mechanical frames Dimensions of the electronic box: 600 x 600 x 210 mm.
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Other Cabinet



GEN-MC	PREMIUM CABINET Cabinet only Dimensions: 730 x 600 x 1.800 mm.
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The roller brake tester FRU4 is used to make a reliable evaluation of the condition of the braking system of a vehicle, light or heavy vehicle up to 20 tons per axle.

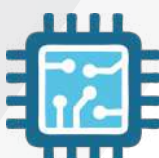
Its main task is to carry out a quick and efficient verification of the operation status of the braking control, accurately measuring the maximum braking on the front and rear axles, hand brake, as well as the existing ovality in the discs and drums of the braking system.

The two frames, one for each wheel on the same axle, are mechanically welded steel structures. Their design and the most demanding production and quality processes, give our machines robustness, reliability and longevity. Rollers are mounted inside the frames to ensure adequate adherence for successful testing. Their powerful motors drive the rollers and the force cells report the braking measurement continuously during the test.


A computer controls the entire measuring system and the operation of the machine. The control can be done by keyboard, mouse or remote control and the visualization is done by a highly intuitive software.

Max load per axle to the step	20 Tn.
Motor	2x 11 Kw.
Maximum Track Width	3.100 mm.
Minimum Track Width	850 mm.

Electronics




Latest generation processor
New high-speed processor
Increase the response and process of each vehicle test




Ethernet
Ethernet (TCP-IP) / RS-232 connection on the main board

ANTES
AHORA




RAM memory
New memory 16 times faster

ANTES
AHORA



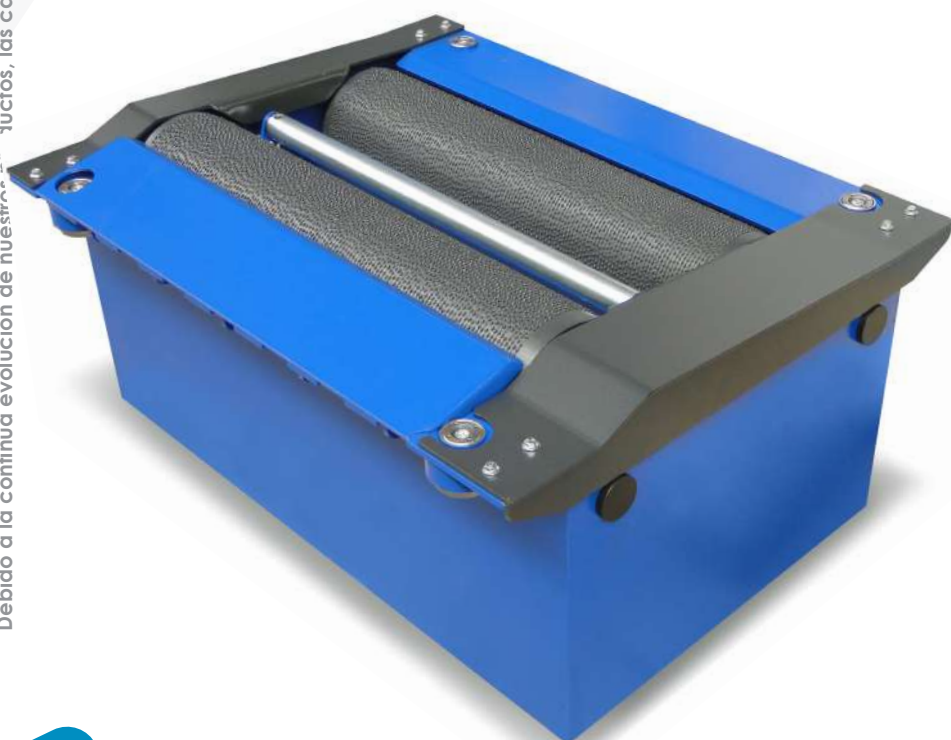
Flash Memory
New memory 4 times faster



Modular System
All electronics are expandable.
Specially designed for automotive and vehicle inspection centers



Brake tester adapted to the requirements set out in the revision of the manual for vehicle inspection centres, with reference to ISO 21069, on braking tests for heavy vehicles. This brake tester can be equipped with both load simulation and axle lift.



Standard Equipment

- Brake roller bench Universal
- Control cabinet
- Electronic control & software
- Electric blockage of rollers to facilitate the vehicle entry/exit
- Remote control for test control
- Rollers coated in welded steel or synthetic fiber

Software

- Automatic 4WD vehicle detection
- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- Braking lock difference less than 20 ms
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Intuitive, simple and fast configuration software
- Graphical and numerical display of results
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Self test of auto-zero in the beginning of each test
- Very intuitive control software guided by graphic icons
- Automatic slip cut-off: new system for measuring the slip, the safety of the tyre is considerably increased, taking into account the performance of the engine in the lowering of the rolling speed
- Analysis of performance, ovality and differences
- Automatic start and stop
- Star-delta start / delayed start
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests.
- Translation module which the user will be able to translate the program into his own language or modify any sentence or word on it..
- Customized advertising on screen
- Test control by using a remote control
- Carrying out a test for each individual wheel for differential observation per individual wheel
- Automatic slip cut-off: new system for measuring the slip, the safety of the tyre is considerably increased, taking into account the performance of the engine in the lowering of the rolling speed
- Possibility of repetition and independent analysis of each wheel
- Possibility of automatic or manual start and stop
- Independent strain gauge measurement system for each wheel with the possibility of testing a single wheel
- Measurement display with error less than 1%.
- Manual entry of the vehicle weight
- Communication USB / RS232 / Ethernet (TCP-IP) Protocol
- Calibration software
- Software for automatic operation



Software



More Productive
Repetition of partial tests



Safer
Ryme application can encrypt data, make them safer



More Intuitive
Incorporation of graphic icons. RYME applications share the same menus..



More Compatible
Compatibility with more than 95% of the database management systems on the market today, ORACLE, SQL SERVER, Postgre, SQLite, etc. OS support for 32 and 64 Bits and with Android, Windows...



Online support
Possibility of remote connection from our technicians with your equipment
Consult conditions



More Reliable & Precise
Improvement in the process of calibrating the main board Allows the adjustment of the weighing and force calibration to very precise values.



Software adaptations

Possibility of analysis and study, under budget, for adaptation to new regulations in any region and/or country

Technical Data

Maximum axle load	20 Tn
Drive Motors	2 x 11 kW (S2)
Test Speed	2,82 km / h.
Track width max. / min.	3.100 / 850 mm.
Voltage	400 V. 50 Hz. Threephasic
Protection Fuse	3 x 63 A
Thermal Protector	2 x 25 A
Roll diameter	282 mm.
Length of the rollers Welding / Synthetic fiber	1.135 mm.
Useful length of the rollers welded steel / Synthetic fiber	1.135 mm.
Distance between centers	485 mm.
Lifting height rear roller	50 mm.
Measurement indication error	1 %
Friction coefficient (welding rollers)	0,9 dry 0,7 wet
Measurement ranges	0-8 kN / 0-40 kN
Range of measurement	10 N

Dimensions

Bench dimensions	1.475 x 1.150 x 680 mm.
Packed bench dimensions	1.500 x 950 x 800 mm.
Bench weight	1.150 Kg
Packed bench weight	1.200 Kg

Cabinet dimensions	680 x 570 x 1.350 mm.
Packed cabinet dimensions	850 x 760 x 1.600 mm.
Cabinet weight	120 Kg
Packed cabinet weight	150 Kg

Mechanics



Epoxy Paint

Powder-coated finish ensures optimal and long-lasting protection



Perfect Fit Assembly

Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



High adherence rollers

Roller coating with our own technology, which provides optimal adhesion even in adverse conditions and high durability



Strongest Gearmotors


Tested for durability to ensure optimum performance

Optional Equipment


		Multi-function wireless device, keyboard, mouse and remote control
	AU- KIT	Side slip aligner integration kit
	BSU-KIT	Integration kit suspension bench BSU
	GEN-EIN	Computer equipment
	GEN-IMP	Printer
	GEN-TD	Data display terminal
	GEN-STD	Second Data display terminal
	GEN-SDP	Stand for data screen
	GEN-EST	Voltage Stabilizer
	FRU -BAS	Weight scale for vehicle axles (8 cells)
	GEN-230	Power supply 230 V. Threephasic
	GEN-60HZ	Power supply 60 Hz
	FRU -2V (220 V)	Two roller speeds 230 V
	FRU -2V (380 V)	Two roller speeds 380 V
	FRU -4x4	Control software and hardware for 4WD vehicles
	GEN-PGH	Hydraulic group desk for load simulation/ lift
	FRU-STD	Standard lift system. 8 cylinders (4 on each wheel)
	FRS -SCH	Hydraulic load simulator

	GEN-DPR	Pedal dynamometer with wireless PC communication. Includes receiver.
	FRS -PR	Wireless Pneumatic Pressure Converter (Unit) * Requires a GEN-PUM unit
	GEN-PUM	USB wireless receiver compatible with up to 15 computers
	GEN-SCS	Docking station for pressure converters for 5 units Lost Alert Hardware and Software
	FRU-EPR	Roller covers platform (2 units)
	GEN-PES30	Calibration weight 30 kg
	GEN-PAL3	Calibration lever
	FRS-BOC	Civil work frame
	GEN-SSA	Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Other versions

	FRU-KIT	Electronic box with software and mechanical frames Dimensions of the electronic box: 600 x 600 x 210 mm.
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Other Cabinet

	GEN-MC	PREMIUM CABINET Cabinet only Dimensions: 730 x 600 x 1.800 mm.
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The revision 7th of the Procedural Manual Inspection technical inspection of vehicles stations, refers in paragraph 6 of Section I, to the ISO 21,069 standard braking tests on heavy vehicles. It exposes the different ways to perform the brake test on a roller brake tester: total vehicle load or part load using the method of extrapolation.

Ryme offers a solution to all possibilities in this regard, being able to implement a simulation of total load to read maximum braking directly or partial simulation with or without lifting the frames of the brake tester for this method of extrapolation

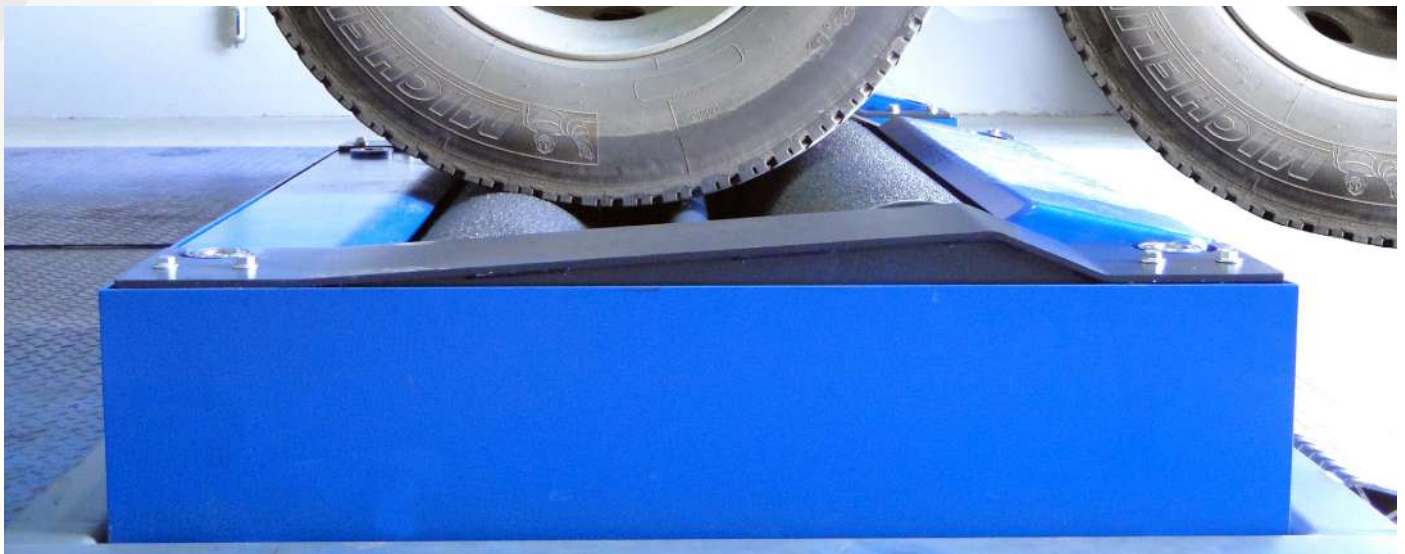
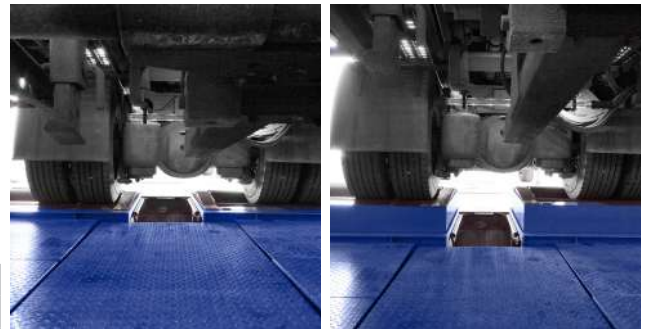
Lift

This option lets you apply the brake test method of extrapolation, with the scale option and optional tire pressure sensors of the vehicle braking circuit.

Lift racks include two guided structures, one for each brake tester frame, which allow lifting of the rollers. This lifting is accomplished by the action of hydraulic cylinders. An oil hydraulic circuit made with flow dividers allows racks to rise synchronously.

Technical Data

Power supply: 400 V. 50 Hz. Threephasic
Hydraulic group electric power: 3Kw
Maximum lifting height: 250 mm.
Number of cylinders: 8 pcs (4 pcs in each frame)



Traction

The option of traction load simulation has been the traditional way to simulate weight during heavy vehicle brake testing.

Powerful hydraulic cylinders are tied to chassis or axle of the vehicle and pulls until an adequate weight reading on the scale of the brake tester can simulate:

- The total load that secures the MMA for that axis or a charge sufficient to apply the method of extrapolation along with the data supplied by the scale and the pressure sensors.

Technical Data

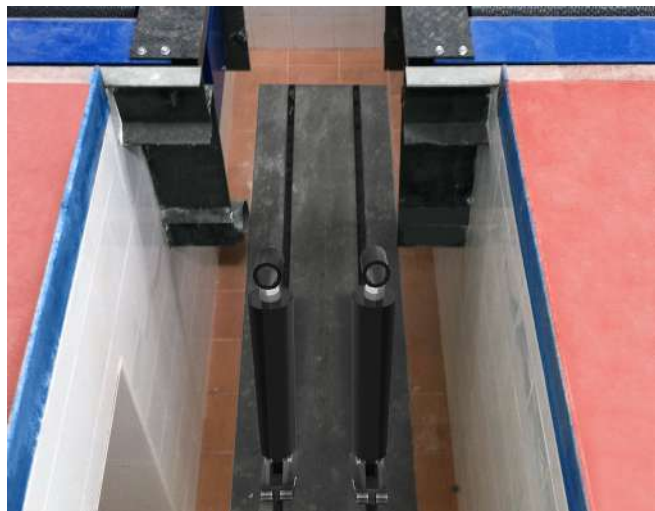
Power supply: 400 v 50 Hz (3F+N+T).

Power electric hydraulic unit: 4 CV

Cylinder stroke: 310 mm.

Number of cylinders: 2 pcs (for fixed or lanes on the pit floor)

Maximum traction 15 Tn



The FRU P roller brake tester is a device that is used to make a reliable assessment of the state of the braking system of a vehicle, light or heavy vehicle of up to 18 tons per axle.

Its main task is to carry out a quick and effective verification of the state of operation of the braking control, accurately measuring the maximum braking on the front and rear axles, handbrake, as well as the existing ovality in the discs and drums of the braking system. .

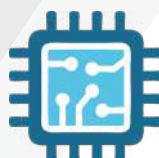
The two frames, one for each wheel on the same axle, are mechanically welded steel structures. Its design and the most demanding production and quality processes give our machines robustness, reliability and longevity. Rollers are mounted inside the racks to ensure adequate grip for successful testing. Its powerful motors drive the rollers and the force cells report the braking measurement continuously during the test.

A computer controls the entire measuring system and the operation of the machine. Control can be by keyboard, mouse or remote control and the visualization is done through highly intuitive software.


This brake tester can be equipped with load simulation.

Max load per axle to the step	18 Tn.
Motor	2x 11 Kw.
Maximum Track Width	3.095 mm.
Minimum Track Width	830 mm.

Electronics




Latest generation processor
New high-speed processor
Increase the response and process of each vehicle test




Connections
Ethernet (TCP-IP) / RS-232 connection on the main board

ANTES
AHORA




RAM memory
New memory 16 times faster

ANTES
AHORA



Flash Memory
New memory 4 times faster



Modular System
All electronics are expandable.
Specially designed for automotive and vehicle inspection centers



Extra flat design
423 mm

Mainly designed for mobile units with a low profile, and easy access for maintenance

Standard Equipment

- Brake roller bench Universal
- Control cabinet
- Electronic control & software
- Electric blockage of rollers to facilitate the vehicle entry/exit
- Remote control for test control
- Rollers coated in welded steel or synthetic fiber
- Elevated rear roller

Standard Equipment

- Automatic 4WD vehicle detection
- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- Braking lock difference less than 20 ms
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Intuitive, simple and fast configuration software
- Graphical and numerical display of results
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Self test of auto-zero in the beginning of each test
- Very intuitive control software guided by graphic icons
- Automatic slip cut-off: new system for measuring the slip, the safety of the tyre is considerably increased, taking into account the performance of the engine in the lowering of the rolling speed
- Analysis of performance, ovality and differences
- Automatic start and stop
- Star-delta start / delayed start
- Electric blockage of rollers to facilitate the vehicle entry/exit
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests.
- Translation module which the user will be able to translate the program into his own language or modify any sentence or word on it..
- Customized advertising on screen
- Test control by using a remote control
- Carrying out a test for each individual wheel for differential observation per individual wheel
- Automatic slip cut-off: new system for measuring the slip, the safety of the tyre is considerably increased, taking into account the performance of the engine in the lowering of the rolling speed
- Possibility of repetition and independent analysis of each wheel
- Possibility of automatic or manual start and stop
- Independent strain gauge measurement system for each wheel with the possibility of testing a single wheel
- Measurement display with error less than 1%.
- Manual entry of the vehicle weight
- Communication USB / RS232 / Ethernet (TCP-IP) Protocol
- Calibration software
- Software for automatic operation



Software



More Productive
Repetition of partial tests



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Ryme application can encrypt data, make them safer



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Compatibility with more than 95% of the database management systems on the market today, ORACLE, SQL SERVER, Postgre, SQLite, etc. OS support for 32 and 64 Bits and with Android, Windows...



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Possibility of remote connection from our technicians with your equipment
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More Reliable & Precise
Improvement in the process of calibrating the main board Allows the adjustment of the weighing and force calibration to very precise values.



Software adaptations

Possibility of analysis and study, under budget, for adaptation to new regulations in any region and/or country

Technical Data

Maximum load per step	18 Tn
Drive Motors	2 x 11 kW (S2)
Test Speed	2,6 km / h.
Track width max. / min.	3.095 / 830 mm.
Voltage	400 V. 50 Hz. Threephasic
Protection Fuse	3 x 63 A
Thermal Protector	2 x 25 A
Roll diameter	282 mm.

Length of the rollers Welding / Synthetic fiber	1.135 mm.
Useful length of the rollers welded steel / Synthetic fiber	1.135 mm.
Distance between centers	485 mm.
Measurement indication error	1 %
Friction coefficient (welding rollers)	0,9 dry 0,7 wet
Measurement ranges	0-8 kN / 0-40 kN
Range of measurement	10 N

Dimensions

Bench dimensions	1.875 x 1.295 x 423 mm.
Packed bench dimensions	1.950 x 1.350 x 650 mm.
Bench weight	925 kg.
Weight de los bastidores embalados	2.005 kg.

Cabinet dimensions	680 x 600 x 1.800 mm.
Packed cabinet dimensions	800 x 600 x 1.580 mm.
Cabinet weight	120 Kg
Packed cabinet weight	150 Kg

Mechanics



Epoxy Paint

Powder-coated finish ensures optimal and long-lasting protection



Perfect Fit Assembly

Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



High adherence rollers

Roller coating with our own technology, which provides optimal adhesion even in adverse conditions and high durability



Strongest Gearmotors

Tested for durability to ensure optimum performance

Optional Equipment

		Multi-function wireless device, keyboard, mouse and remote control
	AU- KIT	Side slip aligner integration kit
	GEN-EIN	Computer equipment
	GEN-IMP	Printer
	GEN-TD	Data display terminal
	GEN-STD	Second Data display terminal
	GEN-SDP	Stand for data screen
	GEN-EST	Voltage Stabilizer
		
	FRU -BAS	Weight scale for vehicle axles (8 cells)
	GEN-230	Power supply 230 V. Threephasic
	GEN-60HZ	Power supply 60 Hz
	FRU -2V (220 V)	Two roller speeds 230 V
	FRU -2V (380 V)	Two roller speeds 380 V
	FRU -4x4	Control software and hardware for 4WD vehicles
	GEN-PGH	Desk for hydraulic group for load simulation
	FRS -SCH	Hydraulic load simulator

	GEN-DPR	Pedal dynamometer with wireless PC communication. Includes receiver.
	FRS -PR	Wireless Pneumatic Pressure Converter (Unit) * Requires a GEN-PUM unit
	GEN-PUM	USB wireless receiver compatible with up to 15 computers
	GEN-SCS	Docking station for pressure converters for 5 units Lost Alert Hardware and Software
		
	FRU-EPR	Roller covers platform (2 units)
	GEN-PES30	Calibration weight 30 kg
	GEN-PAL3	Calibration lever
	FRS-BOC	Civil work frame
	GEN-SSA	Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Other versions



FRUP-KIT Electronic box with software and mechanical frames
Dimensions of the electronic box: 600 x 600 x 210 mm.

Other Cabinet



GEN-MC PREMIUM CABINET
Cabinet only
Dimensions:
730 x 600 x 1.800 mm.

SUSPENSION BENCH

The new suspension bench BSU has been designed to support weight loads up to 16 Tn. and heavy vehicles are allowed to move on it without adding any accessory.

Its main task is to perform a quick and effective verification of the status of the light vehicle's suspension. The test is performed by measuring the effectiveness of suspension individually, using the method EUSAMA.

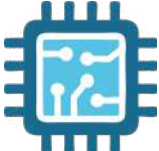
The frame incorporates safety systems that detect the presence of the vehicle during the test, performing the same measurement platforms when they detect a minimum weight.

3 kW Motors submit to the suspension of the vehicle to an oscillation between 16 Hz and 0 Hz simulating road conditions to obtain the degree of adherence the vehicle to it.


A computer takes care of controlling the entire measuring system and machine operation. Control can be done by keyboard, mouse or remote control. The display of the results is graphical and numerical and shows the effectiveness of the suspension for each wheel independently and the percentage difference between the two wheels.

Max load per axle to step	16 Tn.
Motor	2X 3 Kw.
Maximum Track Width	2.115 mm.
Minimum Track Width	825 mm.


Electronics




Latest generation processor
New high-speed processor
Increase the response and process of each vehicle test





Connections
Ethernet (TCP-IP) / RS-232 connection on the main board

ANTES 


AHORA 

RAM memory
New memory 16 times faster

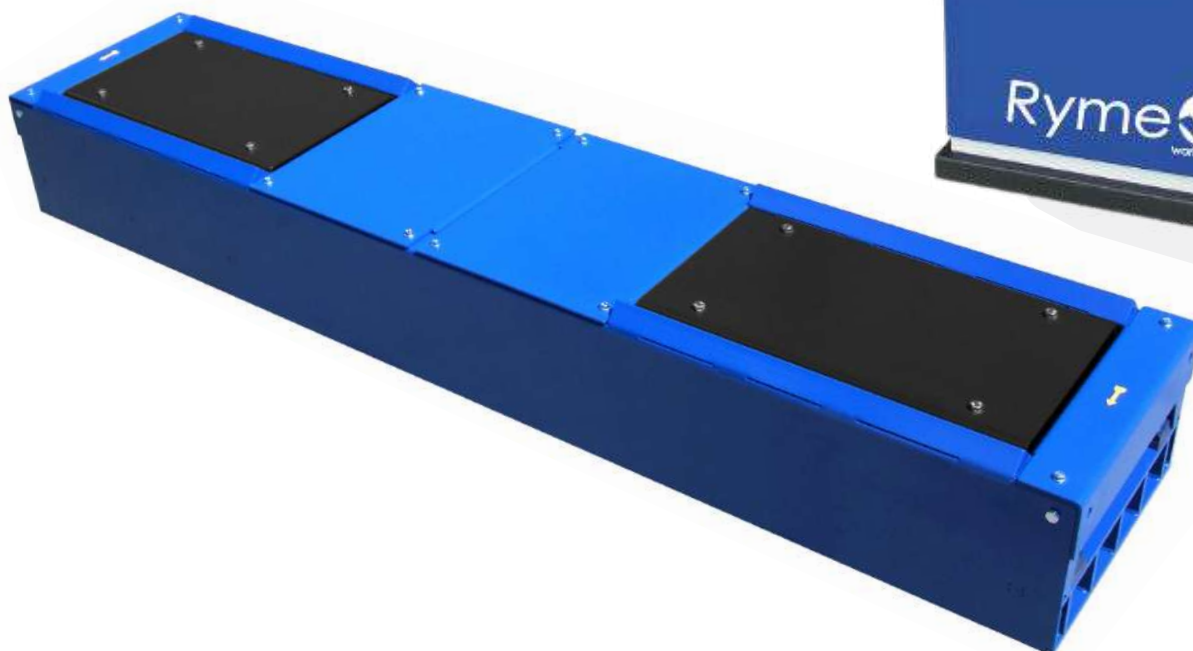
ANTES 

AHORA 

Flash Memory
New memory 4 times faster



Modular System
All electronics are expandable.
Specially designed for automotive and vehicle inspection centers



Standard Equipment

- Suspension Bench
- Control cabinet
- Electronic control & software
- Remote control for test control

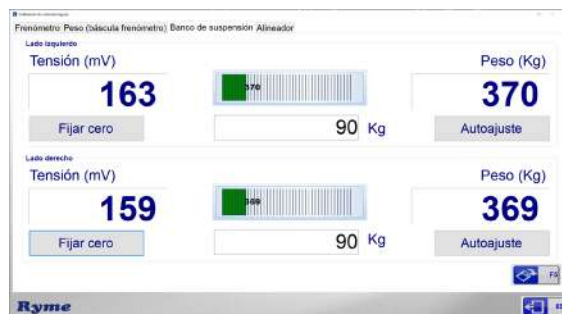
Software

- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Intuitive, simple and fast configuration software
- Graphical and numerical display of results
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Self test of auto-zero in the beginning of each test
- Very intuitive control software guided by graphic icons
- Automatic slip cut-off: new system for measuring the slip, the safety of the tyre is considerably increased, taking into account the performance of the engine in the lowering of the rolling speed
- Analysis of performance, ovality and differences
- Automatic start and stop
- Star-delta start / delayed start
- Electric blockage of rollers to facilitate the vehicle entry/exit
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests.
- Translation module which the user will be able to translate the program into his own language or modify any sentence or word on it..
- Customized advertising on screen
- Test control by using a remote control
- Graphical and numerical display of results
- Retention, and possibility of repetition of data until next vehicle test
- Possibility of automatic or manual start and stop
- Static and dynamic weighting in each axle
- Graphical overlay for checking
- Measurement of maximum Amplitude produced from start to stop
- Display of left and right Amplitude and difference between the two
- Performance indication left, right and difference between the two
- Free movement of the plate for noise location
- Communication USB / RS232 / Ethernet (TCP-IP) Protocol



Software adaptations

Possibility of analysis and study, under budget, for adaptation to new regulations in any region and/or country



Software



More Productive

Repetition of partial tests



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Ryme application can encrypt data, make them safer



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Online support

Possibility of remote connection from our technicians with your equipment
Consult conditions



More Reliable & Precise

Improvement in the process of calibrating the main board Allows the adjustment of the weighing and force calibration to very precise values.

Technical Data

Maximum weight step	16 Tn.
Maximum weight test	2.500 Kg
Engine Power	2 x 3 kW
Maximum Track Width	2.120 mm.
Minimum Track Width	825 mm.

Voltage	400 V. 50 /60 Hz. Three-phase
Protection Fuse	3 x 20 A
Excitation frequency	16 Hz
Three valuation levels	A) Amplitude B) Efficiency in% C) Diagnosis

Mechanics



Epoxy Paint

Powder-coated finish ensures optimal and long-lasting protection



Perfect Fit Assembly

Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



High adherence rollers

Roller coating with our own technology, which provides optimal adhesion even in adverse conditions and high durability



Strongest Gearmotors


Tested for durability to ensure optimum performance

Dimensions

Bench dimensions	2.330 x 480 x 308 mm.
Packed bench dimensions	2.400 x 600 x 400 mm.
Bench weight	615 Kg
Packed bench weight	665 Kg

Cabinet dimensions	720 x 420 x 1.850 mm.
Packed cabinet dimensions	800 x 600 x 1.580 mm.
Cabinet weight	55 Kg
Packed cabinet weight	80 Kg

Optional Equipment

GEN-EIN	Computer equipment
GEN-IMP	Printer
GEN-TD	Data display terminal
GEN-STD	Second Data display terminal
GEN-EST	Voltage Stabilizer
	
GEN-230	Power supply 230 V. Threephase
GEN-60HZ	Power supply 60 Hz



BS-CAL Calibration tool for the suspension bench

BSL-RAS Access ramps for floor mounting without civil works

BSU-BOC Civil work frame



GEN-SSA Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Other versions



BSU-INT Mechanical frame and control equipment for integration into existing Ryme equipment
* Consult Ryme integration compatibility table.



BSU-KIT Electronic box with software and mechanical frames
Dimensions of the electronic box:
600 x 600 x 210 mm.

Other Cabinet



GEN-MC PREMIUM CABINET
Cabinet only
Dimensions:
730 x 600 x 1.800 mm.

INSPECTION TEST LINES

MONOBLOC · TANDEM

Monobloc inspection line is composed of a frame that integrates a brake tester and a suspension bench, designed for light vehicles weighing up to 3,500 kg of MMA, and supporting loads of up to 4 tons. per axis to step

Its main task is to carry out a quick and effective verification of the operation status of the braking control in the vehicle, accurately measuring the maximum braking on the front and rear axles, handbrake, as well as the existing ovality in the discs and drums. braking system. In addition to performing a quick and effective analysis of the state of the suspension of light vehicles. The test is carried out under the EUSAMA method, individually measuring the wheels of each axle.

Optionally supports the ability to perform tests to 4WD vehicles.

A computer is responsible for controlling the entire measurement system and the operation of the machine. Control can be by keyboard, mouse or remote control and the visualization is done through highly intuitive software.

Max load per axle (to step) **4 Tn.**

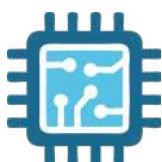
Motor Braketester **2x 4,6 Kw.**

Motor Suspension Bench **1x 3,0 Kw.**

Maximum Track Width **2.270 mm.**

Minimum Track Width **840 mm.**

Electronics



Latest generation processor
New high-speed processor
Increase the response and process of each vehicle test

ANTES
AHORA

RAM memory

New memory 16 times faster



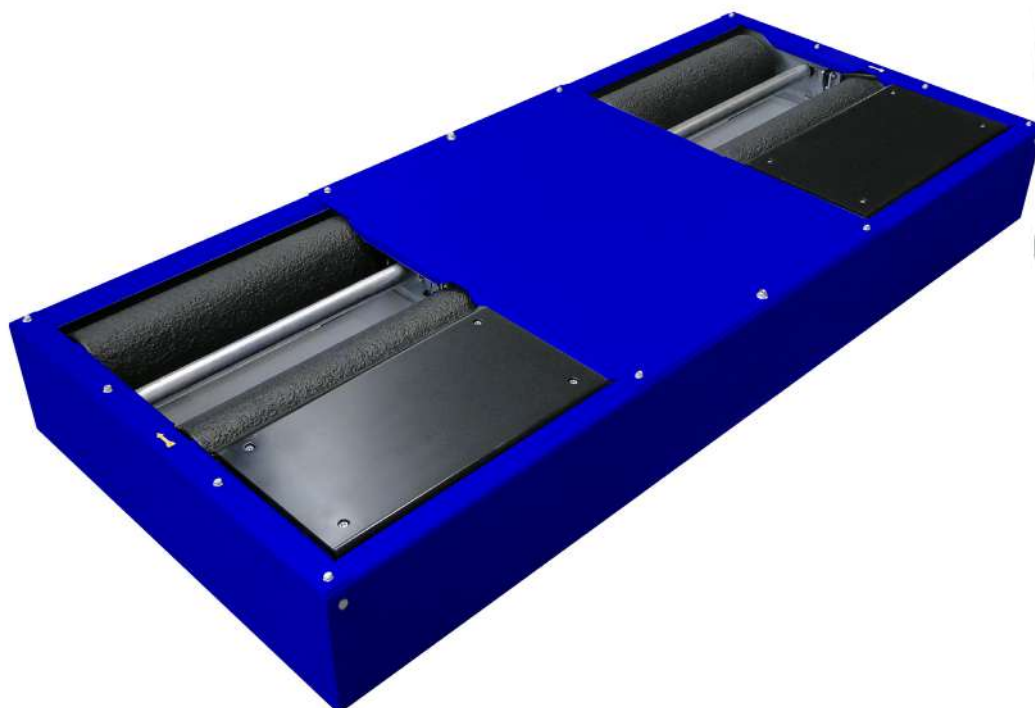
Connections
Ethernet (TCP-IP) / RS-232 connection on the main board

ANTES
AHORA

Flash Memory

New memory 4 times faster

Modular System
All electronics are expandable.
Specially designed for automotive and vehicle inspection centers



Standard Equipment

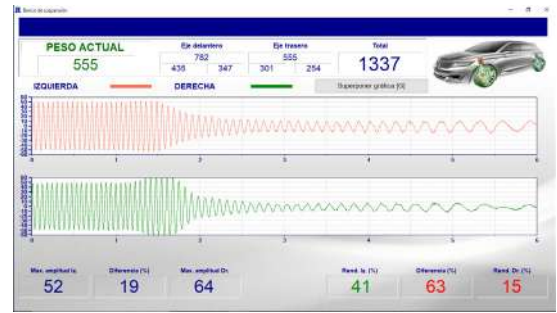
- Suspension Bench and Brake Tester for light vehicles
- Control cabinet
- Electronic control & software
- Remote control for test control
- Electric blockage of rollers to facilitate the vehicle entry/exit
- Rollers coated in welded steel or synthetic fiber

Software

RYME MONOBLOC inspection line has a machine management software that allows you to get the most out of the equipment. This software is simple and intuitive, with a user-friendly interface

It is possible to operate the software manually where the inspector chooses the sequence and the way to perform the test or automatically where it is the machine that manages the inspection process

- Automatic 4WD vehicle detection
- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- Braking lock difference less than 20 ms
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Intuitive, simple and fast configuration software
- Graphical and numerical display of results
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Self test of auto-zero in the beginning of each test
- Very intuitive control software guided by graphic icons
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests.
- Translation module which the user will be able to translate the program into his own language or modify any sentence or word on it..
- Customized advertising on screen
- Test control by using a remote control
- Carrying out a test for each individual wheel for differential observation per individual wheel
- Automatic slip cut-off: new system for measuring the slip, the safety of the tyre is considerably increased, taking into account the performance of the engine in the lowering of the rolling speed
- Possibility of repetition and independent analysis of each wheel
- Possibility of automatic or manual start and stop
- Strain gauge measurement system
- Measurement display with error less than 1%.
- Graphical overlay for checking
- Static and dynamic weighting in each axle
- Measurement of maximum Amplitude produced from start to stop
- Display of left and right Amplitude and difference between the two
- Performance indication left, right and difference between the two
- Free movement of the plate for noise location
- Manual entry of the vehicle weight
- Communication USB / RS232 / Ethernet (TCP-IP) Protocol
- Calibration software
- Software for automatic operation



Software



More Productive
Repetition of partial tests



Safer
Ryme application can encrypt data, make them safer



More Intuitive
Incorporation of graphic icons. RYME applications share the same menus..



More Compatible
Compatibility with more than 95% of the database management systems on the market today, ORACLE, SQL SERVER, Postgre, SQLite, etc. OS support for 32 and 64 Bits and with Android, Windows...



Online support
Possibility of remote connection from our technicians with your equipment
Consult conditions




More Reliable & Precise
Improvement in the process of calibrating the main board Allows the adjustment of the weighing and force calibration to very precise values.




Software adaptations

Possibility of analysis and study, under budget, for adaptation to new regulations in any region and/or country


Mechanics




Epoxy Paint
Powder-coated finish ensures optimal and long-lasting protection



Perfect Fit Assembly
Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



High adherence rollers
Roller coating with our own technology, which provides optimal adhesion even in adverse conditions and high durability



Strongest Gearmotors
Tested for durability to ensure optimum performance

Main Characteristics

Maximum axle load (to step)	4 Tn.
Maximum Track Width	2.270 mm.
Minimum Track Width	840 mm.
Voltage	400 V. 50 Hz. Threephasic
Protection Fuse	3 x 25 A
Thermal Protector	2 x 12,5 A

Suspension Bench Characteristics

Maximum weight test	2.500 Kg
Engine Power	1 x 3 kW
Excitation frequency	16 Hz
Three valuation levels	A) Amplitude B) Efficiency in% C) Diagnosis

Brake tester Characteristics

Drive Motors	2 x 4,6 kW
Test Speed	5,7 km / h.
Roll diameter	202 mm.
Length of the rollers	685 mm.
Useful length of the rollers welded steel / Synthetic fiber	685 mm.
Distance between centers	400 mm.
Friction coefficient	0,9 dry 0,7 wet
Measurement Ranges	0 - 6 kN
Range of measurement	10 N
Measurement indication error	1 %

Dimensions

MONOBLOC






Bench dimensions	2.320 x 1.040 x 285 mm.
Packed bench dimensions	2.400 x 1.200 x 520 mm.
Bench weight	650 kg
Packed bench weight	700 kg

CABINET

Cabinet dimensions	620 x 510 x 1.850 mm.
Packed cabinet dimensions	800 x 600 x 1.580 mm.
Cabinet weight	80 Kg
Packed cabinet weight	100 Kg




Optional Equipment


		Multi-function wireless device, keyboard, mouse and remote control
	GEN-EIN	Computer equipment
	GEN-IMP	Printer
	GEN-TD	Data display terminal
	GEN-STD	Second Data display terminal
	AL-INT	Integrator Kit Side Slip Aligner
	GEN-EST	Voltage Stabilizer
	FRL-M55	Motor 5,5 KW
	FRL-SA230	Delayed static retarder 230 V.
	GEN-230	Power supply 230 V. Three-phase
	GEN-60HZ	Power supply 60 Hz
	FRL-RAS	Access ramps for floor mounting without civil works
	GEN-DPR	Pedal dynamometer with wireless PC communication. Includes wireless receiver and software
	FRM-DMR	Wireless handheld dynamometer

	FRL-4WD	Autoportable set of rollers for 4WD vehicles (4 units)
	FRL KPM	Software and mechanical kit to develop test on motorbikes
	FRL-EPR	Roller covers platform (2 units)
	GEN-PES6	Calibration weight 6 kg
	GEN-PES10	Calibration weight 10 kg
	GEN-PES30	Calibration weight 30 kg
	GEN-PAL2	Calibration lever
	GEN-BOC	Civil work frame monobloc
	AL-BOC	Civil work frame Alineador al paso
	GEN-SSA	Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Other versions

	MONOBLOC-KIT	Electronic box with software and mechanical frames Dimensions of the electronic box: 600 x 600 x 300 mm.
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Other Cabinet

	GEN-MC	PREMIUM CABINET Cabinet only Dimensions: 730 x 600 x 1.800 mm.
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Monobloc inspection line is composed of a single frame that integrates a brake tester and a suspension bench, designed for light vehicles up to 3,500 kg of MMA, and withstand loads of up to 8 tons. per axis to step.

Its main task is to carry out a quick and effective verification of the operating state of the braking control in the vehicle, accurately measuring the maximum braking on the front and rear axles, handbrake, as well as the existing ovality in the discs and drums. of the braking system. In addition to performing a quick and effective analysis of the state of the suspension of light vehicles. The test is carried out under the EUSAMA method, individually measuring the wheels of each axle.

Optionally supports the ability to perform tests to 4WD vehicles.

A computer is responsible for controlling the entire measurement system and the operation of the machine. Control can be by keyboard, mouse or remote control and the visualization is done through highly intuitive software.

Max load per axle 8 Tn.
(to step)

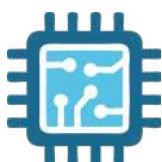
Motor 2x 5,5 Kw.
Braketester

Motor 1x 3,0 Kw.
Suspension Bench

Maximum Track Width 2.830 mm.

Minimum Track Width 840 mm.

Electronics



Latest generation processor
New high-speed processor
Increase the response and process of each vehicle test

ANTES
AHORA



RAM memory
New memory 16 times faster



Connections
Ethernet (TCP-IP) / RS-232 connection on the main board

ANTES
AHORA



Flash Memory
New memory 4 times faster

Modular System
All electronics are expandable.
Specially designed for automotive and vehicle inspection centers



Debido a la continua evolución de nuestros productos, las características técnicas y de diseño podrían estar sujetas a modificaciones, sin previo aviso.

Standard Equipment

- Suspension Bench and Brake Tester for light vehicles
- Control cabinet
- Electronic control & software
- Remote control for test control
- Electric blockage of rollers to facilitate the vehicle entry/exit
- Rollers coated in welded steel or synthetic fiber

Software

RYME MONOBLOC inspection line has a machine management software that allows you to get the most out of the equipment. This software is simple and intuitive, with a user-friendly interface

It is possible to operate the software manually where the inspector chooses the sequence and the way to perform the test or automatically where it is the machine that manages the inspection process

- Automatic 4WD vehicle detection
- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- Braking lock difference less than 20 ms
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Intuitive, simple and fast configuration software
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Self test of auto-zero in the beginning of each test
- Very intuitive control software guided by graphic icons
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests.
- Translation module which the user will be able to translate the program into his own language or modify any sentence or word on it..
- Customized advertising on screen
- Graphical and numerical display of results
- Test control by using a remote control
- Carrying out a test for each individual wheel for differential observation per individual wheel
- Automatic slip cut-off: new system for measuring the slip, the safety of the tyre is considerably increased, taking into account the performance of the engine in the lowering of the rolling speed
- Possibility of repetition and independent analysis of each wheel
- Possibility of automatic or manual start and stop
- Strain gauge measurement system
- Measurement display with error less than 1%.
- Independent manual start and stop by plates
- Static and dynamic weighting in each axle
- Measurement of maximum Amplitude produced from start to stop
- Display of left and right Amplitude and difference between the two
- Performance indication left, right and difference between the two
- Free movement of the plate for noise location
- Manual entry of the vehicle weight
- Communication USB / RS232 / Ethernet (TCP-IP) Protocol
- Control software for 4WD all-wheel drive vehicles
- Calibration software
- Software for automatic operation



Software



More Productive

Repetition of partial tests



Safer

Ryme application can encrypt data, make them safer



More Intuitive

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Compatibility with more than 95% of the database management systems on the market today, ORACLE, SQL SERVER, Postgre, SQLite, etc. OS support for 32 and 64 Bits and with Android, Windows...



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Possibility of remote connection from our technicians with your equipment
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Software adaptations

Possibility of analysis and study, under budget, for adaptation to new regulations in any region and/or country

Mechanics



Epoxy Paint

Powder-coated finish ensures optimal and long-lasting protection



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High adherence rollers

Roller coating with our own technology, which provides optimal adhesion even in adverse conditions and high durability



Strongest Gearmotors

Tested for durability to ensure optimum performance

Main Characteristics

Maximum axle load (to step)	8 Tn.
Maximum Track Width	2.830 mm.
Minimum Track Width	840 mm.
Voltage	400 V. 50 Hz. Threephasic
Protection Fuse	3 x 32 A
Thermal Protector	2 x 16 A

Suspension Bench Characteristics

Maximum test load	2.500 kg
Engine Power	2 x 3 KW
Excitation frequency	16 Hz
Three valuation levels	A) Amplitude B) Efficiency in% C) Diagnosis

Brake tester Characteristics

Engine Power	2 x 5,5 kW (S3)
Test Speed	5 km / h.
Roll diameter	202 mm.
Length of the rollers	1.000 mm.
Distance between centers	400 mm.
Measurement range	0 - 12 kN
Range of measurement	10 N
Measurement indication error	1 %
Friction coefficient	0,9 dry 0,7 wet



Dimensions

Monobloc +

Bench dimensions	2.952 x 1.129 x 285 mm.
Packed bench dimensions	3.150 x 1.400 x 550 mm.
Bench weight	888 kg
Packed bench weight	950 kg

CABINET


Cabinet dimensions	620 x 510 x 1.850 mm.
Packed cabinet dimensions	800 x 600 x 1.580 mm.
Cabinet weight	80 Kg
Packed cabinet weight	100 Kg

Optional Equipment


		Multi-function wireless device, keyboard, mouse and remote control
	GEN-EIN	Computer equipment
	GEN-IMP	Printer
	GEN-TD	Data display terminal
	GEN-STD	Second Data display terminal
	AL-INT	Integrator Kit Side Slip Aligner
	GEN-EST	Voltage Stabilizer
	FRL-M55	Motor 5,5 KW
	FRL-SA230	Delayed static retarder 230 V.
	GEN-230	Power supply 230 V. Three-phase
	GEN-60HZ	Power supply 60 Hz
	FRL-RAS	Access ramps for floor mounting without civil works
	GEN-DPR	Pedal dynamometer with wireless PC communication. Includes wireless receiver and software
	FRM-DMR	Wireless handheld dynamometer

	FRL-4WD	Autoportable set of rollers for 4WD vehicles (4 units)
	FRL KPM	Software and mechanical kit to develop test on motorbikes
	FRL-EPR	Roller covers platform (2 units)
	GEN-PES6	Calibration weight 6 kg
	GEN-PES10	Calibration weight 10 kg
	GEN-PES30	Calibration weight 30 kg
	GEN-PAL2	Calibration lever
	GEN-BOC	Civil work frame monobloc
	AL-BOC	Civil work frame Alineador al paso
	GEN-SSA	Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Other versions

	MONOBLOC-KIT	Electronic box with software and mechanical frames Dimensions of the electronic box: 600 x 600 x 300 mm.
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Other Cabinet

	GEN-MC	PREMIUM CABINET Cabinet only Dimensions: 730 x 600 x 1.800 mm.
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Tandem inspection line is composed of a initial side slip and a tandem brake tester and suspensions bench designed for light vehicles up to 3,500 kg of MMA, and withstand loads of up to 8 tons. per axis to step.

The tandem is composed of two pairs of test benches for brakes and suspension, a fixed and a movable that automatically adjusts to the specific wheelbase of the vehicle to be tested.

The positioning is very precise due to a transducer that constantly sends the position of the movable bed to the electronic control and management of the machine.

With this revolutionary line inspection and proper management of the flow of vehicles can reduce testing time by more than 50%, and therefore increase the productivity of the inspection line by more than 100%.

PATENTED

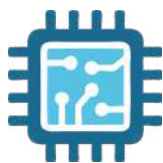
Max load per axle **3,5 Tn.**

Wheelbase mín. - máx. **2.300 - 3.060 mm.**

Maximum Track Width **2.175 mm.**

Minimum Track Width **835 mm.**

Electronics



Latest generation processor
New high-speed processor
Increase the response and process of each vehicle test

ANTES
AHORA

RAM memory

New memory 16 times faster



Connections
Ethernet (TCP-IP) / RS-232 connection on the main board

ANTES
AHORA

Flash Memory

New memory 4 times faster

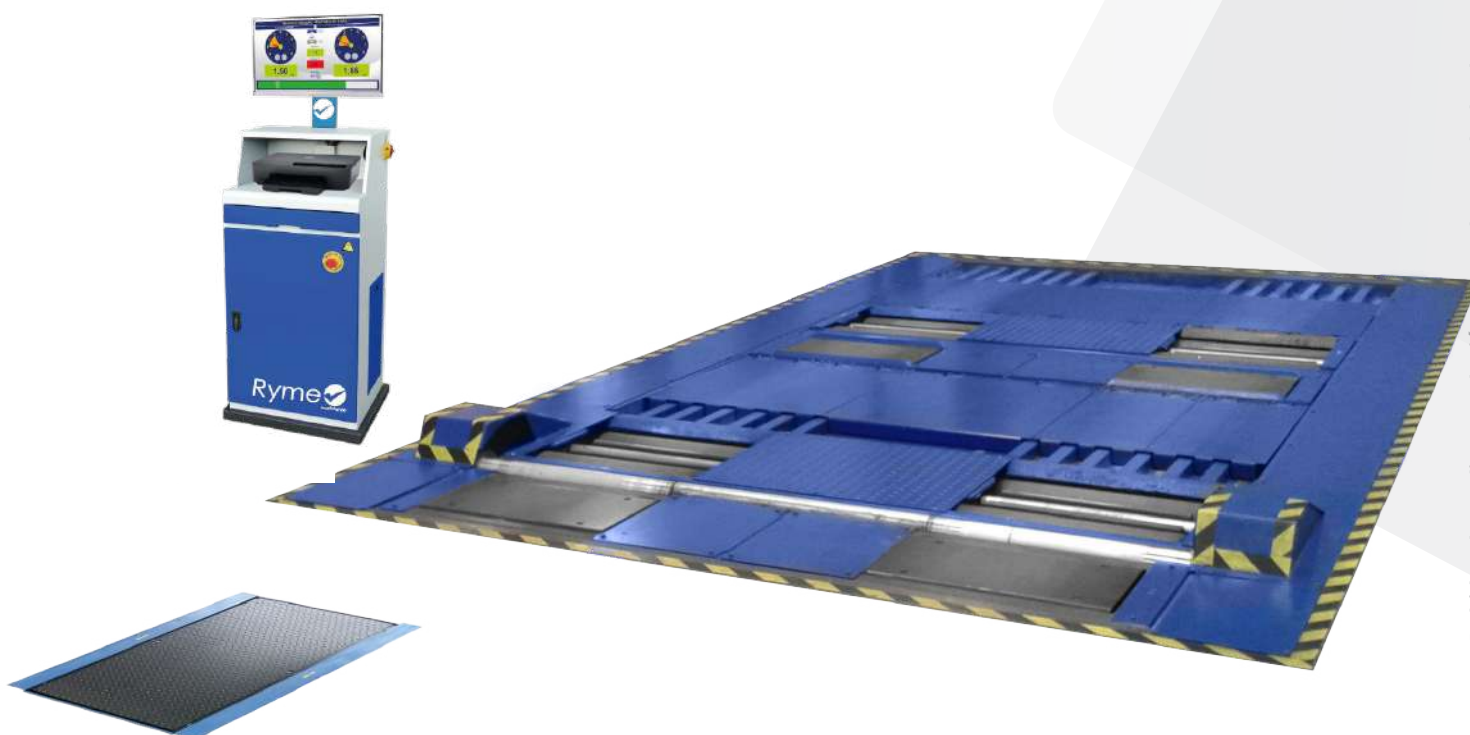
Modular System

All electronics are expandable.
Specially designed for automotive and vehicle inspection centers

Time Optimization



Inspection equipment designed for the optimization and speed of the inspection process. Thanks to its design in a single test we obtain a verification of the state of the brakes and suspension of the vehicle



Standard Equipment

- Side Slip Tester, Suspension bench and Brake Tester for light vehicles
- Control cabinet
- Electronic control & software
- Remote control for test control
- Electric blockage of rollers to facilitate the vehicle entry/exit
- Rollers coated in welded steel or synthetic fiber
- Pneumatic lift on the Brake tester to facilitate vehicle exit
- Rear retention bar, with pneumatic system, for improved braking performance

Software

- Automatic 4WD vehicle detection
- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- Braking lock difference less than 20 ms
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Intuitive, simple and fast configuration software
- Graphical and numerical display of results
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Self test of auto-zero in the beginning of each test
- Very intuitive control software guided by graphic icons
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests.
- Translation module which the user will be able to translate the program into his own language or modify any sentence or word on it..
- Customized advertising on screen
- Carrying out a test for each individual wheel for differential observation per individual wheel
- Automatic slip cut-off: new system for measuring the slip, the safety of the tyre is considerably increased, taking into account the performance of the engine in the lowering of the rolling speed
- Possibility of repetition and independent analysis of each wheel
- Measurement of maximum Amplitudee produced from start to stop
- Display of left and right Amplitudee and difference between the two
- Performance indication left, right and difference between the two
- Manual entry of the vehicle weight
- Communication USB / RS232 / Ethernet (TCP-IP) Protocol
- Control software for 4WD all-wheel drive vehicles
- Calibration software
- Software for automatic operation



Software



More Productive
Repetition of partial tests



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Software adaptations

Possibility of analysis and study, under budget, for adaptation to new regulations in any region and/or country

Technical Data Tandem

Power Supply	400 V. 50 Hz. Three-phase
Protection Fuse	3 x 50 A.
Pneumatic Supply	P _{min} 8bar.
Minimum Track Width	835 mm.

Maximum Track Width	2.175 mm.
Minimum Wheelbase distance	2.300 mm.
Maximum Wheelbase distance	3.060 mm.
Dimensions equipment	5.500 x 3.020 mm.
Weight equipment	4 Tn. (without civil works!)

Technical Data Side Slip Tester

Step speed	5-10 km/h.
Measurement range	-20 ~ 20 m/km.
Range of measurement	0,1 m/km.
3 valuation levels	A) m/km. (máx. 20 m/km) B) Degrees and minutes C) Diagnosis

Technical Data Suspension Bench

Engine Power	2 x 3 kW.
Excitation frequency	16 Hz.
Three valuation levels	A) Amplitude B) Efficiency in% C) Diagnosis

Technical Data Bracketester

Drive Motors	2 x 4,6 kW.
Test Speed	3,5 km/h.
Rear roller diameter	202 mm.
Rear roller length	684 mm.
Front roller diameter	155 mm.

Front roller length	684 mm
Friction coefficient	0,9 dry 0,7 wet
Measurement range	0 - 6 kN.
Range of measurement	10 N.
Measurement indication error	1 %.






Dimensions

Dimensions equipment	5.500 x 3.020 mm.
Weight equipment	4 Tn. (sin obra civil)


Cabinet dimensions	730 x 600 x 1.800 mm.
Packed cabinet dimensions	940 x 940 x 1.690 mm.
Cabinet weight	120 Kg
Packed cabinet weight	200 Kg

Optional Equipment

	Multi-function wireless device, keyboard, mouse and remote control
	GEN-EIN Computer equipment
	GEN-IMP Printer
	GEN-TD Data display terminal
	GEN-STD Second Data display terminal
	GEN-EST Voltage Stabilizer
	FRM-SA Delayed static retarder
	FRM-SA230 Delayed static retarder 230 V.
	GEN-230 Power supply 230 V. Three-phase
	GEN-60HZ Power supply 60 Hz
	GEN-DPR Pedal dynamometer with wireless PC communication. Includes wireless receiver and software
	FRL-EPR Roller covers platform 4 unidades)
	GEN-PES6 Calibration weight 6 kg
	GEN-PES10 Calibration weight 10 kg
	GEN-PES30 Calibration weight 30 kg

	GEN-PAL2 Calibration lever
	BS-CAL Calibration tool for the suspension bench
	GEN-BOC Civil work frame Tandem Lane
	AL-BOC Civil work frame Side Slip tester
	GEN-SSA Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

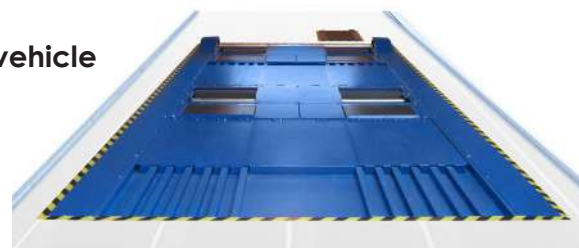
Other Cabinet

	GEN-MC PREMIUM CABINET Cabinet only Dimensions: 730 x 600 x 1.800 mm.
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Operation

1. Automatic Adaptation to the distance between axles of the vehicle

This revolutionary line inspection receives the wheelbase of the vehicle that you are testing. The mobile bench is adjusted automatically to this wheelbase quickly and accurately. A transducer controls at all time the position of the movable bench. Once the machine has been adapted to the dimensions of the vehicle, the test can begin.



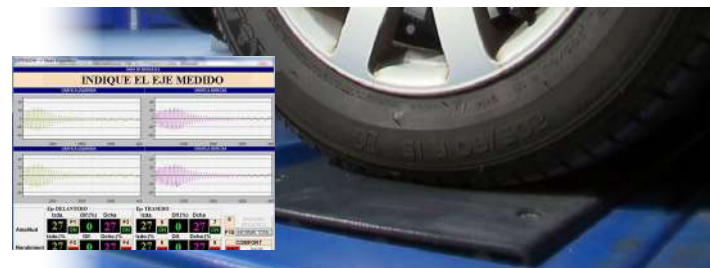
2. Side Slip Test

The first vehicle passes over the sideslip, thus being recorded deviation from his steering axle or axles that are configured



3. Suspension Bench Test

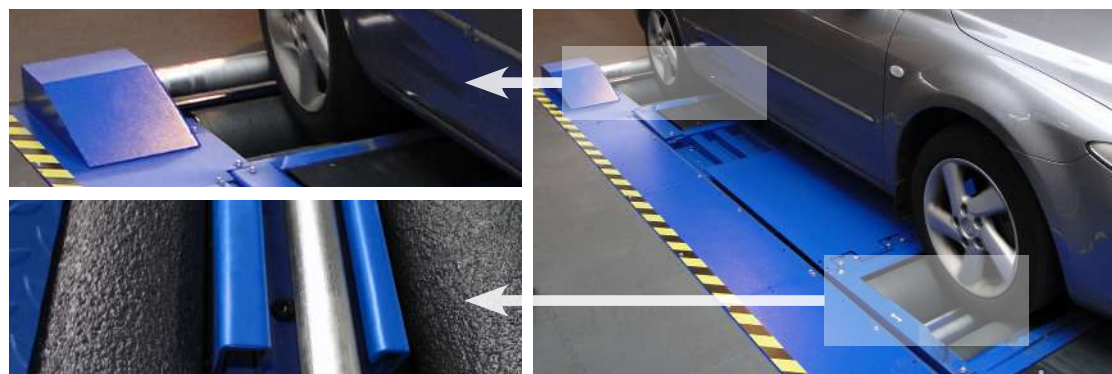
Pneumatic lifting system adjusts the vehicle until its rolling is at ground level. That is when the vehicle advances to bench tandem suspension bench. Again, the suspension is carried out simultaneously in the front and rear axles. Weights are recorded and efficiencies of the suspension of the complete vehicle



4. Brake Tester Test

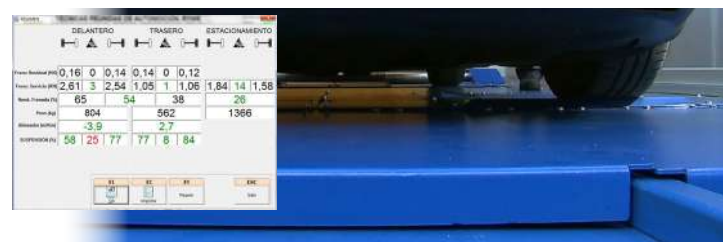
The next test that makes the vehicle is on the brake tester. Initially Pneumatic lifting beam holds the vehicle. When proper positioning of the vehicle is detected descends the lifting beam, being the axles perfectly positioned on tandem brake testers.

At this time a holding roller support on the tires of the rear axle, giving greater stability test and therefore more safety, at which the Motors start rotating. The all four wheels are tested simultaneously ovality and values are then recorded complete.



5. End of Test

The vehicle is removed from the inspection line: the test has been completed. It remains only to check on the report that the diagnosis has been favorable.



SPEEDOMETER TAXIMETERS · TACHOMETERS

Ideal for testing and determine the status of the mopeds speed limiter. Frame of high strength steel assembled under the "Perfect-fit" exclusive system, which characterizes all the frames of RYME brand great precision in the adjustment, avoiding the possibility of human error in the assembly and giving a an excellent look.

The speed measurement is obtained through a pulse sensor mounted on the axle of the front rollers.

The surface is smooth and coated with an antioxidant treatment which inferred rollers durability.

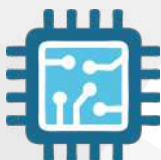
PATENTED

Max load per axle **250 kg**

Max test speed **120 km/h**

Wheelbase Roller **260 mm.**

Electronics



Latest generation processor

New high-speed processor
Increase the response and process of each vehicle test

ANTES
AHORA

RAM memory

New memory 16 times faster



Connections

Ethernet (TCP-IP) / RS-232 connection on the main board

ANTES
AHORA

Flash Memory

New memory 4 times faster

Modular System

All electronics are expandable.
Specially designed for automotive and vehicle inspection centers



Standard Equipment

- Speedometer frame
- Electronic control & software
- Remote control for test control
- Access ramps
- Platforms footrest

Software

- **Sending and processing data and graphics in real time**
- **Possibility of sending encrypted data to the server** using the AES encryption method (Advanced Encryption Standard)
- **100% compatible with management systems and databases**
- **Assigning permissions** to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- **Customization of the test duration to the minimum and/or maximum time** to optimize working time
- Intuitive, simple and fast **configuration software**
- Graphical and numerical display of results
- **Very intuitive control software** guided by graphic icons
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests.
- Customized advertising on screen
- Measurement of speed, time and space
- Ethernet communication (TCP-IP protocol)
- Maximum speed measurement for a configurable time
- Maximum speed measurement in less than a minute if before 60 km / h + error is exceeded (configurable values).
- Total configuration of parameters in speed and test time
- Programmable speed limit values (manual or automatic transmission)
- Database that allows to store cards with customer and vehicle data. All tests are registered and easy to search.
- Translation module through which the user can translate the program into their own language
- Automatic test start at a configurable speed
- Software for automatic operation



Software



More Productive

Repetition of partial tests



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Perfect Fit Assembly

Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



High adherence rollers

Roller coating with our own technology, which provides optimal adhesion even in adverse conditions and high durability



Strongest Gearmotors

Tested for durability to ensure optimum performance



Software adaptations

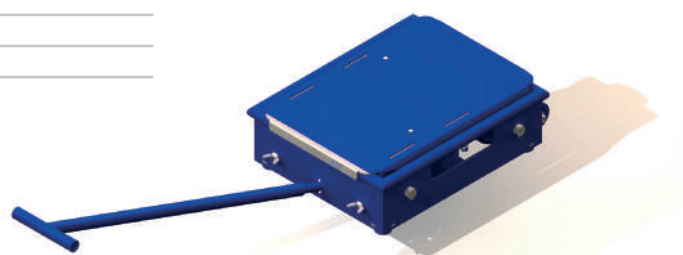
Possibility of analysis and study, under budget, for adaptation to new regulations in any region and/or country

Technical Data

Maximum axle load	250 Kg
Maximum test speed	120 km/h
Length of the rollers	210 mm.
Roll diameter exterior	102 mm.
Wheelbase Roller	260 mm.
Rolling resistance	<0,1 Nm.

Dimensions


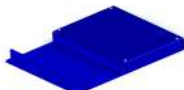
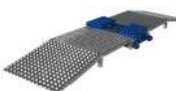


Equipment dimensions close	440 x 350 x 116 mm.
Equipment dimensions open	1.112 x 351 x 115 mm.
Packed equipment dimensions	800 x 600 x 400 mm.
Bench weight	44 Kg
Packed equipment weight	60 Kg



Transportable Trolley

Optional Equipment

	Multi-function wireless device, keyboard, mouse and remote control
	Integration of FRM II portable brake tester
GEN-EIN	Computer equipment
GEN-IMP	Printer
GEN-TD	Data display terminal
GEN-STD	Second Data display terminal
 GEN-EST	Voltage Stabilizer
 GEN-SRM	Manual front clamp for wheel clamping

 GEN-SRA	Automatic front clamp for wheel fixing
 GEN-PNS	Pneumatic front wheel clamp 800 x 1.040 x 90 mm.
 FRMP-SPP	Aluminium platform to facilitate the performance
 GEN-MSC	Calibration weights
 GEN-SSA	Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Optional cabinet



PREMIUM CABINET
Cabinet only
Dimensions:
730 x 600 x 1.800 mm.



TROLLEY
Mobile stand for computer and printer

Speedometer designed to be embedded or on the surface, ideal for verifying the tachometer and limiter of mopeds. High resistance steel frame assembled under the exclusive "Perfect-fit" system, which characterizes all RYME brand frames with great adjustment accuracy, while avoiding the possibility of human error in the assembly and giving a unbeatable appearance.

The speed measurement is obtained through an incremental encoder mounted on the axis of the front roller. Given the resolution of the encoder, a high reading accuracy is obtained, greater than +/- 0.1 km / h. The surface is smooth and coated with an antioxidant treatment that gives the rollers great durability.

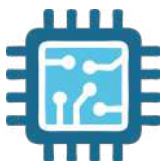
Movable rear roller to adjust to different wheel diameters.

Frame to embed in the ground or on the ground.

PATENTED

Max load per axle	250 kg
Wheelbase Roller mín. / máx.	250 / 365 mm.
Max wheel width	250 mm.

Electronics



Latest generation processor

New high-speed processor
Increase the response and process of each vehicle test

ANTES
AHORA



RAM memory

New memory 16 times faster



Connections

Ethernet (TCP-IP) / RS-232 connection on the main board

ANTES
AHORA

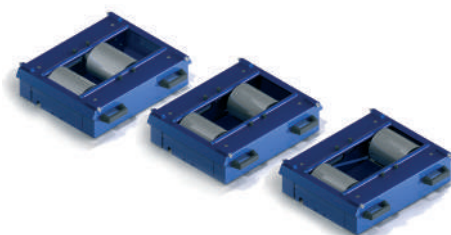


Flash Memory

New memory 4 times faster

Modular System

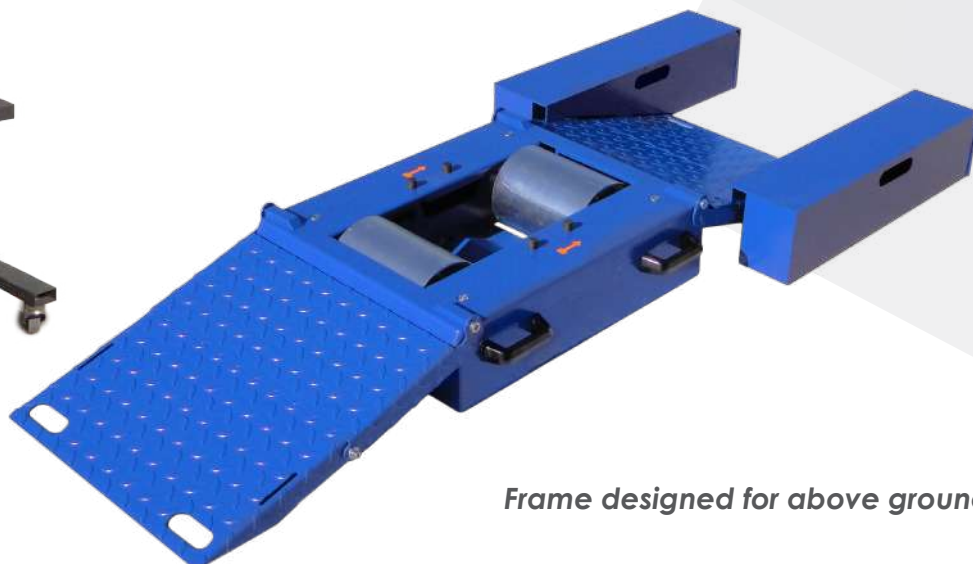
All electronics are expandable.
Specially designed for automotive and vehicle inspection centers



Roller distance adaptable to the diameter of the moped wheel.



Frame designed to embed



Frame designed for above ground

Standard Equipment

- Speedometer frame
- Electronic control & software
- Remote control for test control
- Folding access ramps
- Platforms footrest



Software

- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Intuitive, simple and fast configuration software
- Graphical and numerical display of results
- Very intuitive control software guided by graphic icons
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests.
- Customized advertising on screen
- Measurement of speed, time and space
- Ethernet communication (TCP-IP protocol)
- Maximum speed measurement for a configurable time
- Maximum speed measurement in less than a minute if before 60 km / h + error is exceeded (configurable values).
- Total configuration of parameters in speed and test time
- Programmable speed limit values (manual or automatic transmission)
- Database that allows to store cards with customer and vehicle data. All tests are registered and easy to search.
- Translation module through which the user can translate the program into their own language
- Automatic test start at a configurable speed
- Software for automatic operation

Software



More Productive
Repetition of partial tests



Safer
Ryme application can encrypt data, make them safer



More Intuitive
Incorporation of graphic icons. RYME applications share the same menus..



More Compatible
Compatibility with more than 95% of the database management systems on the market today, ORACLE, SQL SERVER, Postgre, SQLite, etc. OS support for 32 and 64 Bits and with Android, Windows...



Online support
Possibility of remote connection from our technicians with your equipment
Consult conditions



More Reliable & Precise
Improvement in the process of calibrating the main board Allows the adjustment of the weighing and force calibration to very precise values.

Mechanics



Epoxy Paint
Powder-coated finish ensures optimal and long-lasting protection



Perfect Fit Assembly
Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



High adherence rollers
Roller coating with our own technology, which provides optimal adhesion even in adverse conditions and high durability



Strongest Gearmotors
Tested for durability to ensure optimum performance



Software adaptations
Possibility of analysis and study, under budget, for adaptation to new regulations in any region and/or country



Technical Data


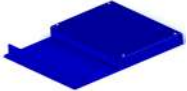
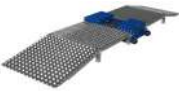


Maximum axle load	250 Kg
Maximum test speed	120 km/h
Length of the rollers	195 mm.
Roll diameter exterior	150 mm.
Distance between roller axes	250/308/365 mm. (3 positions)
Rolling resistance	<0,1 Nm.

Dimensions

Unopened bench dimensions (inside ground)	610 x 470 x 150 mm.
Unopened bench dimensions (above ground)	610 x 470 x 200 mm.
Unfolded bench dimensions	1.500 x 540 x 160 mm.
Packed bench dimensions	850 x 750 x 680 mm.
Bench weight	56 Kg
Packed bench weight	90 Kg

Optional Equipment

	Multi-function wireless device, keyboard, mouse and remote control
	Braketester integration FRM
	Braketester portable integration FRM II
GEN-EIN	Computer equipment
GEN-IMP	Printer
GEN-TD	Data display terminal
GEN-STD	Second Data display terminal
GEN-EST	Voltage Stabilizer
	GEN-SRM Manual front clamp for wheel clamping

	GEN-SRA	Automatic front clamp for wheel fixing
	GEN-PNS	Pneumatic front wheel clamp 800 x 1.040 x 90 mm.
	FRMP-SPP	Aluminium platform to facilitate the performance
	GEN-MSD	Calibration weights
	GEN-SSA	Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Optional cabinet

	PREMIUM CABINET Cabinet only Dimensions: 730 x 600 x 1.800 mm.		TROLLEY Mobile stand for computer and printer
---	---	---	--

Ideal for testing and determine the status of the mopeds speed limiter. Frame of high strength steel assembled under the "Perfect-fit" exclusive system, which characterizes all the frames of RYME brand great precision in the adjustment, avoiding the possibility of human error in the assembly and giving a an excellent look.

The speed measurement is obtained through a pulse sensor mounted on the axle of the front rollers.

The surface is smooth and coated with an antioxidant treatment which inferred rollers durability.

PATENTED

Max load per axle **250 kg**

Max test speed **120 km/h**

Wheelbase Roller **260 mm.**

Electronics



Latest generation processor

New high-speed processor
Increase the response and process of each vehicle test

ANTES
AHORA

RAM memory

New memory 16 times faster



Connections

Ethernet (TCP-IP) / RS-232 connection on the main board

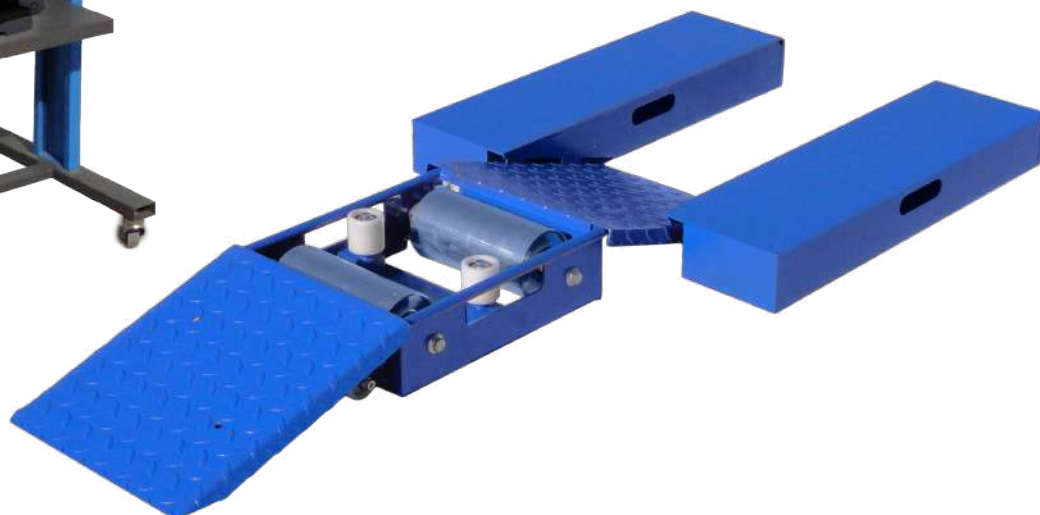
ANTES
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Modular System

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Standard Equipment

- Speedometer frame
- Electronic control & software
- Remote control for test control
- Access ramps
- Platforms footrest

Software

- **Sending and processing data and graphics in real time**
- **Possibility of sending encrypted data to the server** using the AES encryption method (Advanced Encryption Standard)
- **100% compatible with management systems and databases**
- **Assigning permissions** to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- **Customization of the test duration to the minimum and/or maximum time** to optimize working time
- Intuitive, simple and fast **configuration software**
- Graphical and numerical display of results
- **Very intuitive control software** guided by graphic icons
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests.
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- Translation module through which the user can translate the program into their own language
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- Software for automatic operation



Software



More Productive

Repetition of partial tests



Safer

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Consult conditions



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Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



High adherence rollers

Roller coating with our own technology, which provides optimal adhesion even in adverse conditions and high durability



Strongest Gearmotors

Tested for durability to ensure optimum performance



Software adaptations

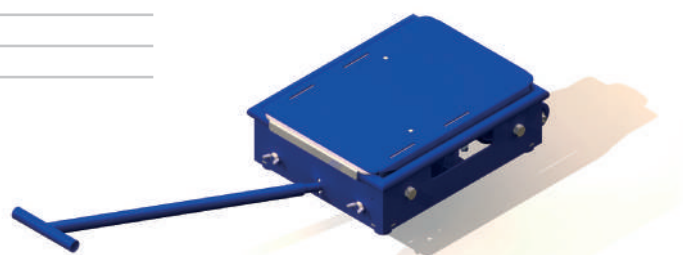
Possibility of analysis and study, under budget, for adaptation to new regulations in any region and/or country

Technical Data

Maximum axle load	250 Kg
Maximum test speed	120 km/h
Length of the rollers	210 mm.
Roll diameter exterior	102 mm.
Wheelbase Roller	260 mm.
Rolling resistance	<0,1 Nm.

Dimensions

Equipment dimensions close	440 x 350 x 116 mm.
Equipment dimensions open	1.112 x 351 x 115 mm.
Packed equipment dimensions	800 x 600 x 400 mm.
Bench weight	44 Kg
Packed equipment weight	60 Kg



Transportable Trolley

Optional Equipment



Multi-function wireless device, keyboard, mouse and remote control

Integration of FRM II portable brake tester

GEN-EIN Computer equipment

GEN-IMP Printer

GEN-TD Data display terminal

GEN-STD Second Data display terminal



GEN-EST Voltage Stabilizer



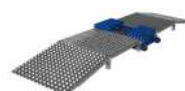
GEN-SRM Manual front clamp for wheel clamping



GEN-SRA Automatic front clamp for wheel fixing



GEN-PNS Pneumatic front wheel clamp 800 x 1.040 x 90 mm.



FRMP-SPP Aluminium platform to facilitate the performance



GEN-MSC Calibration weights



GEN-SSA Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Optional cabinet



PREMIUM CABINET
Cabinet only
Dimensions:
730 x 600 x 1.800 mm.



TROLLEY
Mobile stand for computer and printer

Ideal for testing and determining the status of the taximeter, speedometer and tachograph. Quantifies the time, the distance travelled and the price of the journey made.

The speedometer compares the speed indicated by the technician (when the responsible record the speed) and the real, finding the difference between both in%. The tachograph test of the record the distance indicated by the technician and the real travelled by the vehicle, also finding the difference between both in%.

Taximeter test identifies the error in the collection, according to current fares, marking in red if the value is outside the parameters.

The measurement system is based on a high-resolution encoder and incorporates a photocell to calculate the error introduced by the deformation of the tires.

Update fares with password validation.

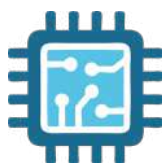
Max load per axle to the step **3,5 Tn**

Test speed **0-120 km/h**

Maximum Track Width **2.120 mm.**

Minimum Track Width **805 mm.**

Electronics



Latest generation processor

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Increase the response and process of each vehicle test

ANTES
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RAM memory

New memory 16 times faster



Connections

Ethernet (TCP-IP) / RS-232 connection on the main board

ANTES
AHORA



Flash Memory

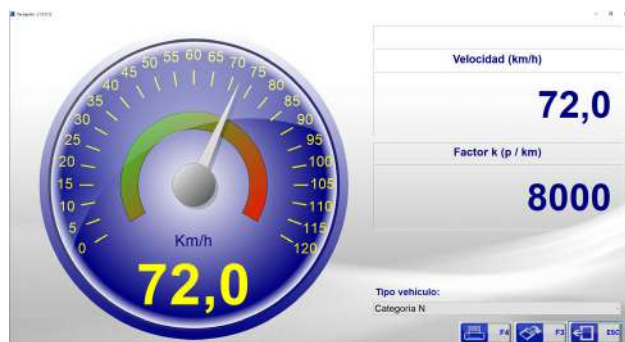
New memory 4 times faster

Modular System
All electronics are expandable.
Specially designed for automotive and vehicle inspection centers



Standard Equipment

- Taximeter speedometer
- Electronic control & software
- Remote control for test control
- Control cabinet
- Roller covers platform
- Rollers manufactured for a high adherence
- Lifting system to help exit the vehicle, with braking rollers system incorporated and pneumatic operation
- Safety elements to prevent the lateral exit of the vehicle



Software

- Path measurement up to 10 points
- Measurement of speed, time and space
- Measurement of effective wheel circumference with correction factor
- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Customization of the test duration to the minimum and/or maximum time to optimize working time
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- Programmable speed limit values (manual or automatic transmission)
- Database that allows to store cards with customer and vehicle data. All tests are registered and easy to search.
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Software



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Repetition of partial tests



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Strongest Gearmotors

Tested for durability to ensure optimum performance



Software adaptations

Possibility of analysis and study, under budget, for adaptation to new regulations in any region and/or country

Technical Data

Maximum load per step	3,5 Tn.
Track width min. / max.	805 / 2.120 mm.
Test speed	0-120 km/h
Range of measurement	0,1 m.
Roller locking system	Pneumatic
Voltage (Threephasic)	400 v. / 50 Hz

Roller length	682 mm.
Rollers diameter	202 mm.
Wheelbase Roller	360 mm.
Pneumatic supply	8 bar min
Electric dragging motor for axles without traction of 7.5 Kw up to 60 km. / H.	
Connections	TCP IP

Taximeter

- Drag test schedule.
- Drag kilometer test.
- Test up to six different fares.
- Test Storage in database.

Tachometer / Speedometer



- Testing and evaluation of results in different paths / speeds.
- Test Storage in database.

Dimensions

Bench dimensions	2.320 x 680 x 436 mm.
Packed bench dimensions	2.400 x 800 x 500 mm.
Bench weight	600 Kg
Packed bench weight	650 Kg

Cabinet dimensions	720 x 420 x 1.850 mm.
Packed cabinet dimensions	800 x 600 x 1.580 mm.
Cabinet weight	80 Kg
Packed cabinet weight	100 Kg

Optional Equipment

	Multi-function wireless device, keyboard, mouse and remote control
GEN-EIN	Computer equipment
GEN-IMP	Printer
GEN-TD	Data display terminal
GEN-STD	Second Data display terminal
	GEN-EST Voltage Stabilizer

	GEN-RLA	Autoportable set of rollers for 4WD vehicles (4 units)
	VTL-BOC	Civil work frame
	GEN-SSA	Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Other versions

VTL-KIT



Electronic box with software and mechanical frames
Dimensions of the electronic box: 600 x 600 x 300 mm.

Optional cabinet

GEN-MC



PREMIUM CABINET
Cabinet only
Dimensions:
730 x 600 x 1.800 mm.

Ideal for testing and determining the status of the taximeter, speedometer and tachograph. Quantifies the time, the distance travelled and the price of the journey made.

The speedometer compares the speed indicated by the technician (when the responsible record the speed) and the real, finding the difference between both in %. The tachograph test of the record the distance indicated by the technician and the real travelled by the vehicle, also finding the difference between both in %.

Taximeter test identifies the error in the collection, according to current fares, marking in red if the value is outside the parameters.

The measurement system is based on a high-resolution encoder and incorporates a photocell to calculate the error introduced by the deformation of the tires.

Update fares with password validation

Max load per axle	16 Tn
Test speed	0-120 km/h
Maximum Track Width	2.635 mm.
Minimum Track Width	805 mm.

Electronics



Latest generation processor

New high-speed processor
Increase the response and process of each vehicle test

ANTES
AHORA



RAM memory

New memory 16 times faster



Connections

Ethernet (TCP-IP) / RS-232 connection on the main board

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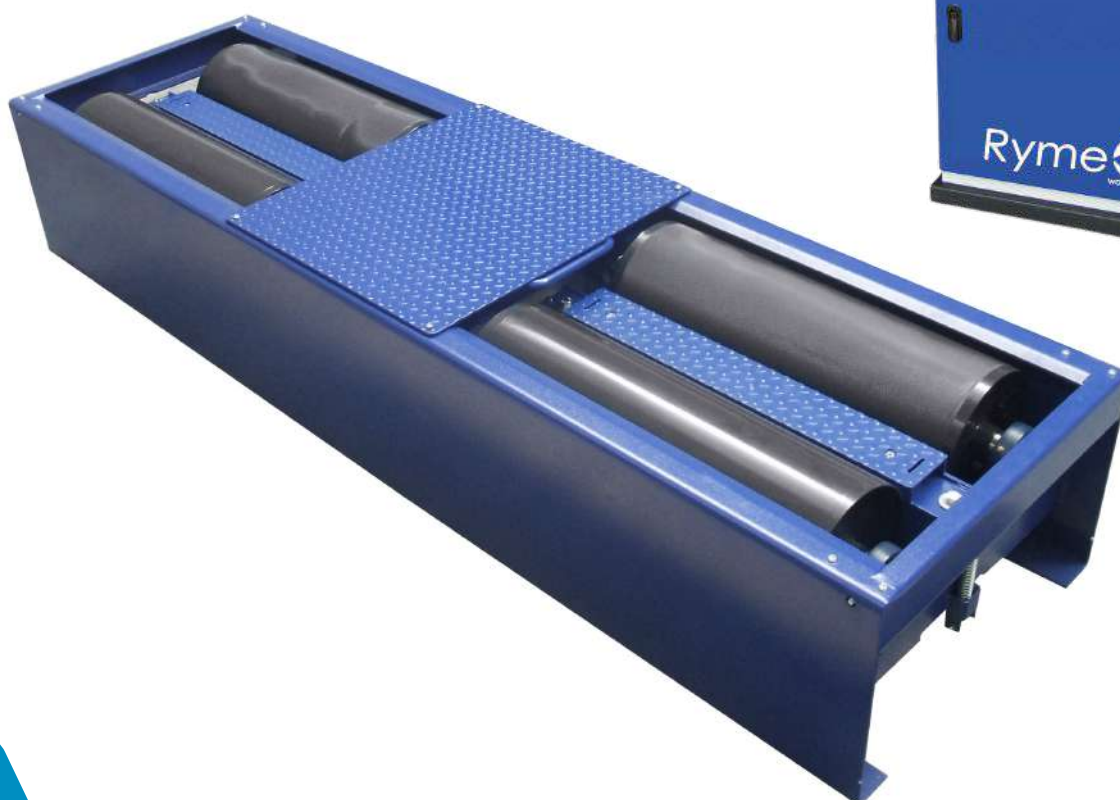


Flash Memory

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Modular System

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Standard Equipment

- Speedometer frame universal.
- Electronic control & software
- Control cabinet
- Roller covers platform
- Remote control for test control
- Lifting system to help exit the vehicle, with braking rollers system incorporated and pneumatic operation.

Software

- Measurement of speed, time and space
- Measurement of effective wheel circumference with correction factor
- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Intuitive, simple and fast configuration software
- Graphical and numerical display of results
- Very intuitive control software guided by graphic icons
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests.
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- Automatic test start at a configurable speed
- Software for automatic operation



Software adaptations

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High adherence rollers

Roller coating with our own technology, which provides optimal adhesion even in adverse conditions and high durability



Strongest Gearmotors

Tested for durability to ensure optimum performance

Technical Data

Maximum axle load	16 Tn.
Track width min. / max.	805 / 2.635 mm.
Test speed	0-120 km/h
Range of measurement	0,1 m.
Roller locking system	Pneumatic
Voltage (Monophase)	230 v. - 50 Hz
Roller length	900 mm.
Rollers diameter	318 mm.
Wheelbase Roller	456 mm.
Connections	TCP IP

Taximeter

- Drag test schedule.
- Drag kilometer test.
- Test up to six different fares.
- Test Storage in database.

Tachometer / Speedometer

- Testing and evaluation of results in different paths / speeds.
- Test Storage in database.



Dimensions

Bench dimensions	3.180 x 840 x 516 mm.
Packed bench dimensions	3.180 x 850 x 690 mm.
Bench weight	1.130 Kg
Packed bench weight	1.300 Kg


Cabinet dimensions	720 x 420 x 1.850 mm.
Packed cabinet dimensions	800 x 600 x 1.580 mm.
Cabinet weight	80 Kg
Packed cabinet weight	100 Kg

Optional Equipment

		Multi-function wireless device, keyboard, mouse and remote control
	GEN-EIN	Computer equipment
	GEN-IMP	Printer
	GEN-TD	Data display terminal
	GEN-STD	Second Data display terminal
	GEN-EST	Voltage Stabilizer
	RY-400	Tacographs speed limiter / tester
	GEN-4WP	Free rollers portable for front axle traction vehicle

	GEN-4WO	Free rollers portable for front axle traction vehicle
	VTL-BOC	Civil work frame
	GEN-SSA	Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Optional cabinet

	GEN-MC	PREMIUM CABINET Cabinet only Dimensions: 730 x 600 x 1.800 mm.
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Ryme has developed an innovative free roller system for speed testing of 4WD and 6WD commercial vehicles. The 6WD rollers is a piece of equipment that completes the performance of the speedometer to carry out speed and tachograph tests.

The set is made up of two welded steel frames on which the rollers are mounted, making it possible to freely rotate the Pneumatic of the vehicle. Each frame has two rows of rollers that allow the longitudinal movement of the set, adaptable to the entire spectrum of battles or wheelbase. It also has a mechanical interlocking system that restricts movement in vehicle entry, exit and test maneuvers. The equipment has an auxiliary roller that adjusts to the Pneumatic, limiting its transversal deviation when the test is carried out. Some ramps that are installed manually, allow the entry and exit of the vehicle.

An important feature is that these rollers do not require any civil works, so the installation or adaptation costs of the installation are irrelevant.

PATENTED

**Axle
weight
limit**

10 tn

**Compatible
with**

**4WD
6WD**

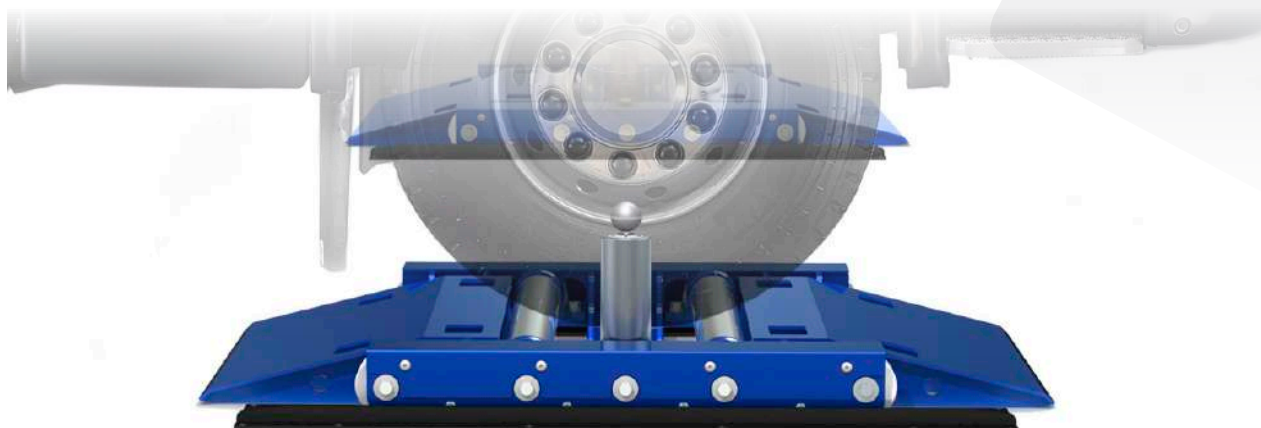
Technical Data

Axle load 10 Tn.	
Steel rollers	
Mechanical safety lock during the test	
Anti-wear teflon scroll rollers	
Removable ramps	
Adjustable vehicle wheelbase	
Does not need civil works	
Length of the rollers	800 mm.
Roll diameter	80 mm.
Distance between centers de los rodillos	310 mm.
Frame measurements	1.170 x 1.360 x 115 mm.

Dimensions

Bench weight (1 frame)	130 Kg
Bench weight with ramps(1 frame)	180 Kg
Dimensions (1 frame)	1.170 x 1.360 x 115 mm.
Packaged weight equipment	385 Kg
Dimensions of the packaged package	1.300 x 1.450 x 300 mm.

Adjust according to vehicle distance



Ideal machine for testing and determining the condition of the speed limiter of quadricycles, motorcycles, quads and tricycles. High resistance steel frame assembled under the exclusive "Perfect-fit" system, which characterizes all RYME brand frames with great precision in adjustment, while avoiding the possibility of human error in the assembly and giving an unbeatable appearance.

The speed measurement is obtained through an incremental encoder mounted on the axis of the front rollers. Given the encoder resolution, a high reading precision is obtained, greater than ± 0.1 km / h.

The surface is smooth and painted in epoxy that gives the rollers great durability.

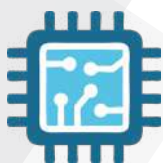
Max load per axle  **1 Tn.**

Roller Lock **Pneumatic**

Maximum Track Width **1.700 mm.**

Minimum Track Width **230 mm.**

Electronics



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Ethernet

Connections

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Standard Equipment

- Speedometer frame
- Electronic control & software
- Control cabinet
- Remote control for test control
- Lifting system to help exit the vehicle, with braking rollers system incorporated and pneumatic operation

Software

- Measurement of speed, time and space
- **Sending and processing** data and graphics in **real time**
- **Possibility of sending encrypted data to the server** using the **AES encryption method (Advanced Encryption Standard)**
- Maximum speed measurement for a configurable time
- Maximum speed measurement in less than a minute if before 60 km / h + error is exceeded (configurable values).
- Total configuration of parameters in speed and test time
- **Programmable speed limit values (manual or automatic transmission)**
- **Configurable speed range for both manual and automatic transmission**
- **Automatic test stop (speed configurable)**
- Automatic test start at a configurable speed
- **100% compatible with management systems and databases**
- **Assigning permissions** to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
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Mechanics



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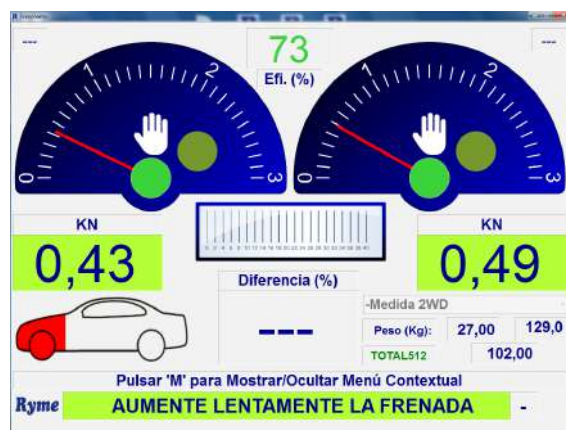
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Possibility of analysis and study, under budget, for adaptation to new regulations in any region and/or country

Technical Data




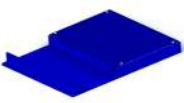
Maximum axle load	1 Tn.
Maximum Track Width	1.700 mm.
Minimum Track Width	230 mm.
Minimum wheel width	120 mm.
Test speed	0-60 km/h.
Max speed	120 km/h
Roller locking system	Pneumatic
Voltage (Monophase)	230 v. - 50 Hz.
Roller length	1.000 / 495 mm.
Roller diameter	202 mm.
Wheelbase Roller	360 mm.
Pneumatic supply	Pn= 8 bar.
Connection	USB / RS-232




Dimensions

Bench dimensions	1.845 x 680 x 436 mm.
Packed bench dimensions	2.400 x 800 x 930 mm.
Bench weight	500 kg
Packed bench weight	600 kg


Cabinet dimensions	730 x 600 x 1.800 mm.
Packed cabinet dimensions	800 x 600 x 1.580 mm.
Cabinet weight	80 kg
Packed cabinet weight	100 kg

Optional Equipment

		Multi-function wireless device, keyboard, mouse and remote control
	GEN-EIN	Computer equipment
	GEN-IMP	Printer
	GEN-TD	Data display terminal
	GEN-STD	Second Data display terminal
	GEN-EST	Voltage Stabilizer
	VTLC-CSP	Footrests for complet Cycle lane
	GEN-PNS	Pneumatic front wheel clamp una posición. 1.040 x 800 x 90 mm.

	GEN-SRA	Automatic front clamp for wheel fixing
	VTLC-EPR	Roller covers platform (2 units)
	VTLC-BOC	Civil work frame
	GEN-SSA	Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Optional cabinet

	GEN-MC	PREMIUM CABINET Cabinet only Dimensions: 730 x 600 x 1.800 mm.
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Taximeter tester designed to verify the rates of all types of taxis, including vehicles equipped with the most modern security systems.

LED backlit display, with transfective anti-reflective system.

It measures both speed, distance traveled and operating time.

Measurement equipment based on Global Positioning System via satellite (GPS). The measurement is made by evaluating the behavior of the vehicle on the road.

The taximeter tester automatically locates the satellites, evaluating the received time and position information and deriving from it the space traveled, as well as the speed of the vehicle.

Characteristics

- Valid for all types of vehicles
- Measurement function from 0.0 km / h.
- Measurement function from 40 km / h.
- Working frequency 10 Hz
- Easy to use.
- No installation required
- Free of maintenance.
- Avoid waiting times during testing.
- Test under real vehicle conditions.
- 100% reliability.
- Max Amount and min. admitted.
- Resistant to working conditions.
- Storage of up to 2000 tests.
- Possibility of downloading data to PC.
- USB port for data connection.
- Compatible with front-wheel drive, rear-wheel drive, all-wheel drive, with ESP, TCS, ABS, etc.



PATENTED

Screen

LED

Backlight

Measurement

Speed
Distance
Weather

Compatible
with

ESP, TCS,
ABS, etc.

Debido a la continua evolución de nuestros productos, las características técnicas y de diseño podrían estar sujetas a modificaciones, sin previo aviso.

Technical Data

Blue backlit alphanumeric LCD display

Rechargeable batteries (AA size included)

Alternative power supply, compatible with 12V vehicle power socket (DC) (optional)

Dimensions: 220 x 105 x 40 mm.

Bench weight : 536 gr.



Standard Equipment



GPS RECEIVER VIA SATELLITE

GPS signal receiver, small in size and great coverage.

Magnetic support for a correct fixing of the GPS receiver to the vehicle body.

Dimensions: 40 x 40 x 15 mm.

Weight: 25 gr.



LCD SCREEN

Backlit alpha-numeric LCD display with 4 capacity lines.

Optional Equipment



POWER SUPPLY FOR VEHICLE LIGHTER

Standard power supply system (12 V. DC) for use in all types of vehicles.

POWER BENCHES

The moped Inertial dynamometer bench is a very useful tool for inspection centers and workshops as it determines the power and torque based on the engine's speed of rotation. It also allows diagnosing the status of the moped speed limiter.

The bench is made up of a monocoque steel frame that houses two 150 mm rollers, mounted on bearings with very low resistance to rotation.

The dynamometer bench, likewise, has a 200 mm inertia simulation wheel. The speed measurement is obtained through an incremental encoder mounted on the axis of the front roller. Locking the rear roller in different positions makes it easy to test for different wheel sizes.

PATENTED

Maximum axle load	250 kg
Max test speed	120 km/h.
Roller wheelbase	360 mm.


We can check the power on scooters, enduros, minibikes, etc ...

Machine with which it is possible to achieve a high inertia value thanks to the triple roller system, two small and one larger connected to each other. Measuring scooters as they behave in reality.


It is essential to have a large mass to be able to simulate the acceleration as it really is, with which we obtain the same results as in road tests.

ADVANTAGES: Small, flat, easy to handle equipment, fast and precise measurements and integrated rollers.


Electronics




Latest generation processor
New high-speed processor
Increase the response and process of each vehicle test




Ethernet
Ethernet (TCP-IP) / RS-232 connection on the main board



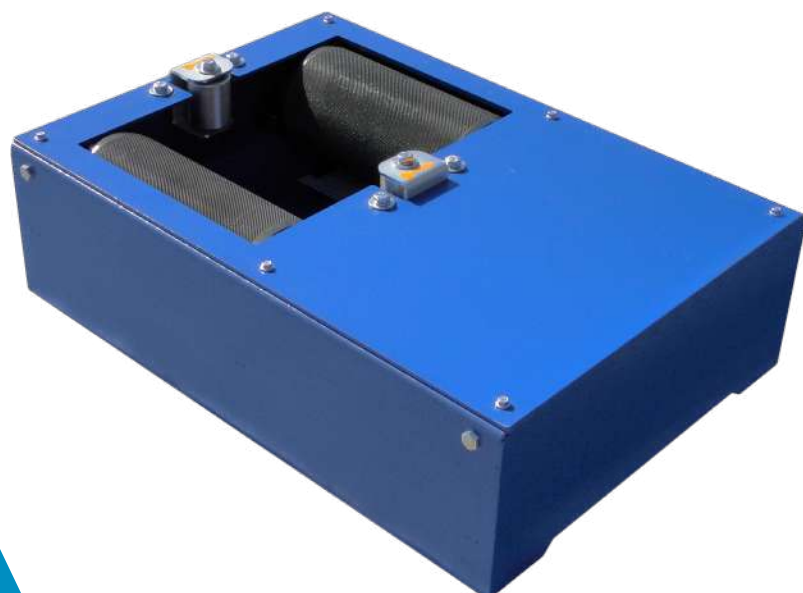
RAM memory
New memory 16 times faster



Flash Memory
New memory 4 times faster



Modular System
All electronics are expandable.
Specially designed for automotive and vehicle inspection centers



Standard Equipment

- Inertial dynamometer bench
- Control cabinet
- Electronic control & software
- Remote control for test control

Software

- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Intuitive, simple and fast configuration software
- Graphical and numerical display of results
- Very intuitive control software guided by graphic icons
- Measurement of speed, time and space.
- Maximum speed measurement for one minute
- Configurable vehicle parameters
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests..
- Customized advertising on screen.
- Ethernet communication (TCP-IP protocol).
- Database that allows to store cards with customer and vehicle data. All tests are registered and easy to search.
- Translation module through which the user can translate the program into their own language



Software



More Productive
Repetition of partial tests



Safer
Ryme application can encrypt data, make them safer



More Intuitive
Incorporation of graphic icons. RYME applications share the same menus..



More Compatible
Compatibility with more than 95% of the database management systems on the market today, ORACLE, SQL SERVER, Postgre, SQLite, etc. OS support for 32 and 64 Bits and with Android, Windows...



Online support
Possibility of remote connection from our technicians with your equipment
Consult conditions



More Reliable & Precise
Improvement in the process of calibrating the main board Allows the adjustment of the weighing and force calibration to very precise values.

Mechanics



Epoxy Paint
Powder-coated finish ensures optimal and long-lasting protection



Perfect Fit Assembly
Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



High adherence rollers
Roller coating with our own technology, which provides optimal adhesion even in adverse conditions and high durability



Strongest Gearmotors
Tested for durability to ensure optimum performance



Software adaptations
Possibility of analysis and study, under budget, for adaptation to new regulations in any region and/or country

Technical Data




Maximum axle load	250 Kg
Maximum test speed	120 km/h
Max. power	25 kw. (34 CV.) Dynamic
Rollers diameter	150 mm.
Length of the rollers	300 mm.
Inertial Roller Diameter	200 mm.
Wheelbase Roller	360 mm.
Roller inertia	282 Kg * cm ²


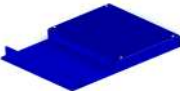

Dimensions

Bench dimensions	760 x 540 x 220 mm.
Packed bench dimensions	800 x 600 x 400 mm.
Bench weight	150 Kg
Packed bench weight	180 Kg


Cabinet dimensions	720 x 420 x 1.850 mm.
Packed cabinet dimensions	800 x 600 x 1.580 mm.
Cabinet weight	80 Kg
Packed cabinet weight	100 Kg

Optional Equipment


		Multi-function wireless device, keyboard, mouse and remote control
	GEN-EIN	Computer equipment
	GEN-IMP	Printer
	GEN-TD	Data display terminal
	GEN-STD	Second Data display terminal
	GEN-EST	Voltage Stabilizer
	GEN-STD	Second Data display terminal
	GEN-SRA	Automatic front clamp for wheel fixing

	GEN-SRA	Automatic front clamp for wheel fixing
	GEN-PNS	Pneumatic front wheel clamp 800 x 1.040 x 90 mm.
	BPCIV-BOC	Civil work frame
	GEN-SSA	Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Other versions

	BPCIV-KIT	Electronic box with software and mechanical frames Dimensions of the electronic box: 600 x 600 x 300 mm.
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Other Cabinet

	GEN-MC	PREMIUM CABINET Cabinet only Dimensions: 730 x 600 x 1.800 mm.
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The BP-NET Inertial dyno is a very useful tool in automotive Mechanics workshops and technology centers, among others, since it is designed to prevent, locate and investigate possible vehicle problems.

Its function is to determine the power and torque based on the rotational speed of the vehicle's engine graphically and numerically.

Dyno consists of a steel frame monocoque housing four rollers 352 mm. mounted on bearings. The two front rollers are knurled and linked together by a transmission. They present a Friction coefficient Pneumatic-roller of 0.8. The other two rollers are smooth and rotate freely.

The speed measurement is obtained through an incremental encoder mounted on the axis of the front rollers.

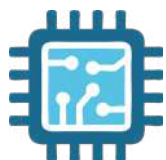
Thanks to the encoder resolution, we have a high reading precision ± 0.1 km / h.

The bench, likewise, has a pneumatically operated lifting mechanism that, together with a brake-lock system for the rollers, facilitates access and exit of the vehicle to the bench. The maximum lifting force of said mechanism is 4,000 Kg on axis at 8 bar pressure.

- Axis maximum static power 260 Kw (1)
 - Maximum power in free acceleration 1,000 Kw (2)
- (1) with use of the brake. (2) without using the brake

Maximum axle load per step	4 tn.
Max test speed	300 km/h.
Max track width / min	2.295 / 795 mm.

Electronics



Latest generation processor

New high-speed processor
Increase the response and process of each vehicle test

ANTES
AHORA



RAM memory

New memory 16 times faster



Connections

Ethernet (TCP-IP) / RS-232 connection on the main board

ANTES
AHORA

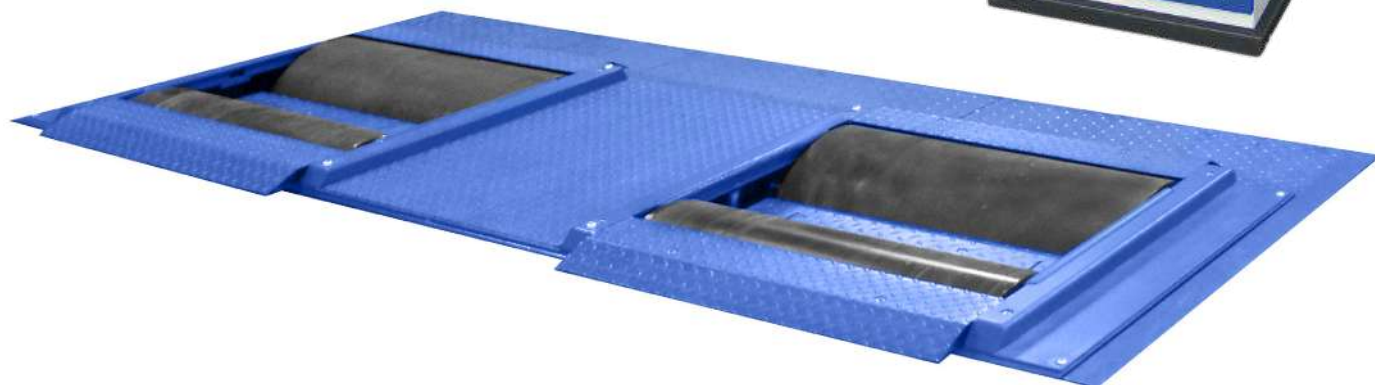


Flash Memory

New memory 4 times faster

Modular System

All electronics are expandable.
Specially designed for automotive and vehicle inspection centers



Standard Equipment

- Bench with knurled rollers with high adherence
- Roller covers platform
- Electronic control & software
- Remote control for test control
- Control cabinet
- R.p.m. with battery and operation with 12v cigarette lighter socket
- Central lift system with automatic roller lock for easy vehicle exit

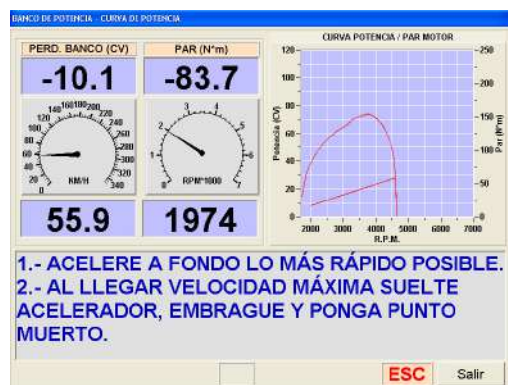
Software

- Retention and possibility of data repetition, until the test of the next vehicle
- Optical and precise pulse measurement system
- Measurement of pressure, ambient temperature and motor temperature
- Maximum power, speed, wheel power, maximum torque and loss power measurement
- Power and torque curves
- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Intuitive, simple and fast configuration software
- Graphical and numerical display of results
- Very intuitive control software guided by graphic icons
- Common database (on network as well as in local mode) that allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests.
- Customized advertising on screen
- Database that allows to store cards with customer and vehicle data. All tests are registered and easy to search.
- Translation module through which the user can translate the program into their own language
- Automatic test start at a configurable speed
- Software for automatic operation
- Possibility of comparing tests in the same report
- Connection RS232



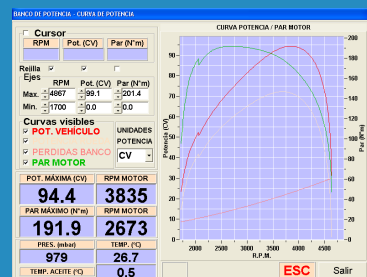
Software adaptations

Possibility of analysis and study, under budget, for adaptation to new regulations in any region and/or country



POWER CURVE

It allows the Engine Power test to be carried out with the following parameters: Maximum power, speed (r.p.m.), wheel power, maximum torque, speed, power loss and maximum power of the vehicle according to ISO 1585. If the Gas Emission Kit is available, the power curves can be compared with the gas emission curves.



Software



More Productive
Repetition of partial tests



Safer
Ryme application can encrypt data, make them safer



More Intuitive
Incorporation of graphic icons. RYME applications share the same menus..



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Compatibility with more than 95% of the database management systems on the market today, ORACLE, SQL SERVER, Postgre, SQLite, etc. OS support for 32 and 64 Bits and with Android, Windows...



Online support
Possibility of remote connection from our technicians with your equipment
Consult conditions



More Reliable & Precise
Improvement in the process of calibrating the main board Allows the adjustment of the weighing and force calibration to very precise values.

Technical Data

Maximum axle load	4 tn
Track width max. / min.	785 / 2.310 mm.
Test speed	0 - 300 km / h.
Range of measurement	0,1 m.
Roller locking system	Pneumatic
Voltage (Monophase)	230 V - 50 Hz
Roller length	752 mm.
Rollers diameter	352 mm.
Wheelbase Roller	498 m.
Pneumatic supply	8 bares mín.
Connections	USB / RS232

Mechanics



Epoxy Paint

Powder-coated finish ensures optimal and long-lasting protection



Perfect Fit Assembly

Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



High adherence rollers

Roller coating with our own technology, which provides optimal adhesion even in adverse conditions and high durability



Strongest Gearmotors



Tested for durability to ensure optimum performance



Dimensions

Bench dimensions	2.690 x 1.020 x 465 mm.
Packed bench dimensions	2.750 x 1.030 x 485 mm.
Bench weight	1.250 Kg
Packed bench weight	1.335 Kg


Cabinet dimensions	720 x 420 x 1.850 mm.
Packed cabinet dimensions	800 x 600 x 1.580 mm.
Cabinet weight	80 Kg
Packed cabinet weight	100 Kg

Optional Equipment


		Multi-function wireless device, keyboard, mouse and remote control
	GEN-EIN	Computer equipment
	GEN-IMP	Printer
	GEN-TD	Data display terminal
	GEN-STD	Second Data display terminal
	GEN-EST	Voltage Stabilizer
		
	RY3	R.P.M. and Accessories kit for r.p.m. measurement
	GEN-EOB	EOBD kit, integration with gas equipment and software

	GEN-VEN	Vehicle cooling fan. Features: Three-phase, 5,500 W power, 12.4 A current. Air flow 25,000 m ³ / h
	BD-PES30	Calibration weight 30 kg
	BP-PAL	Calibration lever
	BP2W-BOC	Civil work frame
	GEN-SSA	Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Other versions

	BP2WD-KIT	Electronic box with software and mechanical frames Dimensions of the electronic box: 600 x 600 x 300 mm.
---	-----------	---

Other Cabinet

	GEN-MC	PREMIUM CABINET Cabinet only Dimensions: 730 x 600 x 1.800 mm.
---	--------	---

The BP-NET Inertial dyno is a very useful tool in automotive workshops and technology centers, among others, since it is designed to prevent, locate and investigate possible problems in vehicles up to 3,500 kg of MMA.

Its function is to determine power and torque as a function of the vehicle's engine speed graphically and numerically.

The dyno consists of a steel monocoque frame housing four 352 mm. cylinders mounted on bearings. The two front rollers are knurled and connected to each other by a transmission. They feature a 0.8 friction coefficient Pneumatic-roller. The other two rollers are smooth and rotate freely.

The speed measurement is obtained through an incremental encoder mounted on the front roller shaft.

Given the resolution of the encoder, we have a high reading accuracy, over ± 0.1 km/h.

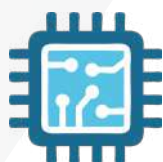
The bench also has a pneumatically operated lifting mechanism which, together with a brake-locking system for the rollers, makes it easier for the vehicle to enter and exit the bench. The maximum lifting force of this mechanism is 4,000 kg on the axle at 8 bar pressure.

- Axis maximum static power 260 Kw (1)
 - Maximum power in free acceleration 1,000 Kw (2)
- (1) with use of the brake. (2) without using the brake

Maximum axle load per step	4 tn.
Max test speed	300 km/h.
Min track width / max	795 / 2.295 mm.
Vehicle wheelbase	2.295 / 3.300 mm.



Electronics



Latest generation processor
New high-speed processor
Increase the response and process of each vehicle test

ANTES
AHORA



RAM memory
New memory 16 times faster



Connections
Ethernet (TCP-IP) / RS-232 connection on the main board

ANTES
AHORA



Flash Memory
New memory 4 times faster

Modular System
All electronics are expandable.
Specially designed for automotive and vehicle inspection centers



Standard Equipment

- Bench with knurled rollers with high adherence
- Roller covers platform incluidas
- Electronic control & software
- Remote control for test control
- Control cabinet
- Central lift system with automatic roller lock for easy vehicle exit
- Roller lock brake system

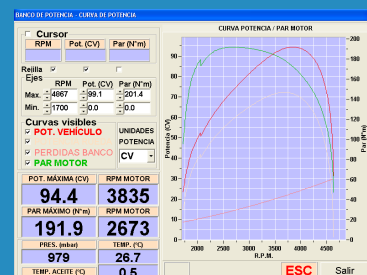
Software

- Optical and precise pulse measurement system
- Measurement of ambient pressure and temperature
- Maximum power, speed, wheel power, maximum torque and loss power measurement
- Power and torque curves
- Possibility of comparing tests in the same report
- Measurement of vehicle power, wheel power and dissipated power with graphical and numerical representation (according to DIN 70020)
- Speedometer test program (speed measurement in km / h)
- Odometer test program
- Automatic calculation of the final transmission ratio
- Color printing of data and measurement curves
- On-screen operation guide
- Storage of tests in RYME database for a pre / post breakdown or repair comparison
- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Intuitive, simple and fast configuration software
- Graphical and numerical display of results
- Very intuitive control software guided by graphic icons
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests.
- Customized advertising on screen
- Database that allows to store cards with customer and vehicle data. All tests are registered and easy to search.
- Translation module through which the user can translate the program into their own language
- Retention and possibility of data repetition, until the test of the next vehicle
- Automatic test start at a configurable speed
- Software for automatic operation
- Connection RS232

POWER CURVE

It allows the Engine Power test to be carried out with the following parameters: Maximum power, speed (r.p.m.), wheel power, maximum torque, speed, power loss and maximum power of the vehicle according to ISO 1585.

If the Gas Emission Kit is available, the power curves can be compared with the gas emission curves.



Software



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Repetition of partial tests



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High adherence rollers

Roller coating with our own technology, which provides optimal adhesion even in adverse conditions and high durability



Strongest Gearmotors

Tested for durability to ensure optimum performance

Technical Data




Maximum axle load	4 tn
Track width max. / min.	785 / 2.310 mm.
Vehicle wheelbase máx. / mín	3.300 / 2.295 mm.
Test speed	0 - 300 km / h.
Range of measurement	0,1 m.
Roller locking system	Pneumatic
Voltage (Threephasic)	400 V - 50 Hz
Roller length	752 mm.
Rollers diameter	352 mm.
Wheelbase Roller	498 m.
Pneumatic supply	8 bares mín.
Connections	RS232







Dimensions

Bench dimensions	2.690 x 5.700 x 465 mm.
Packed equipment dimensions	3.650 x 1.090 x 1.250 mm. (2 u) 1.400 x 900 x 550 mm. (2 u) 2.400 x 1.100 x 600 mm. (1 u)
Bench weight	3.000 Kg


Packed bench weight	3.150 Kg
Cabinet dimensions	620 x 510 x 1800 mm.
Packed cabinet dimensions	800 x 600 x 1.580 mm.
Cabinet weight	80 Kg
Packed cabinet weight	100 Kg

Optional Equipment


	Multi-function wireless device, keyboard, mouse and remote control
GEN-EIN	Computer equipment
GEN-IMP	Printer
GEN-TD	Data display terminal
GEN-STD	Second Data display terminal
GEN-EST	Voltage Stabilizer
	RY3 R.P.M. and Accessories kit for r.p.m. measurement
	GEN-EOB OBD kit, integration with gas equipment and software

	GEN-VEN Vehicle cooling fan. Features: Threephasic, 5,500 W power, 12.4 A current. Air flow 25,000 m ³ / h
	BD-PES30 Calibration weight 30 kg
	BP-PAL Calibration lever
	BP4W-BOC Civil work frame
	GEN-ENC Sending encrypted test results
	GEN-SSA Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Other versions

	BP4WD-KIT Electronic box with software and mechanical frames Dimensions of the electronic box: 600 x 600 x 300 mm.
---	---

Other Cabinet

	GEN-MC PREMIUM CABINET Cabinet only Dimensions: 730 x 600 x 1.800 mm.
---	--

The BD-NET dynamometer is a very useful tool in workshops and in automotive technology centres, among others, as it is designed to prevent, locate and investigate possible problems in vehicles up to 3,500 MMA. Its function is to determine power and torque as a function of the vehicle's engine speed graphically and numerically. The dynamometer consists of a steel monocoque frame housing four 352 mm rollers mounted on bearings. The two front rollers are knurled and connected to each other by a transmission. They have a Friction coefficient Pneumatic-roller of 0.8. The other two rollers are smooth and rotate freely.

The Foucault electric brake is mounted on bearings and is mechanically coupled to the axis of the front rollers, being able to tilt on its axis.

The speed measurement is obtained by means of an incremental encoder mounted on the front roller shaft. Given the resolution of the encoder, we have a high reading accuracy, ± 0.1 km/h.

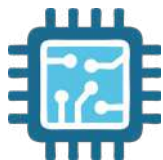
- Axis maximum static power 260 Kw (1)
 - Maximum power in free acceleration 1,000 Kw (2)
- (1) with use of the brake. (2) without using the brake

Maximum axle load 4 tn.

Max test speed 300 km/h.

Track width max. / min. 2.295 / 795 mm.

Electronics



Latest generation processor

New high-speed processor
Increase the response and process
of each vehicle test

ANTES
AHORA



RAM memory

New memory 16 times faster



Connections

Ethernet (TCP-IP) / RS-232 connection
on the main board

ANTES
AHORA

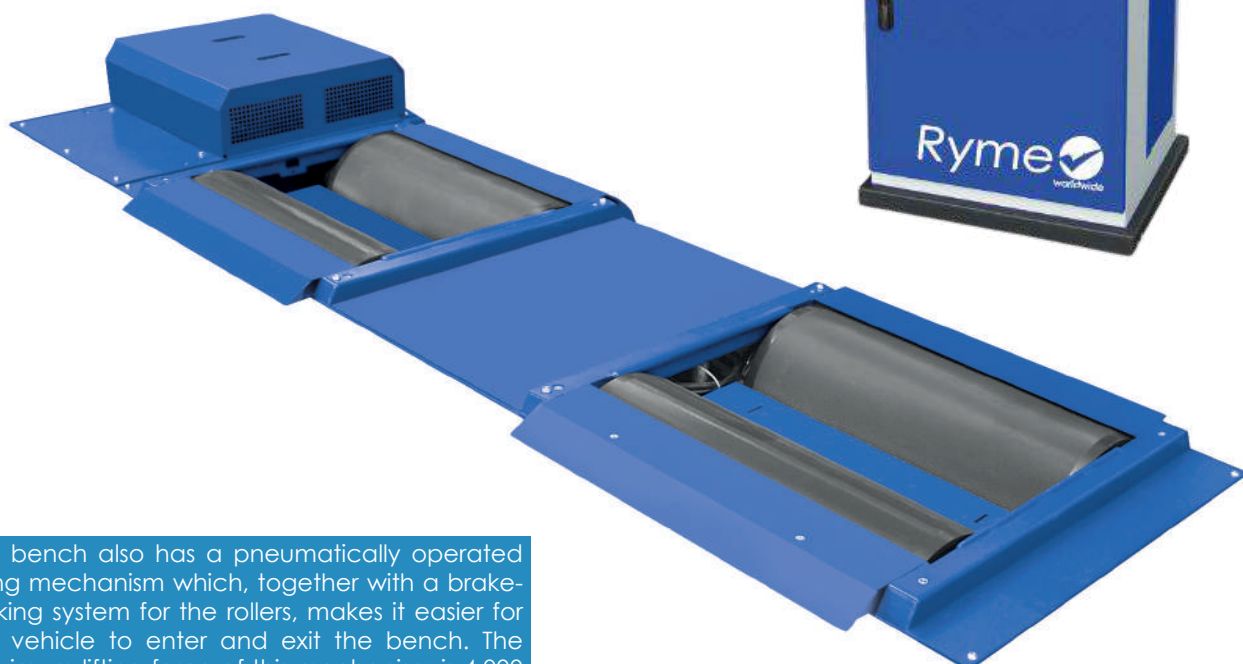


Flash Memory

New memory 4 times faster

Modular System

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Specially designed for automotive and
vehicle inspection centers



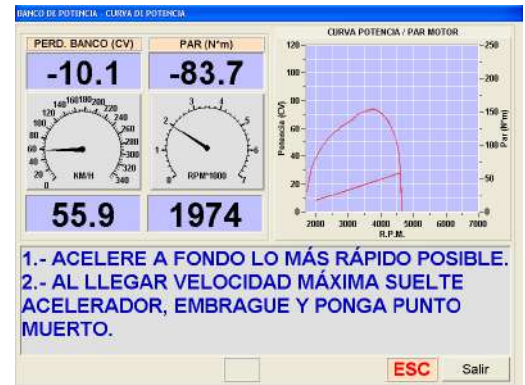
The bench also has a pneumatically operated lifting mechanism which, together with a brake-locking system for the rollers, makes it easier for the vehicle to enter and exit the bench. The maximum lifting force of this mechanism is 4,000 kg on the axle at 8 bar pressure.

Standard Equipment

- Bench with knurled rollers with high adherence
- Control cabinet
- Remote control for test control
- Electronic control & software
- Roller covers platform incluidas
- R.p.m. with battery and operation with 12v cigarette lighter socket
- Central lift system with automatic roller lock for easy vehicle exit
- Simulation of loads using the Foucault brake

Software

- Optical and precise pulse measurement system
- Measurement of atmospheric pressure and ambient temperature
- PID control of the electric brake of the equipment. Maintains stable braking torque regardless of possible disturbances
- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Intuitive, simple and fast configuration software
- Graphical and numerical display of results
- Very intuitive control software guided by graphic icons
- Possibility of comparing tests in the same report
- Retention and possibility of data repetition, until the test of the next vehicle
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests..
- Translation module which the user will be able to translate the program into his own language or modify any sentence or word on it.
- Customized advertising on screen
- Graphical and numerical display of results
- Connection RS232



- Measurement of vehicle power, wheel power and power dissipation with graphic and numerical representation (according to DIN 70020)
- Speedometer test program (speed measurement in Km / h)
- Odometer test program
- Constant speed power measurement test
- Power measurement test at constant pulling force
- Power measurement test with constant rise percentages
- Automatic calculation of the final transmission ratio
- Graphical and numerical presentation in color of the measured values
- Color printing of data and measurement curves
- Storage of tests in RYME database for a pre / post breakdown or repair comparison
- On-screen operation guide
- Roller lock brake system

Software



More Productive
Repetition of partial tests



Safer
Ryme application can encrypt data, make them safer



More Intuitive
Incorporation of graphic icons. RYME applications share the same menus..



More Compatible
Compatibility with more than 95% of the database management systems on the market today, ORACLE, SQL SERVER, Postgre, SQLite, etc. OS support for 32 and 64 Bits and with Android, Windows...



Online support
Possibility of remote connection from our technicians with your equipment
Consult conditions



More Reliable & Precise
Improvement in the process of calibrating the main board Allows the adjustment of the weighing and force calibration to very precise values.



Software adaptations

Possibility of analysis and study, under budget, for adaptation to new regulations in any region and/or country

Mechanics



Epoxy Paint

Powder-coated finish ensures optimal and long-lasting protection



Perfect Fit Assembly

Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



High adherence rollers

Roller coating with our own technology, which provides optimal adhesion even in adverse conditions and high durability



Strongest Gearmotors

Tested for durability to ensure optimum performance

Technical Data

Maximum axle load	4 tn
Track width max. / min.	785 / 2.310 mm.
Test speed	0 - 300 km / h.
Range of measurement	0,1 m.
Potencia medible	300 Kw - 407 CV.
Roller locking system	Pneumatic

Voltage (Monophase)	400 V - 50 Hz
Roller length	752 mm.
Rollers diameter	352 mm.
Wheelbase Roller	498 m.
Pneumatic supply	8 bares mín.
Connections	RS232

Test with brakes

0-100 Km / h.: It allows obtaining the time it takes to reach 100 Km / h. starting from a stopped vehicle.

0-1,000 m: Measures the time it takes for the vehicle to travel the first 1,000 m.

Constant force: Allows the control and storage of the power values of up to 10 samples under constant load conditions (e.g. 1 KN, 2 KN, etc.).

Constant speed: Allows the control and storage of up to 10 samples of the power values measured under different constant speed conditions.

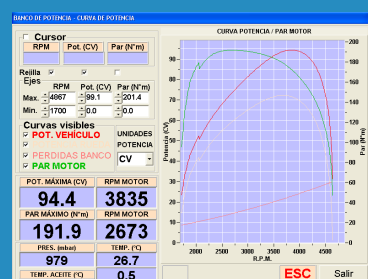
Road: Allows the control and storage of up to 10 samples of the power values measured in different road conditions marked by the value in% of uphill slopes (e.g. 1%, 2%, etc.).

Database: Allows the storage of all previous tests including customer and vehicle data, allowing comparison between the different tests and tests stored on different dates.

POWER CURVE

It allows the Engine Power test to be carried out with the following parameters: Maximum power, speed (r.p.m.), wheel power, maximum torque, speed, power loss and maximum power of the vehicle according to ISO 1585.

If the Gas Emission Kit is available, the power curves can be compared with the gas emission curves.









Dimensions

Bench dimensions	3.415 x 1.020 x 600 mm.
Packed bench dimensions	3.470 x 1.030 x 630 mm.
Bench weight	1.650 kg

Packed bench weight	1.700 kg
Cabinet dimensions	520 x 510 x 1.860 mm.
Packed cabinet dimensions	850 x 760 x 1.600 mm.
Cabinet weight	100 kg
Packed cabinet weight	120 kg

Optional Equipment


	Multi-function wireless device, keyboard, mouse and remote control
GEN-EIN	Computer equipment
GEN-IMP	Printer
GEN-TD	Data display terminal
GEN-STD	Second Data display terminal
	GEN-EST Voltage Stabilizer
	RY3 R.P.M. and Accessories kit for r.p.m. measurement

	GEN-EOB	EOBD kit, integration with gas equipment and software
	GEN-VEN	Vehicle cooling fan. Features: Three-phase, 5,500 W power, 12.4 A current. Air flow 25,000 m3 / h
	BD-PES30	Calibration weight 30 kg
	BD-PAL	Calibration lever
	BD2W-BOC	Civil work frame
	GEN-SSA	Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Other versions

	BD2WD-KIT	Electronic box with software and mechanical frames Dimensions of the electronic box: 600 x 600 x 300 mm.
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Other Cabinet

	GEN-MC	PREMIUM CABINET Cabinet only Dimensions: 730 x 600 x 1.800 mm.
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The BD-NET dynamometer is a very useful tool in workshops and in automotive technology centres, among others, as it is designed to prevent, locate and investigate possible problems in vehicles.

Its function is to determine power and torque as a function of the vehicle's engine speed graphically and numerically. The dynamometer consists of a steel monocoque frame housing four 352 mm rollers mounted on bearings. The two front rollers are knurled and connected to each other by a transmission. They have a friction coefficient of 0.8 pneumatic roller. The other two rollers are smooth and rotate freely.

The Foucault electric brake is mounted on bearings and is mechanically coupled to the axis of the front rollers, being able to tilt on its axis.

The speed measurement is obtained through an incremental encoder mounted on the axis of the front rollers. Given the encoder resolution, we have a high reading precision, greater than ± 0.1 km / h.

The bench, likewise, has a pneumatically operated lifting mechanism that, together with a brake-lock system for the rollers, facilitates access and exit of the vehicle to the bench. The maximum lifting force of said mechanism is 4,000 Kg on axis at 8 bar pressure.

- Axis maximum static power 260 Kw (1)
 - Maximum power in free acceleration 1,000 Kw (2)
- (1) with use of the brake. (2) without using the brake

Maximum axle load	4 tn.
Max test speed	300 km/h.
Min track width / max	795 / 2.295 mm.
Vehicle wheelbase	2.300 / 3.300 mm.



Electronics



Latest generation processor

New high-speed processor
Increase the response and process
of each vehicle test

ANTES
AHORA



RAM memory

New memory 16 times faster



Connections

Ethernet (TCP-IP) / RS-232 connection
on the main board

ANTES
AHORA

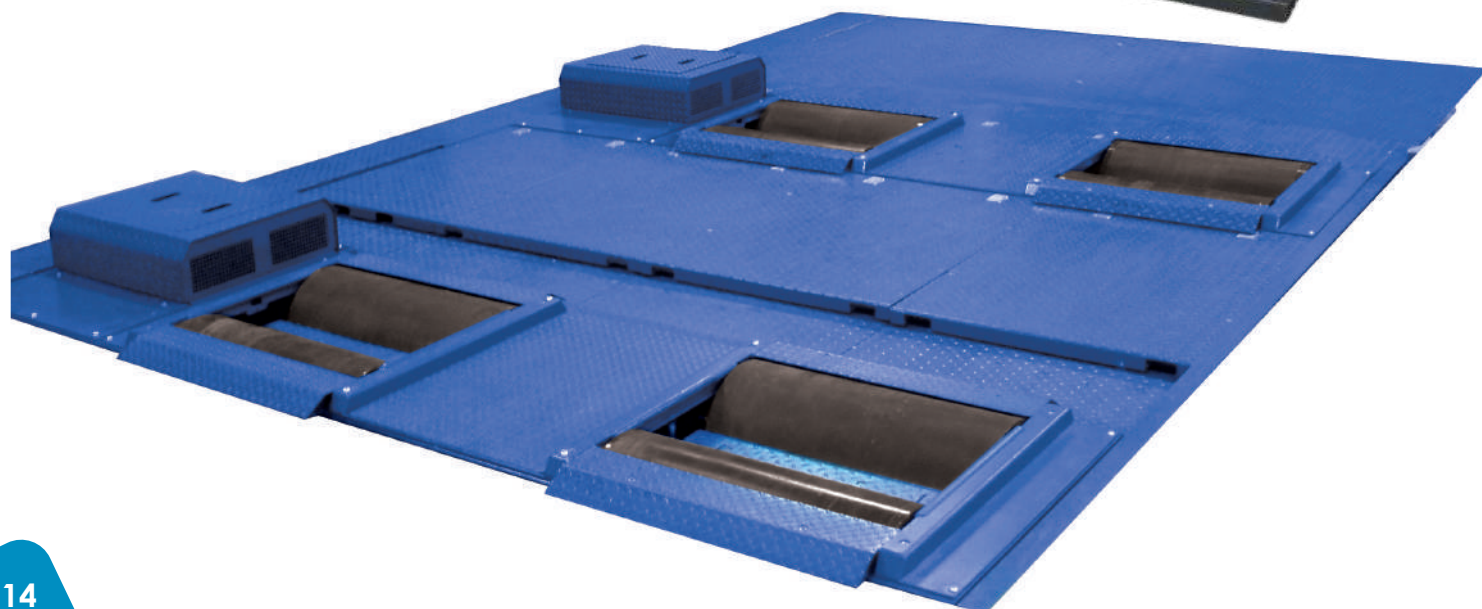


Flash Memory

New memory 4 times faster

Modular System

All electronics are expandable.
Specially designed for automotive and
vehicle inspection centers



Standard Equipment

- Bench with knurled rollers with high adherence
- Control cabinet
- Remote control for test control
- R.p.m. with battery and operation with 12v cigarette lighter socket
- Electronic control & software
- Roller covers platform included
- Central lift system with automatic roller lock for easy vehicle exit
- Simulation of loads using the electric Foucault brake

Software

- Optical and precise pulse measurement system
- Measurement of atmospheric pressure and ambient temperature
- PID control of the electric bank brake. Maintains stable braking torque regardless of possible disturbances
- **Sending and processing** data and graphics in **real time**
- **Possibility of sending encrypted data to the server** using the **AES encryption method (Advanced Encryption Standard)**
- **100% compatible with** management systems and databases
- **Assigning permissions** to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- **Customization of the test duration to the** minimum and/or maximum time to optimize working time
- Intuitive, simple and fast **configuration software**
- Graphical and numerical display of results
- **Very intuitive control software** guided by graphic icons
- Possibility of comparing tests in the same report
- Retention and possibility of data repetition, until the test of the next vehicle
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests..
- Translation module which the user will be able to translate the program into his own language or modify any sentence or word on it.
- Customized advertising on screen
- Graphical and numerical display of results
- Connection RS232

- Measurement of vehicle power, wheel power and power dissipation with graphic and numerical representation (according to DIN 70020)
- Speedometer test program (speed measurement in Km / h)
- Odometer test program
- Constant speed power measurement test
- Power measurement test at constant pulling force
- Power measurement test with constant rise percentages
- Automatic calculation of the final transmission ratio
- Graphical and numerical presentation in color of the measured values
- Color printing of data and measurement curves
- Storage of tests in RYME database for a pre / post breakdown or repair comparison
- On-screen operation guide
- Roller lock brake system

Software



More Productive
Repetition of partial tests



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Possibility of remote connection from our technicians with your equipment
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Software adaptations

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Mechanics



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Powder-coated finish ensures optimal and long-lasting protection



Perfect Fit Assembly

Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



High adherence rollers

Roller coating with our own technology, which provides optimal adhesion even in adverse conditions and high durability



Strongest Gearmotors

Tested for durability to ensure optimum performance

Technical Data

Maximum axle load	4 tn	Voltage (Threephasic)	400 V - 50 Hz
Track width max. / min.	2.310 / 785 mm.	Roller length	752 mm.
Test speed	0 - 300 km / h.	Rollers diameter	352 mm.
Range of measurement	0,1 m.	Wheelbase Roller	498 m.
Potencia medible	300 Kw - 407 CV.	Pneumatic supply	8 bares mín.
Roller locking system	Pneumatic	Connections	RS232

Test with brakes

0-100 Km / h.: It allows obtaining the time it takes to reach 100 Km / h. starting from a stopped vehicle.

0-1,000 m: Measures the time it takes for the vehicle to travel the first 1,000 m.

Constant force: Allows the control and storage of the power values of up to 10 samples under constant load conditions (e.g. 1 KN, 2 KN, etc.).

Constant speed: Allows the control and storage of up to 10 samples of the power values measured under different constant speed conditions.

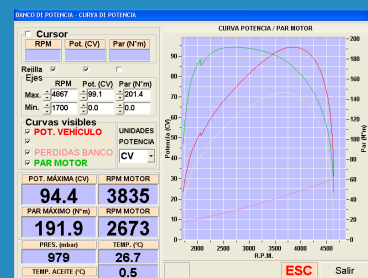
Road: Allows the control and storage of up to 10 samples of the power values measured in different road conditions marked by the value in% of uphill slopes (e.g. 1%, 2%, etc.).

Database: Allows the storage of all previous tests including customer and vehicle data, allowing comparison between the different tests and tests stored on different dates.

POWER CURVE

It allows the Engine Power test to be carried out with the following parameters: Maximum power, speed (r.p.m.), wheel power, maximum torque, speed, power loss and maximum power of the vehicle according to ISO 1585.

If the Gas Emission Kit is available, the power curves can be compared with the gas emission curves.







Dimensions

Bench dimensions	3.415 x 5.700 x 600 mm.
Packed equipment dimensions	3.650 x 1.090 x 1.250 mm. (2 u) 1.400 x 900 x 550 mm. (2 u) 2.400 x 1.100 x 600 mm. (1 u)
Bench weight	4.000 Kg
Packed bench weight	4.150 Kg

Cabinet dimensions	680 x 570 x 1.360 mm.
Packed cabinet dimensions	850 x 760 x 1.600 mm.
Cabinet weight	120 Kg
Packed cabinet weight	150 Kg

Optional Equipment

GEN-EIN	Computer equipment
GEN-IMP	Printer
GEN-TD	Data display terminal
GEN-STD	Second Data display terminal
GEN-EST	Voltage Stabilizer
	
RY3	R.P.M. and Accessories kit for r.p.m. measurement
	
GEN-EOB	EOBD kit, integration with gas equipment and software

	GEN-VEN	Vehicle cooling fan. Features: Threephasic, 5,500 W power, 12.4 A current. Air flow 25,000 m3 / h
	BD-PES30	Calibration weight 30 kg
	BD-PAL	Calibration lever
	BP4W-BOC	Civil work frame
	GEN-SSA	Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Other versions

	BD2WD-KIT	Electronic box with software and mechanical frames Dimensions of the electronic box: 600 x 600 x 300 mm.
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Other Cabinet

	GEN-MC	PREMIUM CABINET Cabinet only Dimensions: 730 x 600 x 1.800 mm.
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ASM EMISSION BENCH & OPACITY IN LOAD

The ASM emission bench for 2WD vehicles is a useful tool in workshops, automotive technology centres and vehicle inspection centres, as it is designed to prevent, locate and investigate possible ignition and injection problems as well as to improve the fuel consumption and gas emission measurement of the vehicle under load. The gas analysis complies with the requirements of OIML class I, ISO 3930, UNE 82501, bar 90, U.S. EPA ASM.

Based on the infrared technology it measures up to 5 gases, CO, CO₂, HC, O₂ and NO_x and other parameters such as, corrected CO, oil temperature and r.p.m. During the emission tests, power is absorbed in accordance with the ASM standard by an air-cooled Electric Brake.

Recording of temperature, relative humidity and barometric pressure, and calculation of NO correction factor
RPM detection for every second.

The mechanical system is composed of a steel monocoque frame that houses four 350 mm rollers. Of which the front rollers are coated with Tungsten Carbide, to improve the adherence of the vehicle and avoid the wear of the rollers.

It includes an electric brake with high energy absorption. In addition, to facilitate access and exit from the vehicle, it has a pneumatically operated lifting and locking mechanism

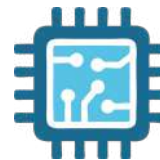
Maximum axle load 2,5 tn.

Approximate mechanical inertia 1004 kg

Max./min. track width 2.490 / 720 mm.

Traction 2WD

Electronics



Best Processors

New high-speed processor
Increase the response and process of each vehicle test



Modular System

All the electronics is expandable. Special design for automotive and technical inspection of vehicles designed by Ryme

ANTES
AHORA

Flash Memory

New memory 4 times faster

ANTES
AHORA

RAM memory

New memory 16 times faster



Standard Equipment

- Dynamometer bench 2WD
- Control cabinet
- Electronic control & software
- Remote control for test control
- 5 gas analysis module
- Sampling probe
- Weather station
- Tungsten carbide coated front rollers (2 pcs.)
- Simulation of loads using the electric Foucault brake
- Central lift system with automatic roller lock for easy vehicle exit

Software

- High precision speed pulse measurement system
- PID control of the electric bank brake. Maintains stable braking torque regardless of possible disturbances
- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Intuitive, simple and fast configuration software
- Graphical and numerical display of results
- Very intuitive control software guided by graphic icons
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests.
- Customized advertising on screen
- Database that allows to store cards with customer and vehicle data. All tests are registered and easy to search.
- Translation module through which the user can translate the program into their own language
- Connection RS232



Acceleration simulation

The dynamometer or "road simulator" is used to simulate driving under real traffic conditions. The 5-gas analyser measures NOx and emission levels of HC, CO, CO2 and O2

During the ASM test, emissions are measured using two modes: a high load and low speed condition (the 50/15 test) and a moderate load condition at moderate speed (the 25/25 test).

The dynamometer has a fixed Inertial weight (equivalent to 2,000 inertia pounds), a power absorption unit (PAU), a torque measurement system (load cell), an encoder, a motor for loss calibration, rollers, and a bench lift.

Software



More Productive
Repetition of partial tests



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Mechanics



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Powder-coated finish ensures optimal and long-lasting protection



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Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



High adherence rollers

Roller coating with our own technology, which provides optimal adhesion even in adverse conditions and high durability



Strongest Gearmotors

Tested for durability to ensure optimum performance

Technical Data Dyno 2WD

Maximum axle load	2,5 tn
Track width max. / min.	2.490 / 720 mm.
Roller length	860 mm.
Roller diameter	350 mm.
Distance between centers	504 mm.
Inertia Mechanics aprox.	1004 kg
Máx. Test Speed	0 - 120 km/h
Drag feeding voltage	400 V. 50 Hz. (3F+T)

Brake supply voltage	220 V. 40 A.
Locking and lifting system	
Absorbed power range	32 hp. continuous at 14 mph. min. for 5 min.
Electric power absorption unit with the possibility of increasing 0.1 hp. and accuracy of ± 0.25 hp.	
Max deviation	± 0.5 hp.
Speed accuracy	0.1 km / h

Technical Data Analyzer RY-3200AG

Gases	CO, HC, CO ₂ , O ₂ y NOx
Lambda factor calculation and corrected CO	
Storage temperature	-50 °C a 70 °C
Operating temperature	-5 °C a 45 °C
Oil probe temperature	-5 °C a 150 °C
Operating pressure	750 - 1.100 mbar (1000 mbar nominal)
Automatic removal of water and particles	>5 μ .
Power Supply	220 V a 50 Hz
Temperature and rpm meter	r.p.m.: 0-9999 r.p.m.: 1 r.p.m.
Complies with UNE 82.501, OIML R class 0, ISO 3930, BAR 90, BAR 97, US regulations. EPA ASM	
It has a database and rejection assessment	



*** Trolley furniture not included in Standard Equipment**

Environmental conditions

Relative Humidity	5 % - 95 %, 0 °C a 45 °C
Ambient temperature	0°C a 50 °C, accuracy 1 °C
Barometric pressure	750 - 1.100 mbar.

Measurement range and Resolution





MEASUREMENT	RANGE	NORMAL	HIGH	ACCURACY
HC	0 - 20.000 p.p.m. vol. Kex	1 p.p.m.	1 p.p.m.	10 p.p.m. Hc
CO	0 - 15 % vol.	0,01 %	0,001 %	0,03 %
CO ₂	0 - 20 % vol.	0,1 %	0,1 %	0,3 %
O ₂	0 - 21,7 % vol.	0,1 %	0,01 %	0,1 %
LAMBDA	0,8 - 1,2	0,01	0,001	
NOX	0 - 5.000 p.p.m. vol.	1 p.p.m.	1 p.p.m.	32 p.p.m. (0 - 1.000 p.p.m.) 60 p.p.m. (1.001 - 2.000 p.p.m.) 120 p.p.m. (2.001 - 5.000 p.p.m.)



Dimensions

Bench dimensions	3.750 x 1.100 x 550 mm.
Packed bench dimensions	4.000 x 1.350 x 780 mm.
Bench weight	1.900 kg.
Packed bench weight	2.300 kg

Cabinet dimensions	730 x 600 x 1.800 mm.
Packed cabinet dimensions	900 x 900 x 1.690 mm.
Cabinet weight	120 kg
Packed cabinet weight	200 kg

Optional Equipment

		Multi-function wireless device, keyboard, mouse and remote control
	GEN-EIN	Computer equipment
	GEN-IMP	Printer
	GEN-TD	Data display terminal
	GEN-STD	Second Data display terminal
	GEN-EST	Voltage Stabilizer
	RY3	R.P.M. and Accessories kit for r.p.m. measurement
	GEN-EOB	EOBD kit, integration with gas equipment and software

	GEN-VEN	Vehicle cooling fan. Features: Threephasic, 5,500 W power, 12.4 A current. Air flow 25,000 m3 / h
	ASM-PES30	Calibration weight 30 kg.
	ASM-PAL	Calibration lever
	ASM-RPM	Accessory kit for RPM measurement
	ASM2W-BOC	Civil work frame
	GEN-SSA	Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Optional cabinet

	PREMIUM CABINET Cabinet only Dimensions: 730 x 600 x 1.800 mm.		TROLLEY Mobile base for computer equipment and printer		CABINET GASES Cabinet only Dimensions: 700 x 500 x 1.550 mm.
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The ASM emission bench for 4WD vehicles is a very useful tool in workshops, car mechanics technology centres and car inspection centres as it is designed to prevent, locate and investigate possible ignition and injection problems as well as to improve the fuel consumption and gas emission measurements of the vehicle under load. The gas analysis complies with the requirements of OIML class I, ISO 3930, UNE 82501, bar 90, U.S. EPA ASM.

Based on the infrared technology it measures up to 5 gases, CO, CO₂, HC, O₂ and NO_x and other parameters such as, corrected CO, oil temperature and r.p.m. During emission tests, power is absorbed in accordance with the ASM standard by an air-cooled Electric Brake. Temperature, Relative Humidity and Barometric pressure logging, and NO correction factor calculation. Detection of r.p.m. for every second.

The mechanics is constituted by a double steel frame that houses two rollers facing each other at the front and 4 rollers per wheel aligned at the rear. The front rollers of the first frame are coated with Tungsten Carbide, to improve the adherence of the vehicle and avoid the wear of the rollers.

The whole set is linked to an electric brake with high energy absorption. In addition, to facilitate access and exit from the vehicle, it has a pneumatically operated lifting and locking mechanism.

Equipped with a clutch that allows the front and rear to be engaged/disengaged

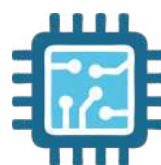
Maximum axle load **2,5 tn.**

Inertia Mechanics aprox. **1.004 kg (2WD)**
2.085 kg (4WD)

Max./min. track width **2.470 / 760 mm.**

Traction **4WD**

Electronics



Best Processors

New high-speed processor
Increase the response and process of each vehicle test



Modular System

All the electronics is expandable. Special design for automotive and technical inspection of vehicles designed by Ryme



Flash Memory

New memory 4 times faster



RAM memory

New memory 16 times faster



Standard Equipment

- Dynamometer bench 4WD
- Control cabinet
- Electronic control & software
- Remote control for test control
- Tungsten carbide coated front rollers (2 pcs.)
- Simulation of loads using the electric Foucault brake
- 5 gas analysis module
- Sampling probe
- Weather station
- Central lift system with automatic roller lock for easy vehicle exit

Software

- High precision speed pulse measurement system
- Data acquisition board
- PID control of the electric bank brake. Maintains stable braking torque regardless of possible disturbances
- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Intuitive, simple and fast configuration software
- Graphical and numerical display of results
- Very intuitive control software guided by graphic icons
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests.
- Customized advertising on screen
- Database that allows to store cards with customer and vehicle data. All tests are registered and easy to search.
- Translation module through which the user can translate the program into their own language
- Connection RS232



Acceleration simulation

The dynamometer or "road simulator" is used to simulate driving under real traffic conditions. The 5-gas analyser measures NOx and the emission levels of HC, CO, CO2 and O2.

During the ASM test, emissions are measured using two modes: a HIGH load and low speed condition (the 50/15 test) and a moderate load condition at moderate speed (the 25/25 test).

The dynamometer has a fixed Inertial weight (equivalent to 2,000 lbs. inertia), a power absorption unit (PAU), a torque MEASUREMENT system (load cell), an encoder, a motor for calibration losses, rollers, and a bench lift.

Software



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Repetition of partial tests



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High adherence rollers

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Strongest Gearmotors

Tested for durability to ensure optimum performance

Technical Data Dyno 4WD

Maximum axle load	2,5 tn
Track width max. / min.	2.410 / 730 mm.
Roller length	860 mm.
Roller diameter	350 mm.
Distance between centers	504 mm.
Inertia Mechanics approximate	1.050 (2WD) / 2.085 (4WD) kg
Máx. Test Speed	0 - 120 km/h
Power supply voltage	400 V. 50 Hz. (3F+T)
Brake supply voltage	220 V. 40 A.
Lifting and locking system	
Input power range 32 hp. continuous at 14 mph. min. for 5 min. Electrical power absorption unit with the possibility of increasing by 0.1 hp. and accuracy of ± 0.25 hp.	
Max. deviation ± 0.5 hp	
Accuracy of speed 0.1 km/h	

Technical Data Analyzer RY-3200AG

Gases	CO, HC, CO ₂ , O ₂ y NOx
Lambda factor calculation and corrected CO	
Storage temperature	-50 °C a 70 °C
Operating temperature	-5 °C a 45 °C
Oil probe temperature	-5 °C a 150 °C
Operating pressure	750 - 1.100 mbar (1000 mbar nominal)
Automatic removal of water and particles	>5 μ .
Power Supply	220 V a 50 Hz
Temperature and rpm meter	r.p.m.: 0-9999 r.p.m.: 1 r.p.m.
Complies with UNE 82.501, OIML R class 0, ISO 3930, BAR 90, BAR 97, US regulations. EPA ASM	
It has a database and rejection assessment	

Environmental conditions

Relative Humidity	5 % - 95 %, 0 °C a 45 °C
Ambient temperature	0°C a 50 °C, accuracy 1 °C
Barometric pressure	750 - 1.100 mbar.

Measurement range and Resolution

MEASUREMENT	RANGE	NORMAL	HIGH	ACCURACY
HC	0 - 20.000 p.p.m. vol. Kex	1 p.p.m.	1 p.p.m.	10 p.p.m. Hc
CO	0 - 15 % vol.	0,01 %	0,001 %	0,03 %
CO ₂	0 - 20 % vol.	0,1 %	0,1 %	0,3 %
O ₂	0 - 21,7 % vol.	0,1 %	0,01 %	0,1 %
LAMBDA	0,8 - 1,2	0,01	0,001	
NOX	0 - 5.000 p.p.m. vol.	1 p.p.m.	1 p.p.m.	32 p.p.m. (0 - 1.000 p.p.m.) 60 p.p.m. (1.001 - 2.000 p.p.m.) 120 p.p.m. (2.001 - 5.000 p.p.m.)



*** Trolley furniture not included in Standard Equipment**



Dimensions

Bench dimensions	4.128 x 3.750 x 550 mm.
Packed equipment dimensions	3.950 x 1.800 x 1.150 mm. (1) 3.770 x 1.140 x 1.250 mm (1) 1.360 x 820 x 500 mm. (1)
Bench weight	5.200 kg
Packed bench weight	5.450 kg

Cabinet dimensions	720 x 600 x 1.800 mm.
Packed cabinet dimensions	900 x 900 x 1.690 mm.
Cabinet weight	120 kg
Packed cabinet weight	200 kg

Optional Equipment

		Multi-function wireless device, keyboard, mouse and remote control
	GEN-EIN	Computer equipment
	GEN-IMP	Printer
	GEN-TD	Data display terminal
	GEN-STD	Second Data display terminal
	GEN-EST	Voltage Stabilizer
	RY3	R.P.M. and Accessories kit for r.p.m. measurement
	GEN-EOB	EOBD kit, integration with gas equipment and software

	GEN-VEN	Vehicle cooling fan. Features: Threephasic, 5,500 W power, 12.4 A current. Air flow 25,000 m3 / h
	ASM-PES30	Calibration weight 30 kg.
	ASM-PAL	Calibration lever
	ASM-RPM	Accessory kit for RPM measurement
	ASM4W-BOC	Civil work frame
	GEN-SSA	Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Optional cabinet



PREMIUM CABINET
Cabinet only
Dimensions:
730 x 600 x 1.800 mm..



TROLLEY
Mobile stand for computer and printer



CABINET GASES
Cabinet only
Dimensions: 700 x 500 x 1.550 mm.

The load opacity test bench for heavy vehicles is a very useful tool in workshops, automotive mechanical technology centers and automobile inspection centers, as it is designed to prevent, locate and investigate possible ignition and injection problems as well as for the improvement of fuel consumption and measurements of vehicle gas emissions under load.

The RY-3200 AH partial flow SMOKEMETER is a device prepared to meet the requirements of the UNE 82503, DIN 57411 and SAE J1677 USA / Canada, ISO 11614 standards.

The mechanics is constituted by a monocoque steel frame that houses four rollers of Ø 350 mm. Of which the front rollers are coated with Tungsten Carbide, to improve the adhesion of the vehicle and avoid the wear of the rollers.

Rollers installed on bearings and an electric brake with high energy absorption. In addition, to facilitate the access and exit of the vehicle, it has a pneumatically actuated locking lifting mechanism.

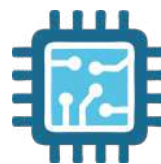
Maximum axle load 16 tn.

Inertia Mechanics aprox. 1.160 kg

Max./min. track width 2.680 / 800 mm.

Traction 2WD

Electronics



Best Processors

New high-speed processor
Increase the response and process of each vehicle test



Modular System

All the electronics is expandable. Special design for automotive and technical inspection of vehicles designed by Ryme

ANTES
AHORA

Flash Memory

New memory 4 times faster

ANTES
AHORA

RAM memory

New memory 16 times faster



Standard Equipment

- Bench with load opacity
- Control cabinet
- Test control by using a remote control
- Smoke analyzer module
- Tungsten carbide coated front rollers (2 pcs.)
- Simulation of loads using the electric Foucault brake
- Weather station
- Fan installed on the brake for its cooling
- Central lift system with automatic roller lock for easy vehicle exit

Software

- High precision speed pulse measurement system
- Data acquisition board
- PID control of the electric bank brake. Maintains stable braking torque regardless of possible disturbances
- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Intuitive, simple and fast configuration software
- Graphical and numerical display of results
- Very intuitive control software guided by graphic icons
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests.
- Customized advertising on screen
- Database that allows to store cards with customer and vehicle data. All tests are registered and easy to search.
- Translation module through which the user can translate the program into their own language
- Connection RS232



Software



More Productive
Repetition of partial tests



Safer
Ryme application can encrypt data, make them safer



More Intuitive
Incorporation of graphic icons. RYME applications share the same menus..



More Compatible
Compatibility with more than 95% of the database management systems on the market today, ORACLE, SQL SERVER, Postgre, SQLite, etc. OS support for 32 and 64 Bits and with Android, Windows...



Online support
Possibility of remote connection from our technicians with your equipment
Consult conditions



More Reliable & Precise
Improvement in the process of calibrating the main board Allows the adjustment of the weighing and force calibration to very precise values.



Software adaptations

Possibility of analysis and study, under budget, for adaptation to new regulations in any region and/or country

Mechanics



Epoxy Paint

Powder-coated finish ensures optimal and long-lasting protection



Perfect Fit Assembly

Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



High adherence rollers

Roller coating with our own technology, which provides optimal adhesion even in adverse conditions and high durability



Strongest Gearmotors

Tested for durability to ensure optimum performance

Technical Data Dyno

Maximum axle load	16 tn
Track width max. / min.	2.680 / 800 mm.
Roller length	960 mm.
Roller diameter	360 mm.
Distance between centers	504 mm.

Inertia Mechanics aprox.	1.160 Kg
Máx. Test Speed	0 - 300 km./h.
Potencia máx. medible	600 kW. 800 cv.
Tensión Power Supply	400 V. 50 Hz.
Lifting and locking system	Pneumatic

Technical Data Smokemeter RY-3200AH

The RY-3200 AH partial flow SMOKEMETER is prepared to meet the requirements of the standards UNE 82503, DIN 57411 and SAE J1677 USA/ Canada, ISO 11614.



Measurement range and Resolution

MEASUREMENT	RANGE	RESOLUTION
N	0-100 %	0,1 %
K	0,00 a 9,99 m -1	0,01 m -1



Dimensions

Bench dimensions	3.785 x 1.012 x 1.000 mm.
Packed bench dimensions	4.050 x 1.100 x 1.200 mm.
Bench weight	2.400 kg
Packed bench weight	2.600 kg

Cabinet dimensions	730 x 600 x 1.800 mm.
Packed cabinet dimensions	900 x 900 x 1.690 mm.
Cabinet weight	120 Kg
Packed cabinet weight	200 Kg

Optional Equipment

	Multi-function wireless device, keyboard, mouse and remote control
GEN-EIN	Computer equipment
GEN-IMP	Printer
GEN-TD	Data display terminal
GEN-STD	Second Data display terminal
	GEN-EST Voltage Stabilizer
	GEN-4WO Free rollers portable for front axle traction vehicle
	Freewheel kit for vehicles with front axle traction
	GEN-VEN Vehicle cooling fan. Features: Threephasic, 5,500 W power, 12,4 A current. Air flow 25,000 m3 / h

BP-PES30	Calibration weight 30 kg.
BP-PAL	Calibration lever
 RY3	R.P.M. and Accessories kit for r.p.m. measurement
 GEN-SSA	Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

Optional Cabinets

	PREMIUM CABINET Cabinet only Dimensions: 730 x 600 x 1.800 mm..
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GAS ANALYZER & SMOKEMETER

The gas analyzer is a modern equipment, prepared and ready to meet the requirements of OIML Class 1 and O, ISO 3930, UNE 82501, bar 90, bar 97, U.S. EPA ASM.

The software presents the concentration of the gases and the r.p.m. in numerical form.

Based on infrared technology it measures up to 5 gases; CO, CO₂, HC, O₂ (NO_x, optional), and other parameters such as corrected Lambda CO, oil temperature and rpm

It is very useful for detecting ignition and injection problems as well as for improving fuel consumption.

Dual exhaust measurement capability

Adapted for measuring and calculating Lambda in GLP, GNC and GNL vehicles.

Adapted to measurements of GLP, GNC and GNL

MEASUREMENT
CO, CO₂, HC, O₂ NO_x

Possibility of integration
EOD Equipment

Standard Equipment

- Gas analysis module
- Sampling probe
- Control cabinet
- Temperature gauge

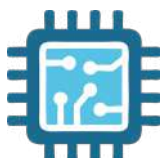
Software

- Adapted to current standards for vehicles with dual exhaust systems, and possibility of two measurements
- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Intuitive, simple and fast configuration software
- Graphical and numerical display of results
- Very intuitive control software guided by graphic icons
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests.
- Customized advertising on screen
- Database that allows to store cards with customer and vehicle data. All tests are registered and easy to search.
- Translation module through which the user can translate the program into their own language
- Connection RS-232 y Ethernet



Software adaptations

Possibility of analysis and study, under budget, for adaptation to new regulations in any region and/or country



Best Processors

New high-speed processor
Increase the response and process of each vehicle test



RAM memory

New memory 16 times faster



RS-232



Ethernet

Increased Connections

Connections Ethernet (TCP-IP) / RS-232 Wifi on the main board



Flash Memory

New memory 4 times faster

Technical Data

Gases	CO, HC, CO ₂ , O ₂ y (NOx optional)
Lambda factor calculation and corrected CO	
Storage temperature	-50 °C a 70 °C
Operating temperature	-5 °C a 45 °C
Operating pressure	750 - 1.100 mbar (1000 mbar nominal)
Automatic removal of water and particles	>5 µ.
Power Supply	220 V a 50 Hz
Oil temperature gauge	0 - 150 °C ; resolution 1°C
R.P.M. Meter	0 - 9990 ; 10 r.p.m.
Lambda	0,001 ó 0,01 ; configurable
Complies with UNE 82.501, OIML R class 1 and 0, ISO 3930, BAR 90, BAR 97, US. EPA ASM	
It has a database and rejection assessment	










Measurement range and Resolution

HC	0-20.000 p.p.m.	1 p.p.m.
CO	0-10 % vol.	0,01 % vol.
CO ₂	0-21 % vol.	0,1 % vol.
O ₂	-0,5 - 21,7 % vol.	0,1 % vol.
NOx	0-5.000 p.p.m.	1 p.p.m.

Dimensions

Gas equipment dimensions	400 x 400 x 190 mm.
Dimensions of packed gas equipment	570 x 470 x 190 mm.
Weight packed equipment	10 kg.
Cabinet dimensions	730 x 580 x 1.530 mm
Packed cabinet dimensions	1.200 x 800 x 380 mm.
Weight of the packed cabinet	90 kg.

Optional Equipment

		Multi-function wireless device, keyboard, mouse and remote control
	GEN-TD	Data display terminal
	GEN-STD	Second Data display terminal
	GEN-EST	Voltage Stabilizer
	GEN-ENAC	ENAC certified
	AG-CAL	Electro-pneumatic adaptation for self-calibration by means of internal standard gas bottles
	RY3	R.P.M. and Accessories kit for r.p.m. measurement
	868800	R.P.M. y Accessory kit for RPM measurement
	GEN-EOB	EOBD kit, integration with gas equipment and software



Software



More Productive
Repetition of partial tests



Safer
Ryme application can encrypt data, make them safer



More Intuitive
Incorporation of graphic icons. RYME applications share the same menus...



More Compatible
Compatibility with more than 95% of the database management systems on the market today, ORACLE, SQL SERVER, Postgre, SQLite, etc. OS support for 32 and 64 Bits and with Android, Windows...



Online support
Possibility of remote connection from our technicians with your equipment
Consult conditions



More Reliable & Precise
Improvement in the process of calibrating the main board Allows the adjustment of the weighing and force calibration to very precise values.



AG-NOX Sensor NOx



AG-AH SMOKE METER kit with Commissioning Certificate Module F

GEN-RPM Bluetooth

AG-2S Gas inlet hose with double probe



AG-ATE Motorcycle Exhaust Adapter Kit



GEN-SSA Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

The Smokemeter is a modern equipment, prepared and ready to meet the requirements of UNE 82503 and DIN 57411, SAE J1677 USA / Canada.

It is a partial flow meter based on the principle of light absorption by smoke. It allows to perform an official opacity test guided step by step through the program.

It has a configuration module that allows to consult and modify the operation parameters. Its access is done through a password as a security measure for the authorized technical personnel.

It can be connected in an Ethernet network. It allows the sending of measurement data to a central computer that receives and manages the information obtained from various machines creating complete reports, as well as a database of vehicles and clients.

Possibility to adapt the software to the internal regulations of the technical inspection of vehicles.

Standard Equipment

- Smoke analyzer module
- Sampling probe
- Control cabinet
- Commissioning certificate for module F SMOKEMETER
- Temperature and rpm meter

Software

- Auto zero automatic
- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Intuitive, simple and fast configuration software
- Graphical and numerical display of results
- Very intuitive control software guided by graphic icons
- Common database (on network as well as in local mode) that's allows us to save all client and vehicle data and have easy access to them to be able to make comparisons between old and new tests.
- Customized advertising on screen
- Database that allows to store cards with customer and vehicle data. All tests are registered and easy to search.
- Translation module through which the user can translate the program into their own language
- Connection RS-232 y Ethernet

Temperature and r.p.m. meter

Certification and commissioning Module F

Auto Zero Automatic

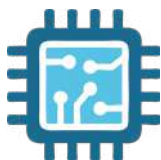


Software adaptations

Possibility of analysis and study, under budget, for adaptation to new regulations in any region and/or country



Electronics



Best Processors

New high-speed processor
Increase the response and process of each vehicle test

ANTES
AHORA



RAM memory
New memory 16 times faster



Increased Connections

Connections Ethernet (TCP-IP) / RS-232 Wifi on the main board

ANTES
AHORA



Flash Memory
New memory 4 times faster

Technical Data

Environmental working conditions	Temperature: from 5 up to 40°C Humidity: 0-95 % Pollution: < 2%
Storage temperature	-32 °C a 50 °C
Optics	Light source Green LED 560 nm
Detector	Silicon Photodiode
Response time	de 10 % a 90%, 0,25 ms
Acoustic noise	53 dB
Warm-up period	3 - 6 min. depending on temperature
Standard Test Probe	800 mm. 10 mm. Ø
Opacity	Range of 0 - 9,99 m ⁻¹ Resolution 0,01 m ⁻¹
Power Supply	220 V. 50 Hz

Other Information

Official opacity test

Electronic test of measurement accuracy

Self-diagnosis of the equipment




Complies with the following standards: DIN 57.411, UNE 82.503, SAE J1677 US / CANADA

Measurement of opacity in % and absorption coefficient k calculated according to Beer-Lambert's law

Dimensions

Smokemeter dimensions	500 x 250 x 450 mm.
Dimensions Smokemeter packaged	480 x 390 x 300 mm.
Weight packed equipment	8,5 kg.
Cabinet dimensions	730 x 580 x 1.530 mm
Packed cabinet dimensions	1.200 x 800 x 380 mm.
Weight Cabinet packed	90 kg.

Optional Equipment

	Multi-function wireless device, keyboard, mouse and remote control
GEN-TD	Data display terminal
GEN-STD	Second Data display terminal
GEN-ENAC	ENAC certified
GEN-CPS	Commissioning certificate for Smokemeter
GEN-LCS	Calibration lenses
GEN-EST	Voltage Stabilizer
	
GEN-LCS	Calibration lenses
RY3	R.P.M. and Accessories kit for r.p.m. measurement
	

Software



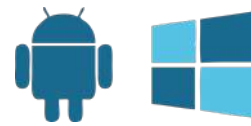
More Productive
Repetition of partial tests



Safer
Ryme application can encrypt data, make them safer



More Intuitive
Incorporation of graphic icons. RYME applications share the same menus..



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Online support
Possibility of remote connection from our technicians with your equipment
Consult conditions



More Reliable & Precise
Improvement in the process of calibrating the main board Allows the adjustment of the weighing and force calibration to very precise values.



868800 R.P.M. y Accessory kit for RPM measurement



GEN-SAH Extendable Smokemeter system for vehicles with vertical exhaust behind the cab.

Approved probe extension 1,8 m.

Approved probe extension 2,5 m.

Approved probe extension 3 m.



GEN-SSA Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...

The gas analyzer is a modern equipment, prepared and ready to meet the requirements of OIML class 1 and O, ISO 3930, UNE 82501, bar 90, bar 97, U.S. EPA ASM. The software presents the concentration of the gases and the r.p.m. in numerical form.

Based on infrared technology it measures 4 or 5 gases (CO, CO₂ HC, O₂, NOx) and other parameters such as Lambda, corrected CO, oil temperature and rpm. It is very useful for detecting ignition and injection problems as well as for improving fuel consumption.

The SMOKEMETER is a modern equipment, prepared and ready to meet the requirements of UNE 82503 and DIN 57411, SAE J1677 USA / Canada.

It is a partial flow meter based on the principle of light absorption by smoke.

Adapted to measurements of GLP, GNC and GNL

MEASUREMENT
CO, CO₂, HC, O₂, NOx

Certification and commissioning
Module F

Standard Equipment

- Smoke analyzer module
- Gas analyzer module
- Sampling probe
- Control cabinet
- Commissioning certificate for SMOKEMETER modulo F
- Temperature and rpm meter

Software

- Adapted to current standards for vehicles with dual exhaust systems, and possibility of two measurements
- Auto zero automatic
- Sending and processing data and graphics in real time
- Possibility of sending encrypted data to the server using the AES encryption method (Advanced Encryption Standard)
- 100% compatible with management systems and databases
- Assigning permissions to different user levels
- Possibility of assigning the results obtained to a vehicle plate before or after each test
- Customization of the test duration to the minimum and/or maximum time to optimize working time
- Intuitive, simple and fast configuration software
- Graphical and numerical display of results
- Very intuitive control software guided by graphic icons
- Common database (both in network and in local mode), which allows to store cards with customer and vehicle data. All tests performed are recorded and can be easily searched for comparison with new tests
- Translation module which the user will be able to translate the program into his own language or modify any sentence or word on it.
- Connection RS-232 y Ethernet

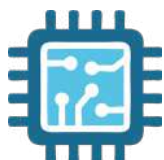


Software adaptations

Possibility of analysis and study, under budget, for adaptation to new regulations in any region and/or country



Electronics



Best Processors

New high-speed processor
Increase the response and process of each vehicle test

ANTES
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RAM memory

New memory 16 times faster



RS-232



Ethernet

Increased Connections

Connections Ethernet (TCP-IP) / RS-232 Wifi on the main board

ANTES
AHORA



Flash Memory

New memory 4 times faster

Technical Data Gas Analyzer

Gases	CO, HC, CO ₂ , O ₂ y (NOx optional)
Lambda factor calculation and corrected CO	
Storage temperature	-50 °C a 70 °C
Operating temperature	-5 °C a 45 °C
Operating pressure	750 - 1.100 mbar (1000 mbar nominal)
Automatic removal of water and particles	>5 µ.
Power Supply	220 V a 50 Hz
Oil temperature gauge	0 - 150 °C ; resolution 1°C
R.P.M. Meter	0 - 9990 ; 10 r.p.m.
Lambda	0,001 ó 0,01 ; configurable
Complies with UNE 82.501, OIML R class 1 and 0, ISO 3930, BAR 90, BAR 97, US. EPA ASM	
It has a database and rejection assessment	

Measurement range and resolution of the gas analyzer

HC	0-20.000 p.p.m.	1 p.p.m
CO	0-5 % vol.	0,01 % vol.
CO ₂	0-20 % vol.	0,1 % vol.
O ₂	0-21,7 % vol.	0,1 % vol.
NOx	0-5.000 p.p.m.	1 p.p.m.

Technical Data Smokemeter

Environmental working conditions	Temperature: from 5 to 40°C Humidity: 0-95 % Pollution: < 2%
Storage temperature	-32 °C a 50 °C
Optics	Light source Green LED 560 nm
Detector	Silicon Photodiode
Response time	10% a 90% 0,25 ms
Acoustic noise	3 - 6 min. according to temperature
Warm-up period	240 sg.
Standard test probe	800 mm. 10 mm. Ø
Opacity	0-999 m ⁻¹ / Resolution 0,01 m ⁻¹
Power Supply	220 V. 50 Hz
Free measure	
Official opacity test	
Electronic test of measurement accuracy	
Self-diagnosis of the equipment	
Complies with the following standards: DIN 57.411, UNE 82.503, SAE J1677 US / CANADA	
Measurement of opacity in% and absorption coefficient k calculated according to the Beer-Lambert law	



Software



More Productive

Repetition of partial tests



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Online support

Possibility of remote connection from our technicians with your equipment

Consult conditions



More Reliable & Precise

Improvement in the process of calibrating the main board Allows the adjustment of the weighing and force calibration to very precise values.

Dimensions

Dimensions smokemeter	500 x 250 x 450 mm.
Dimensions smokemeter packed	480 x 390 x 300 mm.
Weight packed equipment	8,5 kg.
Gas equipment dimensions	400 x 400 x 190 mm.
Gas equipment dimensions packed	570 x 470 x 190 mm.

Weight packed equipment	10 kg.
Cabinet dimensions	730 x 580 x 1.530 mm
Packed cabinet dimensions	1.200 x 800 x 380 mm.
Weight Cabinet packed	90 kg.

Optional Equipment



Multi-function wireless device, keyboard, mouse and remote control

GEN-TD	Data display terminal
GEN-STD	Second Data display terminal



GEN-EST	Voltage Stabilizer
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GEN-ENAC	ENAC certified
----------	----------------

GEN-LCS	Calibration lenses
---------	--------------------

AG-CAL	Electro-pneumatic adaptation for self-calibration using internal standard gas bottles
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RY3	R.P.M. and Accessories kit for r.p.m. measurement
-----	---



868800	R.P.M. y Accessory kit for RPM measurement
--------	--



GEN-EOB	EOBD kit, integration with gas equipment and software
---------	---



GEN-SAH	Extendable SMOKEMETER system for vehicles with vertical exhaust behind the cab.
---------	---



AG-NOX	Sensor NOx
--------	------------



AG-2S	Gas inlet hose with double probe
-------	----------------------------------

AG-ATE	Motorcycle Exhaust Adapter Kit
--------	--------------------------------

Approved probe extension 745 mm.

Approved probe extension 2.345 mm.

Approved probe extension 3.840 mm.



GEN-SSA	Software for sending encrypted and non-encrypted measurements that guarantees the saving of the results of each test and their sending to the management program even in possible power cuts or other...
---------	--

The gas analyzer is modern equipment, prepared and ready to meet the requirements of OIML R99 Class 1 and 0, ISO 3930, UNE 82501, bar 90, bar 97, U.S. EPA ASM.

Adapted to current standards for vehicles with dual exhaust systems, and possibility of two measurements

Standard Equipment

- Gas analysis equipment
- Graphic LCD display
- 5-key keyboard
- Thermal Printer
- Centralization output
- Keyboard input
- Petrol and diesel rev counter, oil temperature

Technical Data

Gases	CO, HC, CO ₂ , O ₂ y (NOx optional)
Lambda factor calculation and corrected CO	
Storage temperature	-50 °C a 70 °C
Operating temperature	-5 °C a 45 °C
Operating pressure	750 - 1.100 mbar (1000 mbar nominal)
Automatic removal of water and particles	>5 µ.
Power Supply	220 V a 50 Hz
Oil temperature gauge	0 - 150 °C ; resolution 1°C
R.P.M. Meter	0 - 9990 ; 10 r.p.m.
Lambda	0,001 ó 0,01 ; configurable
Complies with UNE 82.501, OIML R class 1 and 0, ISO 3930, BAR 90, BAR 97, US. EPA ASM	
It has a database and rejection assessment	

Measurement range and Resolution

MEASUREMENT	RANGE	NORMAL	HIGH
HC	0 - 20.000 p.p.m. vol. Kex	1 p.p.m.	1 p.p.m.
CO	0 - 5 % vol.	0,01 %	0,001 %
CO ₂	0 - 20 % vol.	0,1 %	0,1 %
O ₂	0 - 21,7 % vol.	0,1 %	0,01 %
LAMBDA	0,8 - 1,2	0,01	0,001
NOX	0 - 5.000 p.p.m. vol.	1 p.p.m.	1 p.p.m.

MEASUREMENT	RANGE	Resolution
Regime	60 - 9.990 r.p.m.	10 r.p.m.
Oil temperature	-5 °C / 150 °C	1 °C

Dimensions

Gas equipment dimensions	400 x 400 x 190 mm.
Gas equipment dimensions packed	570 x 470 x 190 mm.
Weight packed equipment	10 kg.

Adapted to measurements of GLP, GNC and GNL








MEASUREMENT
CO, CO₂, HC, O₂ NOx

Possibility of integration
EOD Equipment



*** Trolley furniture not included in Standard Equipment**

Optional Equipment

	GEN-ENAC	ENAC certified		AG-NOX	Sensor NOx
	AG-SOF	PC integration software, database and cabling Connections		AG-AH	SMOKEMETER kit with Commissioning Certificate Module F
	AG-2S	Gas inlet hose with double probe		GEN-EOBD	EOBD kit, integration with gas equipment and software
	RY3	R.P.M. and Accessories kit for r.p.m. measurement		AG-ATE	Motorcycle Exhaust Adapter Kit
	868800	R.P.M. y Accessory kit for RPM measurement			

Optional cabinet

	TROLLEY Mobile stand for computer and printer		CABINET GASES Cabinet only Dimensions: 700 x 500 x 1.550 mm.
--	--	--	--

The RY-3200 AH Smokemeter is a modern equipment, prepared and ready to meet the requirements of the UNE 82503, DIN 57411 and SAE J1677 USA/ Canada standards.

- It fully complies with the Opacity control procedure for technical inspection centers and the Opacity determination procedure is applicable to repair shops.
- Opacity analysis function with visualization of the opacity curve.
- Automatic zero adjustment before use.

**Temperature and
r.p.m. meter**

**Certification and commissioning
Module F**

**Auto Zero
Automatic**

Standard Equipment

- Smokemeter analysis equipment
- Commissioning certificate for SMOKEMETER modulo F
- Petrol and diesel rev counter, oil temperature
- Centralization output

Technical Data

- Power Supply: 220 V 50-60 Hz
- Storage temperature: de 0 °C a 40 °C
- Centralization output
- Dimensions: 400 x 180 x 289 mm (l x a x p)
- Weight: 7 Kg

Measurement range and Resolution

MEASUREMENT	RANGE	Resolution
N	0-100 %	0,1 %
K	0,00 a 9,99 m -1	0,01 m -1










*** Trolley furniture not included in Standard Equipment**

Dimensions

Dimensions Smokemeter	500 x 250 x 450 mm.
Dimensions Smokemeter packed	480 x 390 x 300 mm.
Weight packed equipment	8,5 kg.

Optional Equipment

	ENAC certified		868800 R.P.M. and Accessories kit for r.p.m. measurement
	Commissioning certificate for SMOKE-METER		
	Calibration lenses		
	PC integration software, database and cabling Connections		GEN-SAH Extendable SMOKEMETER system for vehicles with vertical exhaust behind the cab.
	RY3 R.P.M. and Accessories kit for r.p.m. measurement		Approved probe extension 745 mm.
			Approved probe extension 2.345 mm.
			Approved probe extension 3.840 mm.

Optional cabinet

	TROLLEY Mobile stand for computer and printer		CABINET GASES Cabinet only Dimensions: 700 x 500 x 1.550 mm.
---	--	---	---

The gas analyzer + SMOKEMETER is modern equipment, prepared and ready to meet the requirements of UNE 82503 DIN 57411, SAE J1677 USA / Canada (SMOKEMETER) and OIML R99 Class 1 and 0, ISO 3930, UNE 82501, bar 90, bar 97, US EPA ASM (gas analyzer).

Adapted to current standards for vehicles with dual exhaust systems, and possibility of two measurements

Adapted to
measurements of
GLP, GNC and GNL

MEASUREMENT
CO, CO₂, HC, O₂ NO_x

Certification and commissioning
Module F

Standard Equipment

- Gas analysis equipment
- Graphic LCD display
- 5-key keyboard
- Thermal Printer
- Centralization output
- Keyboard input
- Petrol and diesel rev counter, oil temperature
- Smokemeter analysis equipment
- Commissioning certificate for Smokemeter modulo F
- Petrol and diesel rev counter, oil temperature
- Centralization output

Technical Data Smokemeter

- Power Supply: 220 V 50-60 Hz
- Storage temperature: de 0 °C a 40 °C
- Centralization output
- Dimensions: 400 x 180 x 289 mm (l x a x p)
- Weight: 7 Kg

Technical Data Gas Analyzer

Gases	CO, HC, CO ₂ , O ₂ y (NO _x optional)
Lambda factor calculation and corrected CO	
Storage temperature	-50 °C a 70 °C
Operating temperature	-5 °C a 45 °C
Operating pressure	750 - 1.100 mbar (1000 mbar nominal)
Automatic removal of water and particles	>5 µ.
Power Supply	220 V a 50 Hz
Oil temperature gauge	0 - 150 °C ; resolution 1°C
R.P.M. Meter	0 - 9990 ; 10 r.p.m.
Lambda	0,001 ó 0,01 ; configurable
Complies with UNE 82.501, OIML R class 1 and 0, ISO 3930, BAR 90, BAR 97, US. EPA ASM	
It has a database and rejection assessment	



*** Trolley furniture not included in Standard Equipment**

Debido a la continua evolución de nuestros productos, las características técnicas y de diseño podrían estar sujetas a modificaciones, sin previo aviso.

Measurement range and Resolution

MEASUREMENT	RANGE	Resolution
N	0-100 %	0,1 %
K	0,00 a 9,99 m -l	0,01 m -l




MEASUREMENT	RANGE	NORMAL	HIGH
HC	0 - 20.000 p.p.m. vol. Kex	1 p.p.m.	1 p.p.m.
CO	0 - 15 % vol.	0,01 %	0,001 %
CO ₂	0 - 20 % vol.	0,1 %	0,1 %
O ₂	0 - 21,7 % vol.	0,1 %	0,01 %
LAMBDA	0,8 - 1,2	0,01	0,001
NOX	0 - 5.000 p.p.m. vol.	1 p.p.m.	1 p.p.m.

Dimensions

Dimensions Smokemeter	500 x 250 x 450 mm.
Dimensions Smokemeter packed	480 x 390 x 300 mm.
Weight packed equipment	8,5 kg.
Gas equipment dimensions	400 x 400 x 190 mm.
Gas equipment dimensions packed	570 x 470 x 190 mm.
Weight packed equipment	10 kg.

Optional Equipment

	ENAC certified
	Calibration lenses
	PC integration software, database and cabling Connections
	RY3 R.P.M. and Accessories kit for r.p.m. measurement
	868800 R.P.M. and Accessories kit for r.p.m. measurement
	AGH-NOX Sensor NOx
	AGH-2S Gas inlet hose with double probe

	AGH-ATE Motorcycle Exhaust Adapter Kit
	GEN-EOB EOBD kit, integration with gas equipment and software
	GEN-SAH Extendable Smokemeter system for vehicles with vertical exhaust behind the cab.
	Approved probe extension 745 mm.
	Approved probe extension 2.345 mm.
	Approved probe extension 3.840 mm.

Optional cabinet

	TROLLEY Mobile stand for computer and printer
	CABINET GASES Cabinet only Dimensions: 700 x 500 x 1.550 mm.

The gas analyzer + opacimeter EIS-5000 is a modern equipment, prepared and ready to meet the requirements of UNE 82503 DIN 57411, SAE J1677 USA/Canada (opacimeter) and OIML R99 Class 1 and 0, ISO 3930, UNE 82501, bar 90, bar 97, U.S. EPA ASM (gas analyzer). Adapted to the current regulations for vehicles with dual exhaust system, and the exhaust system, and possibility of performing two measurements.

Main features

- High quality steel frame. Designed and manufactured to the highest level of detail.
- Robust industrial frame, using epoxy paint.
- Bluetooth wireless technology
- Wireless barcode scanner included.
- High pressure purge. Keeps internal components clean and allows for accurate results at every point of the test.
- Windows operating system. Allows continuous updating of components.
- 22" color LCD monitor. High resolution for easy monitoring of the test.
- Graphical and numerical display of results
- Intuitive control software guided by graphic icons.
- Analyzer for 4 or 5 types of gases. Certified emission analyzer according to the California Emissions Inspection Program BAR97
- Zero air generator. We are the only manufacturer that integrates this technology into the device.
- The high quality components of the new gas analyzer EIS-5000 gas analyzer allow precise measurement during

Advantages

- Uses high quality components that guarantee high performance testing and long life for high performance testing and long life equipment for High Speed Connections.
- High Speed Connections
- The Integrated Zero Air Generator offers a solution to the need for the most cost-effective and environmentally solution to the need for the most cost-effective and environmentally friendly zero air gas.
- Environmentally friendly
- Patented Thermal Sample Cooler lowers the temperature of a sample BEFORE it enters the of a sample BEFORE it enters the system, in order to provide a long to provide long equipment life and faster, more accurate diagnostics.
- The OBDII Manual Mode allows you to verify that a vehicle is ready for inspection and provides the information is ready for inspection and provides the information needed to diagnose vehicle problems.
- High pressure purge. Keeps internal components clean and components clean and allows for accurate results at every point of the of the test.
- Windows operating system. Allows for continuous component of the components.

Adapted to
measurements of
GLP, GNC and GNL

MEASUREMENT
CO, CO₂, HC, O₂ NO_x

THE ONLY DEVICE WITH
ZERO AIR GENERATOR



OBD II System integrated

Where available on a vehicle, the system will utilize Worldwide's BAR Certified OBDII Data Acquisition Device (DAD) tester to extract relevant vehicle information, including but not limited to the following:

- Vehicle VIN & Odometer Reading (where applicable, utilize this data as part of the emissions testing process);
- Software clearly displays the Engine RPM and Engine Temperature in Real-Time;
- The system compares the retrieved data with the data already on the ITL and populates the appropriate fields within the test lane software as necessary.

Integrated with the EIS5000 via Wi-Fi or USB, the DAD performs all necessary OBD functions. The screen will clearly display on the screen the target limit values for the specific test including: Engine Revolutions Per Minutes (RPM) range, minimum engine temperature, maximum CO at idle and fast idle, maximum HC at fast idle, lambda range at fast idle.

The EIS5000 will provide the examiner with a quick and clear means of identifying the engine type, and apply the correct emission test standard to the vehicle wherever vehicle specific data and emissions limits are required to conduct the emissions test.

The EIS5000 will clearly display on the screen live test data including test progress, engine RPM, engine temperature, CO, HC and lambda values. Also clearly indicated on the screen is whether each measurement is within the appropriate limit values and automatically pass or fail the test. All available data recorded from the emissions test on the EIS5000 will be automatically saved to the ITL system and be available to review at any time at any stage of the test.

All available emission test data recorded from the EIS-5000 will be automatically saved in the ITL system and will be available in the ITL system. EIS-5000 will be automatically stored in the ITL system and will be available for review at any available for review at any time and at any stage of the test.

The DAD only requires the supplied J1939 Adapter for connection to all OBD compliant vehicles.

The EIS5000 will clearly display on the screen the relevant instructions for the inspector, including the duration, how and when to increase/decrease and maintain engine speed. It will also clearly display the live test data test data, including test progress, engine RPM, engine temperature, opacity measurement for each acceleration. It will also display all accelerations with their measurements and the average of the last three accelerations will also be displayed.

To avoid unnecessary testing, the smoke meter test equipment will pass vehicles that have values significantly below the target limit values after less than three free acceleration cycles or after purge cycles.

The equipment shall record evidence that the test has been performed on vehicles that emitting minimum levels. The system will clearly indicate on the display whether each measurement is within the appropriate limit values and will automatically pass or fail the test, and will automatically pass or fail the test.

All data available from the smoke meter test will be stored in the smoke meter All available smoke meter test data will be stored in the ITL system and will be available for review at any stage of the test.



OBD II (D.A.D)



J1939 Adapter

MANAGEMENT SYSTEMS INSPECTION CENTERS

Ryme has developed a comprehensive management system for Inspection Centers in which all jobs are networked.

A program is responsible for the management of all the information circulating through the networks through which the collection, evaluation of data and management of said information is carried out. In addition, there is a visual inspection program connected to the central PC, which is where the data server is located, the central PC is in charge of receiving the client and generating their identification, receiving data from the review and creating reports. corresponding to the inspection.

The system stores information as important as:

- Data of the owners and their vehicles
- Results obtained in each test machine.
- Visual failures noted on inspection
- General summary of the results of the entire inspection.
- Observations.
- etc.

The storage of all this information allows a control of vehicle inspection defects, since all the results issued by the machines are automatically stored, together with the verdict of approved / not approved.

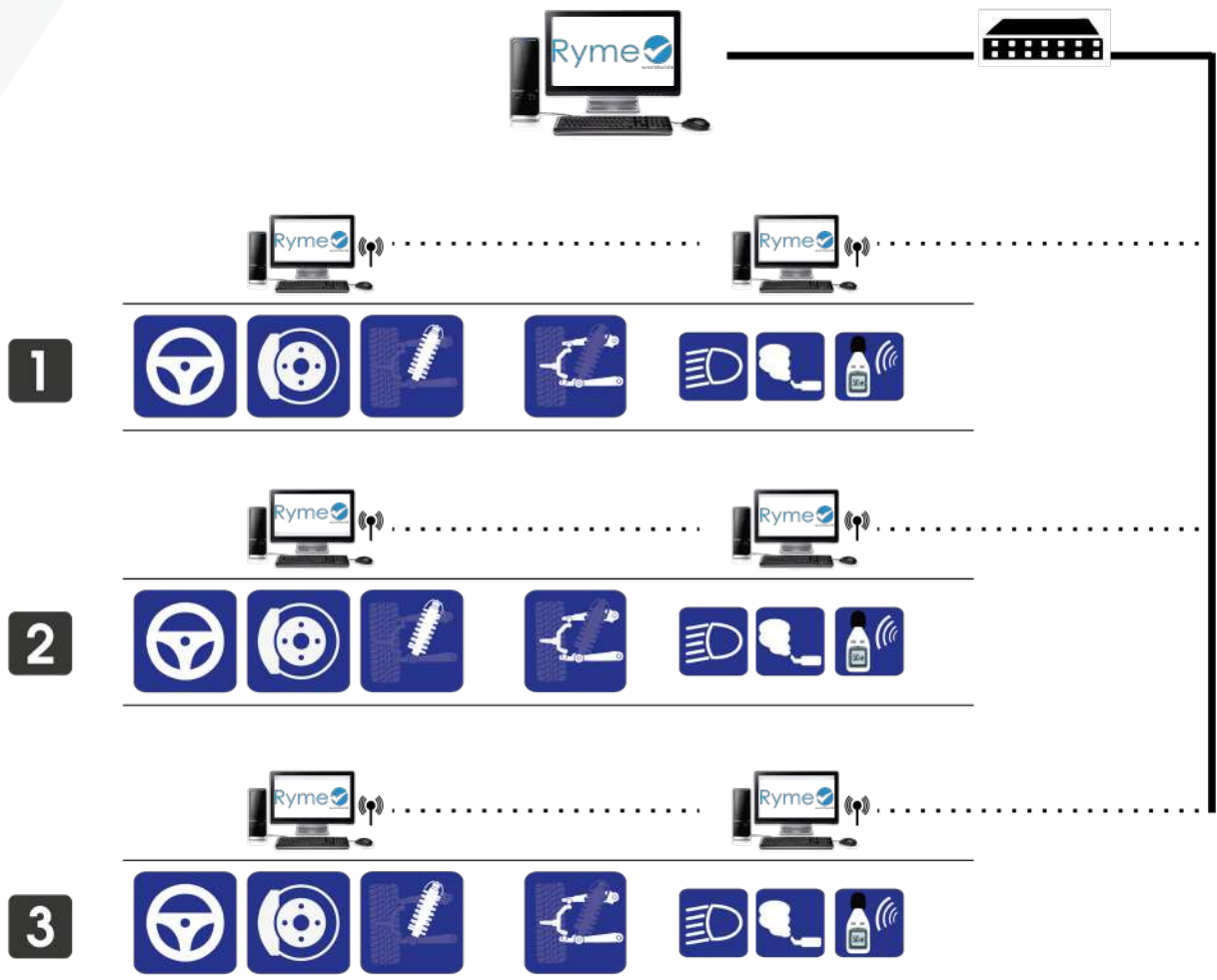
Each machine can be connected to a single computer or several machines can be grouped into the same computer, but, in return, this last option eliminates the simultaneity of the tests.

A minimum of 2 workstations (2 computers) per inspection line is recommended.

The computer equipment can be supplied directly by RYME, or it can be purchased directly by the customer.



Management Software Compatible with Smartphones with Android systems



A networked system provides the freedom to have the machines individually, allowing us to carry out a greater number of simultaneous tests and keeping all the measured information in the same database (depending on the number of employees).

With the centralization of data we can then issue individual and joint reports with all the results obtained. The office system that Ryme has developed is its own system that aims to cover the needs of a Technical Vehicle Inspection center.

However, aware of the diversity of our customers' needs, we offer an open, adaptable and flexible system according to customer requirements based on current regulations and / or legislation.

The vehicle test can be carried out in any equipment of the inspection center, the vehicle selection can be done both before and after having carried out the test. If the test is carried out before selecting the vehicle, the test carried out must be assigned to the newly verified vehicle.

It can also be moved through the rest of the machines until the inspection is complete

Vehicles that arrive to be inspected are received at the Central Office, registered and the corresponding payment is made.

Once registered, the Ryme network receives the license plates of those vehicles pending testing and a drop-down list is chosen in each machine of the vehicle that is inspected.

Thanks to centralized data it is possible to print the results from a single central office, sub-office (reception desks) and final printing desks.

Visual Inspection

A visual inspection is necessary in all technical inspections. With Ryme's visual inspection that is also fully configurable, we can, in a fast, simple and concise way, analyze all the visual defects that the vehicle may have

It can be done using different devices such as a conventional PC on the line or a mobile device such as PDA, Tablet PC, etc., which will send the defects to the server.

Our Visual Inspection allows more than one inspector to perform the visual inspection, interior part, exterior part, etc. simultaneously.

Standard Equipment

- Central Office Server: Latest generation computer. It is the server of the entire network. It receives and manages the information obtained from all the machines and it will have installed and configured the comprehensive management system (application, database, etc ...).
- Line Equipment: Latest generation computer. It controls the Operation of the assigned machine / s and has the ability to send the information of the tests carried out to the central server.
- Printer: Prints the final report of the Technical inspection of vehicles.
- Backup system: Make backup copies of the system on computer support to safeguard the information stored in the central computer.
- LCD-LED screen or monitor, keyboard, mouse and CD-ROM.
- Complete comprehensive management software. Mono leave.
- Switch: Hub for Ethernet network.



Functions

RYME WORLDWIDE can design, implement, and maintain a state-of-the-art, hybrid database architecture to ensure that the Management Information System (MIS) is securely and reliably providing government services and information on an ongoing basis. RYME WORLDWIDE's proposed database architecture has now been successfully implemented in several jurisdictional vehicle testing programs and continues to provide those programs with uninterrupted program communications and services.

RYME WORLDWIDE will host both the primary and secondary data sites with traditional clustered, secured data servers.

The primary and secondary data sites will then be supported by a tertiary backup, still hosted by RYME WORLDWIDE, yet utilizing the newest technologies in Microsoft's Azure Cloud Services. The tertiary backup will serve as a final failover in the unusual event both the primary and secondary facilities are non-operational.

RYME WORLDWIDE's solution for the MIS moves beyond traditional database architectures and delivers a robust, system-wide management solution which brings high-value. The Vehicle Inspection Systems Information Online Network (referred to as 'VISION' or 'MIS') is far more dynamic than traditional vehicle inspection database management solutions. Traditional systems basically create a central repository for the collection, storage, and access, however limited, of data.

VISION is a high-level, a client-incend resource management solution that integrates each component into one (1) web-based software application that automates and controls data storage logic, data analysis processes, system-wide access rules, user capabilities, user activity, and server system functions.



Classification	Access Control	Classification	Rights Management Services protection
<ul style="list-style-type: none"> Files inherit classification from parent folder. File owners tag files manually Files are tagged automatically Files are tagged by applications 	<ul style="list-style-type: none"> Central access policies are based on classification Access conditions for user claims, device claims and file tags are based on expressions Assistance is available for denial of access 	<ul style="list-style-type: none"> Central audit policies can be applied across multiple file servers Access conditions for user claims, device claims and file tags are based on expressions Audits can be staged to simulate policy changes in a real environment 	<ul style="list-style-type: none"> Automatic Rights Management Services (RMS) protection is available for Microsoft Office documents Protection is in near-real-time when a file is tagged RMS protection extends to files not created in Microsoft Office

VISION is a high-level, a ClientInced resource management solution that integrates each component into one (1) web-based software application that automates and controls data storage logic, data analysis processes, system-wide access rules, user capabilities, user activity, and server system functions.

RYME WORLDWIDE is proposing a complete, secure Web-service oriented solution, including but not limited to:

<ul style="list-style-type: none"> Management of Inspection Centers Management of Examiners Management of Inspection Lane Equipment User Authentication Profile/Role Data Messaging Services to Users, Examiners and Test Centers Inspection Record and Official Vehicle Inspection Report Storage and Retrieval 	<ul style="list-style-type: none"> System Interface with ITL Software Interface with Domain Active Directory Compliance with Industry standards and Client Security Policies Real-Time Data Mining for all Program Data Enhanced Data Triggers and Automated Notification Adherence to Data Protection and GDPR Legislation Auditing and Enforcement Interface
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Client Access

As the system is a web-based portal, users simply need access to the Internet and a working web browser in order to facilitate access to VISION. Once a system user is logged in, they will be granted access to portals, software programs and applications necessary to perform the duties of their assigned user role. This creates a comprehensive, service-oriented solution where system users have access to the data and information they need on-demand, 24/7/365. RYME WORLDWIDE will work with Client to establish any particular restrictions on specific platforms.

Any access to the Intranet and all platforms and software applications hosted on it, or to any front-end software applications, will be controlled by access rules applied to each system user account. System user accounts are the key to performing program duties and will be managed widely on a role (classification)-based access control schema, and by user-based permissions and/or restrictions that can be set individually, if necessary. RYME WORLDWIDE will work Client to define user roles and access rights for each role.

Authorized RYME WORLDWIDE and Client administrators will have the ability to grant/restrict itemized access rights to any individual user. The master User Management application is available to authorized users via the Administrative Web-Portal. Access will be provided through a login screen that will require one or all of the following login authentication criterion to be successfully inputted:

- Case Sensitive Username; and
- Password;

The access means will depend on the device being used to access the Intranet and on the application being accessed.

Data capture & analysis

RYME WORLDWIDE designed VISION with the objective of providing government-level secure identity and access to important data for authorized system users. To meet the security demands for maintaining data security, the end-user demands for flexible access, and the compliance demands of local, Federal and jurisdictional regulations; RYME WORLDWIDE has designed VISION using Microsoft Server 2017 Identity & Access services, which provide policy-driven access to data through Dynamic Access Control – an Active Directory service built for Internet-based platforms that provides seamless remote access via DirectAccess.

In order to satisfy business and regulatory requirements, RYME WORLDWIDE will implement Dynamic Access Control to automate system access governance. The RYME WORLDWIDE security design for the Database includes a customized, Dynamic Access Control feature set that will permit authorized Client and RYME WORLDWIDE administrators to perform the following capabilities via the Master User Application:

- Allow content owners to tag their information, rather than restricting this ability to administrators.
- Apply a central access policy to information in tagged files.
- Provide access denied remediation when users cannot access information.
- Configure central audit policies to log access to information so that it can be analyzed for auditing and forensic purposes.
- Protect specific sensitive information by automatically applying RMS protection.

Administrative Capabilities

RYME WORLDWIDE's choice of operating system and design strategy will maximize administrative capabilities, automated management and security control across the Database architecture; delivering a virtualized data environment built for speed, security and reliability.

For the Database system, RYME WORLDWIDE is proposing Microsoft SQL Server 2017. MS SQL Server 2017 will ensure VISION overcomes any potential challenges typically associated with older database systems, including:

- Multiple and varied data sources
- Inconsistent access to business data
- Varied understanding of business data
- Multiple versions of business applications
- Inefficient business processes
- Geographically diverse teams
- IT-related downtime and delay
- Limited resources
- Limited budget

RYME WORLDWIDE's SQL Server 2017 proposed database platform meets each of these challenges by offering these key resolutions:

- 1.Consolidate data sources** by making data more accessible and actionable with reporting, scorecard, and dash board solutions that are scalable and can be imported and manipulated from external resources using familiar Microsoft Offices interfaces.
- 2.Keep everyone on the same page** by making sophisticated data analysis easier for everyone through simple data visualization tools.
- 3.Make data more accessible** by delivering Government-ready security and compliance with built-in data encryption.
- 4.Avoid high capital, training & management costs** by easily incorporating data into existing applications and work flows based on familiar Microsoft and other tools.

MS SQL Server 2017 deployed as the database server for the Program Database will meet and exceed security objectives, providing mission-critical confidence that the Bangladesh network is secure and the data elements are accurate and protected. MS SQL Server 2017 is the most dynamic version of SQL Server products, expanding on a strong security track record that consistently reports the lowest database vulnerabilities among the major Relational Database Manager vendors.

The RYME WORLDWIDE Database solution for the Program will deliver a robust, dynamic and secure database solution based on the Microsoft SQL Server 2017 platform. This platform will meet (and exceed) the performance, scalability and mission-critical availability needs of the Program.

RYME WORLDWIDE believes it can deliver the strongest, most dynamic, and most secure database solution available in the vehicle testing industry today, within the requirements of the Program. The Microsoft Server 2017 Platform is just the surface of the capability and dynamism of RYME WORLDWIDE's solution.

Self-Monitoring Analysis and Reporting Technology (SMART)

In developing Self-Monitoring Analysis and Reporting Technology (SMART) for vehicle inspection programs, RYME WORLDWIDE created a turn-key solution that increases transparency while providing leading edge fraud detection and report services which improves RYME WORLDWIDE and government oversight and enforcement efforts in vehicle inspection programs.

Rather than include detailed information regarding RYME WORLDWIDE's SMART Application in its proposal, RYME WORLDWIDE would appreciate the opportunity to demonstrate its advanced capabilities and unparalleled abilities to manage vehicle inspection program data and activities. SMART automatically analyses data as it is being recorded during an inspection and from the vehicle being tested. Utilizing RYME WORLDWIDE's proprietary algorithm and data from more than half of a billion inspection records from various vehicle testing programs across the globe, SMART will provide Client administrators with the tools needed to efficiently and effectively manage the system.



Site #	Station #	Creation Date	Name	Address	City	Zip	Phone	Mailing Address	Mailing City	Mailing State	Mailing Zip	Owner Last Name
UT0179	DBT00100		Prostate	538 South 500 West	Bountiful	84015	801293379	538 South 500 West	Bountiful	UT	84015	
UT1768	DBT00104		Western's Special Services	442 North Main #D	Clearfield	84015	8017764768	442 North Main #D	Clearfield	UT	84015	Western
UT1434	DBT00107		Main Street Service	45 North Main	Layton	84041	8015644134	45 North Main	Layton	UT	84041	Goble
UT1930	DBT00118		S.B. 1 Auto	7430 South 1025 East	South Weber	84405	8014768901	7430 South 1025 East	South Weber	UT	84405	Singer
UT1995	DBT00119		Master Muffler Layton	1391 North Main	Layton	84041	801852381	1391 North Main	Layton	UT	84041	Summers
UT2399	DBT00123		W & J Auto Repair	2055 North Main Street	Sny	84025	8017762399	2055 North Main Street	Sny	UT	84025	Roberts
UT3392	DBT00135		Farrington Service	92 North Main	Farrington	84025	8019323392	92 North Main	Farrington	UT	84025	Wahlstrom
UT3449	DBT00139		Ron's Service	278 North Main	Centerville	84014	801905949	P.O. Box 212	Centerville	UT	84014	Randall
UT4720	DBT00116		Ray's Muffler Service-BR	792 South 500 West	Bountiful	84015	8012904720	792 South 500 West	Bountiful	UT	84015	Anderson
UT1929	DBT00119		Layton City Shop	1503 North Fortuna	Layton	84041	8013361929	1503 North Fortuna	Layton	UT	84041	
UT3448	DBT00120		John Eggen Auto	785 South Main	Bountiful	84015	8012993448	785 South Main	Bountiful	UT	84015	Egan
UT2277	DBT00125		Young Kia	220 North 500 West	Centerville	84027	8014442277	P.O. Box 523	Centerville	UT	84027	Young
UT1340	DBT00128		Layton Tires	1541 West Antelope Drive	Layton	84041	8017761340	1541 West Antelope Drive	Layton	UT	84041	Larsen
UT0074	DBT00129		Mid AFB Vehicle Wash (USAFV)	6073 Elm Lane Bldg # 505	Mid AFB	84056	8015967000	6073 Elm Lane Bldg # 505	Mid AFB	UT	84056	
			Wood Layton	236 North Fairfield	Layton	84040	8015443336	236 North Fairfield	Layton	UT	84040	Wood



VISION sample screenshot - List of inspection centers

With easy-to-navigate drop-down menus, users can navigate from one page to another in a very user-friendly manner. A list of all Inspection Centers can be viewed from one page, with links to information from each Inspection Centers making it very easy to find whatever information is desired through a variety of methods.



Debido a la continua evolución de nuestros productos, las características técnicas y de diseño podrían estar sujetas a modificaciones, sin previo aviso.



[Dashboard](#)
[Stations](#)
[Analyzers](#)
[Inspection](#)
[Inspections](#)
[Reports](#)
[Messages](#)
[Admin](#)

garrettdelaney Logged In: [Garrett Delaney](#) | [Logout](#)

Search options are available. [Click here to show or hide options.](#)

Recipient Email:
 Recipient Analyzer:

Sender Email:
 Body:

Subject:
 End Date:

Start Date:

Message "Software Version 4.3.0. sticker will print before the VIR is printed." is currently selected. [Click on this panel to show or hide message contents.](#)

From: Delaney
 To: gdelaney
 Subject: Software Version 4.3.0. sticker will print before the VIR is printed.
 Sent: 7/27/2017 12:22:18 AM

Software version 4.3.0.0 has now been released! **In this latest version the sticker will print before the VIR is printed.** We suggest that you place the sticker on the windshield before answering the question do you need to reprint the sticker. After you answer the sticker reprint quest The VIR reprint function is still available in the inspection menu if needed.

16 messages found. [Click on a row to select an individual message.](#)

Subject	Rele Date	Sender User	Recipient User	Recipient Analyzer #	Rele Date
Software Version 4.3.0. sticker will print before the VIR is printed	7/27/2017 12:22:18 AM	Delaney	gdelaney		DELETE MESSAGE
TABLET MAINTENANCE WIRC OF 7-1-2017 TO 7-15-2017	7/1/2017 9:50:20 AM	Logan	gdelaney	10	DELETE MESSAGE
Camera disk write drive in Use	7/1/2017 9:43:30 PM	Logan	gdelaney	10	DELETE MESSAGE
Supplies for QVT vehicle inspection equipment	7/1/2017 11:45:41 AM	Logan	gdelaney	10	DELETE MESSAGE
Printer Supplies and Prints	7/3/2017 1:29:26 PM	Logan	gdelaney	10	DELETE MESSAGE
Supplies for GVIP vehicle inspection equipment	7/1/2017 1:13:04 PM	Delaney	gdelaney	10	DELETE MESSAGE
TABLET MAINTENANCE WIRC OF 7-1-2017 TO 7-15-2017	7/2/2017 4:10:43 PM	Logan	gdelaney	10	DELETE MESSAGE

Page 1 of 1

VISION sample screenshot - Messaging system

VISION provides authorized staff with the ability to send messages out to various users of testing equipment. Messages can include text, photos, attachments and any other information that needs to be distributed to either an individual examiner, Testing Centre or network-wide.

Reporting

RYME WORLDWIDE will construct a VISION Data Warehouse that will serve as the repository for inspection data used to support the Client's querying and reporting requirements. This data in an aggregate and summarized form will be specifically structured for querying, data analysis and reporting, and can be analyzed using SQL Analysis Services to build Analysis Service cubes, ad hoc queries, and SQL Reporting Services.

VISION relies on SQL Server Reporting Services (SSRS) to provide reports to Client and other approved stakeholders. Reporting Services is a server-based report generation software system that is a component of SQL Server. It can be used to prepare and deliver a variety of interactive and printed reports and is administered via SharePoint web interface. Users can interact with the Report Server web service directly, or use Report Manager, a web-based application that interfaces with the Report Server web service.

With Report Manager, users can view, subscribe to, and manage reports as well as manage and maintain data sources and security settings. Reports can be delivered via e-mail or placed on the file system. Security is role-based and can be assigned to an individual item, such as a report or data source, a folder of items, or site wide. Security roles and rights are inherited and can be reviewed and modified by authorized personnel.

VISION provides Client with all reports required by the tender, including all required data inputs and outputs:

Report / Form name	Frequency	Report / Form name	Frequency
Number of Vehicle Tests on System Awaiting to be Tested	Weekly	Enforcement Acquittal Registration Number Report	As Required (usually weekly)
Number of Vehicle Tests Conducted	Ad Hoc	Number of Acquittals by Vehicle Class Report	As Required (usually weekly)
Test Times Report, Duration of Test from Start to Finish	Ad Hoc	Costs Generated through Acquittals by Vehicle Class Report	As Required (usually weekly)
Number of Vehicle Tests Report	Daily, As Required Monthly	Tests Without Fees Report	Daily
Vehicle Test Time Report	Daily, As Required	Total Notifications Printed Report	As Required
Vehicle Test Without Results Report	Daily	Ad Hoc Reports (e.g. Applicants Name, Address/Postcode, Passed/Failed, Examiners Name, etc.)	As Required
Certificate Issued Summary Report	Daily	Vehicle Audit of Test Process Report	Ad Hoc
Certificates Issued Detailed Report – Detailed Per Lane	Daily		
Trailer Tests with Consent Number (Full Tests) between 2 Dates Report	As Desired	Number of Vehicle Test Centres Broken Down by Test Centre – Full Tests Only Report	Daily, As Required
Taxi Omnibus Tests Conducted Report	Monthly, YTD	Taxi Plates Report	As Required
Heavy Good and Trailer Tests Conducted Report	Monthly, YTD	Good Vehicle and Trailer Test Profile – Annual Roadworthiness Test Profile Per Vehicle Report	As Required
Vehicle Pass/Fail Report	Daily, Weekly, Monthly	Audit Expiry Date Report	As Required

SQL Server Reporting Services

Home / GVIP - Safety Fail Items

From Date: 7/1/2017 To Date: 7/1/2017

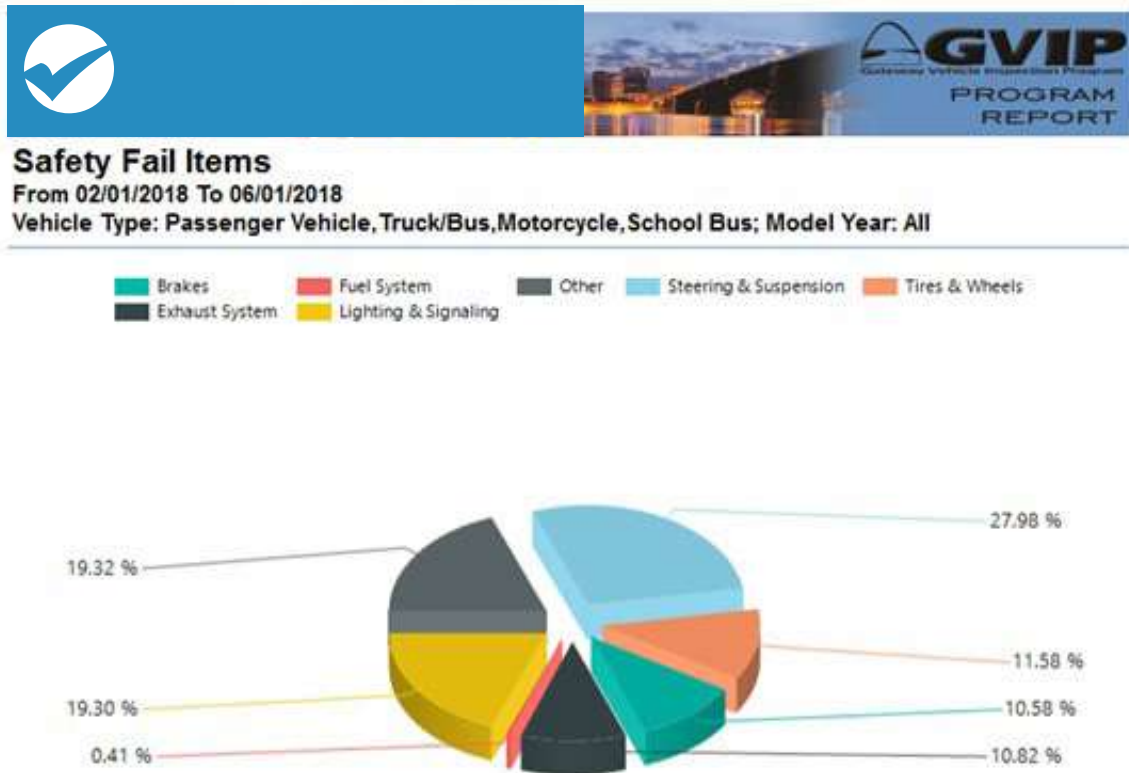
GVIP PROGRAM REPORT

Safety Fail Items From 07/03/2017 To 07/03/2017

Ref	Vehicle ID	Vehicle Type	Visual Item Category	Visual Item	Note	Rejection Reason	Station ID	State of Rejection	Station Name	VIN
1001	1001	Passenger Vehicle	Exhaust	Exhaust System	Exhaust system is not working properly.	Exhaust system is not working properly.	1001	1001	1001	1001
1002	1002	Passenger Vehicle	Exhaust	Exhaust System	Exhaust system is not working properly.	Exhaust system is not working properly.	1002	1002	1002	1002
1003	1003	Passenger Vehicle	Exhaust	Exhaust System	Exhaust system is not working properly.	Exhaust system is not working properly.	1003	1003	1003	1003
1004	1004	Passenger Vehicle	Exhaust	Exhaust System	Exhaust system is not working properly.	Exhaust system is not working properly.	1004	1004	1004	1004
1005	1005	Passenger Vehicle	Exhaust	Exhaust System	Exhaust system is not working properly.	Exhaust system is not working properly.	1005	1005	1005	1005
1006	1006	Passenger Vehicle	Exhaust	Exhaust System	Exhaust system is not working properly.	Exhaust system is not working properly.	1006	1006	1006	1006
1007	1007	Passenger Vehicle	Exhaust	Exhaust System	Exhaust system is not working properly.	Exhaust system is not working properly.	1007	1007	1007	1007
1008	1008	Passenger Vehicle	Exhaust	Exhaust System	Exhaust system is not working properly.	Exhaust system is not working properly.	1008	1008	1008	1008
1009	1009	Passenger Vehicle	Exhaust	Exhaust System	Exhaust system is not working properly.	Exhaust system is not working properly.	1009	1009	1009	1009
1010	1010	Passenger Vehicle	Exhaust	Exhaust System	Exhaust system is not working properly.	Exhaust system is not working properly.	1010	1010	1010	1010
1011	1011	Passenger Vehicle	Exhaust	Exhaust System	Exhaust system is not working properly.	Exhaust system is not working properly.	1011	1011	1011	1011
1012	1012	Passenger Vehicle	Exhaust	Exhaust System	Exhaust system is not working properly.	Exhaust system is not working properly.	1012	1012	1012	1012
1013	1013	Passenger Vehicle	Exhaust	Exhaust System	Exhaust system is not working properly.	Exhaust system is not working properly.	1013	1013	1013	1013
1014	1014	Passenger Vehicle	Exhaust	Exhaust System	Exhaust system is not working properly.	Exhaust system is not working properly.	1014	1014	1014	1014
1015	1015	Passenger Vehicle	Exhaust	Exhaust System	Exhaust system is not working properly.	Exhaust system is not working properly.	1015	1015	1015	1015
1016	1016	Passenger Vehicle	Exhaust	Exhaust System	Exhaust system is not working properly.	Exhaust system is not working properly.	1016	1016	1016	1016
1017	1017	Passenger Vehicle	Exhaust	Exhaust System	Exhaust system is not working properly.	Exhaust system is not working properly.	1017	1017	1017	1017
1018	1018	Passenger Vehicle	Exhaust	Exhaust System	Exhaust system is not working properly.	Exhaust system is not working properly.	1018	1018	1018	1018
1019	1019	Passenger Vehicle	Exhaust	Exhaust System	Exhaust system is not working properly.	Exhaust system is not working properly.	1019	1019	1019	1019
1020	1020	Passenger Vehicle	Exhaust	Exhaust System	Exhaust system is not working properly.	Exhaust system is not working properly.	1020	1020	1020	1020

VISION sample screenshot - Failed Safety Items

A variety of reports are included as part of the standard VISION reporting application. In addition, RYME WORLDWIDE will work with Client staff to develop additional reports as desired and needed for the system



VISION sample screenshot - Graphical Analysis

VISION allows for Real-time access to information such as test history, vehicle repair history, registration status (for staff and the compliance rate for vehicle testing report usage), and effectiveness as well as individual vehicle inspection history data. Individual vehicle repair history, registration, and testing effectiveness information will be provided using a data warehouse.

All reports will be available for output to a local printer or available for export and storage in one or more of the following formats: Comma Separated Values Format (CSV), Text, Microsoft Office (Word, Excel, PowerPoint, Access), Adobe Acrobat Portable Document Format (PDF), and Hyper Text Markup Language/Extensible Markup Language (HTML/XML). Each report screen will contain a "Help" screen detailing the parameters of the report and any information requested by Client.

RYME WORLDWIDE will provide trigger reports requested by Client as well as the ability to construct new fraud and performance trigger reports. These reports can be delivered automatically via print, fax, disk, ftp, sms, email or result in the immediate notification by using event-based schedules (e.g. VIN Mismatch) to appropriate Client staff through desktop alarms. This functionality is provided by SQL Server and VISION. RYME WORLDWIDE will also provide enforcement tools to run these trigger reports and desktop alarms. Comprehensive Fraudulent Inspection Reports can be generated at any time using a VIN and RecordID in order to pinpoint a suspect test.

Data comparisons to groups of similar vehicles are also made in order to determine the likelihood of a vehicle that has had an engine computer replaced but not properly updated by the service facility, as opposed to an actual fraudulent inspection.

RYME WORLDWIDE will work with Client to develop quality control reports that enable thorough analysis of the patterns of testing data. VISION also provides Client with the ability to create Ad hoc query reports with end-of-previous-day data or all data for any period of time handling using the data warehouse. The query reports can provide information including, but not limited to, the number of inspections performed in a given time period (month, year-to-date, etc.) and the failure rate for a given time period.

All ad-hoc reports shall be available for output to a local printer or available for export in one or more of the following formats: CSV, Text, Microsoft Office (Word, Excel, PowerPoint, Access), Adobe Acrobat (PDF), and HTML/XML. The VID shall allow simultaneous queries from multiple locations without disruption to the VID and with short report response times.

Summary - Proposed Integrated Test Lane Software

RYME WORLDWIDE Data Exchange Protocols – Web Services

Data exchange between VISION and Integrated Test Lane (ITL) Software is implemented using secure web services. These services are authored using either ASP.NET or Windows Communication Foundation and reside on VISION's Application Server. Data will automatically be securely transmitted to Client in an interface that is acceptable to Client.

The Web Services Description Language (WSDL) is used to describe the "public" interface to each web service, and the ITL Software uses the Simple Object Access Protocol (SOAP) to call one of the operations listed in the WSDL file.

If a communication between the client and the VISION Application Server fails for any reason, the unsent data will continue to reside on the client and is marked as "unsent". Subsequently, a successful communication will upload any unsent data that has not yet been received by VISION.

Client Access

Any access to the Intranet and all platforms and software applications hosted on it, or to any front-end software applications, will be controlled by access rules applied to each system user account from interfacing with Client's system. System user accounts are the key to performing program duties and will be managed widely on a role (classification)-based access control schema, and by user-based permissions and/or restrictions that can be set individually, if necessary.

The master User Management application is stored within VISION and available to authorized users via VISION's Administrative Web-Portal. Access will be provided through a login screen that will require one or all of the following login authentication criterion to be successfully inputted:

- Case Sensitive Username; and
- Password;

The access means will depend on the device being used to access the Intranet and on the application being accessed and will work in conjunction with role manager tools.

User Friendliness and Usability

RYME WORLDWIDE understands the importance of implementing a system that is both user-friendly and responsive while providing the advanced tools necessary to perform a successful vehicle inspection. In many vehicle testing programs, certain hardware, software, and procedures can overcomplicate the inspection process and perhaps even cause an incorrect determination of the vehicle's inspection status.

In order to overcome this, RYME WORLDWIDE has developed the most user-friendly inspection system available. From the hardware components and configuration to the software design and user-interface, RYME WORLDWIDE's systems are developed and built with ease-of-use, security and a shop environment in mind.

In Bangladesh, RYME WORLDWIDE has proposed its proven hardware and software platforms as an 'Off-the-Shelf' solution that only needs to be customized to meet the specifications and requirements. Even though RYME WORLDWIDE Technical Teams will be onsite at inspection centers and with Client to assist with training and proper operations, RYME WORLDWIDE software and systems are designed to be setup and operated by a 'Non-Technical' user.

The easy-to-use software will require very little to no examiner training and is based on self-explanatory principles and functional prompts that will guide the user through the various management and inspection processes.

A Friendly User Interface

RYME WORLDWIDE believes a good and friendly user interface is one that allows users to carry out their intended actions or tasks effectively and efficiently, without distractions or questions as to how to proceed. Keeping that in mind, RYME WORLDWIDE has designed its user interface for its application as very simple and straight forward, allowing users to successfully perform inspections without hesitation, delay, or question without answer.

RYME WORLDWIDE has implemented the following critical design aspects to ensure the most user-friendly design possible for a vehicle inspection application:

- **Intuitive and Consistent Design** – The user interface in RYME WORLDWIDE's application is consistent with the forms and applications found in an inspection environment. This creates a feeling of familiarity and simplicity for examiners and allows them to more easily begin using the system comfortably without issues. The software is consistent throughout the different forms and phases of the process, further allowing examiners to guide easily through a vehicle inspection without any delays or hesitation.
- **Clarity** – Examiners can easily and clearly operate all functions of the inspection software without any ambiguity over the way the system operates. Software prompts are described quickly and concisely to users, providing them with the information that is needed in a clear and concise format, which can then be transferred to the motorist.

- **High Responsivity** – The software is supported by high-quality computing components to ensure a highly responsive system at all times. There is nothing more frustrating than a system which is unresponsive or slow due to software or hardware issues. RYME WORLDWIDE systems provide the highest and fastest response times, which allows users to focus on the important aspects of the vehicle inspection rather than the inspection software's issues.
- **Maintainability** – RYME WORLDWIDE's software is continuously supported throughout the duration of any contract. Throughout software updates, familiarity and security are maintained so as to not impact the user environment or experience. If and/or when major changes are implemented that impact the operation of the software, those changes will be communicated to users and prompts will help guide through any impacted changes.
- **Attractiveness** – RYME WORLDWIDE's software provides an aesthetically pleasing environment to perform all of the necessary tasks of a vehicle inspection. Clear, concise and yet just visually stimulating enough to keep the user's attention focused on the important task at hand, which is providing a high-quality level of service for official vehicle inspection

Software efficiency

RYME WORLDWIDE Inspection Software is built on the framework of providing a simple, user-friendly inspection process for official vehicle testing programs. This creates an application that provides all necessary program functions in the simplest format available.

The number of operations required to perform basic tasks is a limited as possible.

Inspection prompts

The Software guides the examiner through the testing process and instructs the examiner to perform mandatory tasks at certain points of the inspection. These prompts include instructing the examiner to perform an action, such as (at a minimum):

- Scanning a barcode;
- Manually entering data (where necessary); and
- Confirming information and inspection results.
- The inspection prompts feature the following data integrity checks (at a minimum):
- Inspection prompts must be completed, and the information must be entered fully and properly in order for the examiner to proceed to the next step in the inspection process.
- All data entered, either automatically or manually, will be checked against existing data logs and available databases for accuracy.
- Software triggers will mine the data and the inspection results for irregularities based on the information provided.

Software efficiency

The Software automatically populates data at all possible data entry points. Auto-populating data entry expedites the inspection process and mitigates erroneous data due to entry errors or legibility issues.

Printing documentacion relating to the vehicle inspection

Upon completion of the vehicle testing process, the system will print documentation according to the results of the vehicle test, including the certificate pass, fail and prohibition notices, in agreement with Client and its requirements. RYME WORLDWIDE will work with Client to ensure all necessary documentation is printed accordingly.

Software releases

1) Eliminating risks through system design

The RYME WORLDWIDE solution is a Service-Oriented Architecture (SOA) model developed on a server infrastructure. The RYME WORLDWIDE server infrastructure creates a cloud-computing platform that hosts a program-specific Intranet.

This Intranet becomes the secure, central platform for all business and data transactions performed in the program.

The solution design is important in Quality Project Management (QPM) and in risk control. The SOA model is modular and provides a common platform (the Intranet) for existing processes and products. The Intranet uses established communication language(s) and connectivity protocols.

RYME WORLDWIDE will reengineer the processes and products necessary for the project to comply with the rules, system requirements and project objectives. This effectively removes the time and resources required for the development of new systems and new products, eliminating time and budget risks from the project.

The SOA model has permitted RYME WORLDWIDE to design complete solutions based on comprehensive program requirements, and to scale and customize projects based on their individual needs. The SOA solutions include:

- Infrastructure as a Service (IaaS);
- Data as a Service (DaaS);
- Platform as a Service (PaaS); and
- Software as a Service (SaaS).

The SOA model enables RYME WORLDWIDE to more quickly transition into the Execution phase shortly after Contract signing. In doing so, RYME WORLDWIDE is able to eliminate many risks from the development schedule, including time and budget risks associated with implementation work, such as:

- ITL Software customization programming;
- Administrative software (Web-portal) customization and associated tools (i.e. reporting, surveillance, etc.);
- Communication protocols;
- Data systems finalization (i.e. active directory, data dictionary, storage logic, security programming, security analysis, etc.);
- User Access Rules;
- Testing parameters;
- Hardware systems; and
- Support infrastructure and systems.

The RYME WORLDWIDE solution eliminates these risks. By using SOA, only minimal programming effort is required to customize the system to Bangladesh-specific rules and testing parameters.

The SOA solutions are scaled to include only the SOA modules that are required for each program. SOA solutions can range from basic gather/transmit data systems to robust, real-time data networks with on-demand data management and video capabilities.

All of these capabilities are already developed and only need to be activated, as necessary, to meet the design. RYME WORLDWIDE will customize the SOA solution based on the requirements and as agreed upon between RYME WORLDWIDE and Client.

2) ITL and Vision Integration Development

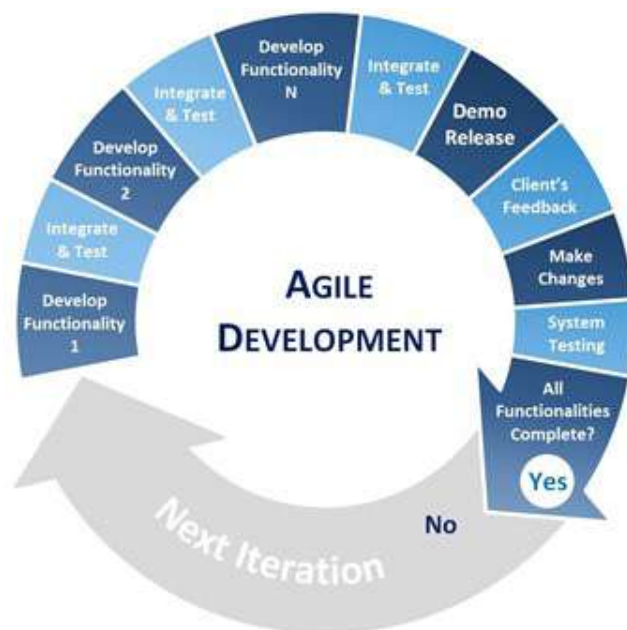
Using SOA, risks associated with developing entirely new systems are eliminated and only minimal programming effort is required to scale the system to the Program's unique set of requirements.

Under traditional development methods, changing requirements create difficulties in the development process; Agile System Development (Agile) accepts the reality of change versus the hunt for complete and rigid specifications, and allows RYME WORLDWIDE to quickly respond to issues and change requests during system development.

The graphic above breaks down the Agile Development method of iterative development, showing the processes a work item undergoes during one iteration.

RYME WORLDWIDE's Agile approach is guided by three (3) objectives:

- **Working Software Released Early in the Development Cycle:** This objective strives to present working software as early as possible in the development cycle. This permits stakeholders to evaluate the software in the context of a working system and to make their comments and change requests, allowing RYME WORLDWIDE to prioritize the change items and dedicate resources toward the highest priority items.
- **Iterative Development:** This objective breaks tasks into small work items, reducing the time and effort needed for planning. Iterations are short time frames that typically last from one to four weeks. Each iteration involves planning, analysis, design, coding, unit testing and acceptance testing. Iterations minimize overall risk and allow the project to adapt to changes quickly. The Project Team members produce and update documentation, as needed.



- **Integrated and Constant Testing:** This objective keeps the system in-flux between development and assessment. As an extension of RYME WORLDWIDE's Quality program, each development item is tested individually by the developer and then as part of the working system by RYME WORLDWIDE's Quality Assurance Director. Open communication between developers and the Quality Assurance Director enables immediate feedback of items and permits the developer to quickly resolve functional issues.

3) System Acceptance from RYME WORLDWIDE Total Quality Management

RYME WORLDWIDE Total Quality Management (TQM) is a quality management system built on the foundation of a continuous improvement cycle. RYME WORLDWIDE TQM integrates quality and program management initiatives into an enterprise-level methodology that governs the development and maintenance of systems, deliverables and processes.

TQM transcends individual projects and functions on a high-level within the organization itself, ensuring that each solution is exceeding its objectives and supporting overall long-term business objectives.

These initiatives include:

- System Development;
- Agile Software Development;
- Quality Control and Quality Assurance;
- Quality Improvement;
- Software Quality Assurance;
- Statistical Process Control;
- Program Assurance; and
- Security Assurance.

RYME WORLDWIDE's development, optimization and system testing methods are cohabitating and inseparable components of RYME WORLDWIDE's program goals and effective quality programs and are the driving force behind RYME WORLDWIDE's reputation for providing the industry's most reliable systems.

The Agile development method employed in system build and testing activities is key to ensuring on-time and on-budget program implementations.

4) Stakeholder Involvement

The most important principle of RYME WORLDWIDE's Agile software development methodology is stakeholder involvement. If desired by Client, RYME WORLDWIDE's provides a web-based management tool for project and problem tracking of items during implementation and operational phases of the Program.

The purpose of this communications is to work with the Program system stakeholders to identify what they think they want, produce something which reflects that understanding, get feedback from the project stakeholders, and update the solution to reflect RYME WORLDWIDE's improved understanding. RYME WORLDWIDE's goal is to work in a more evolutionary and collaborative manner to provide a solution that reflects the Program stakeholders' actual needs, and to do that, RYME WORLDWIDE must work as closely and as regularly with stakeholders as is desired by those stakeholders.

RYME WORLDWIDE only offers Client comprehensive involvement in the expedited development and customization process so as to ensure that Client are receiving the exact solution requested in its tender and desired by Program stakeholders.

5) Using Agile to Customize the Solution

It is RYME WORLDWIDE's intention to meet with all stakeholders at the time of Contract execution, or as soon as possible, in order to facilitate the process of gathering additional requirements, but more importantly to involve stakeholders directly in the project from the very beginning. This will help ensure that requirements are clearly communicated and understood (at a high level) at the outset, and that requirements are prioritized appropriately based on the needs of the users.

Throughout the entire development period, the software development team will hold weekly meetings with the project's stakeholders so that requirements can be clarified on a weekly basis with the entire project team, and emerging requirements can be factored into the development schedule as appropriate.

Software updates will be frequent during this period with the development team releasing new builds to add features to the prototype on a weekly basis, at minimum. After the Beta Pilot begins, the software development team will suspend releasing software while real world data is gathered and as each Beta prototype is carefully considered.

Once the Client approves a Beta prototype to go into production, the process resumes since more and more users continually introduce new requirements and changes to existing functionality.

RYME WORLDWIDE will continue this cycle throughout the life of the Program with releases typically being administered on an agreed upon basis, but with each release made up of a number of iterations (functions). If the Client would prefer, however, to have less involvement in the development process, RYME WORLDWIDE can also provide all of these services internally and supply an operational Program system to Client once completed.

6) System Documentation

Documentation including the System Design Specification, which includes:

- Overall System Detail, including system flow diagram and functional design narrative;
- General System Functions and Business Rules; and
- Application Structure Diagrams, including transaction flow diagram, screen and report layouts, program specification or diagrams, and object model.

A Database Design Specifications which includes:

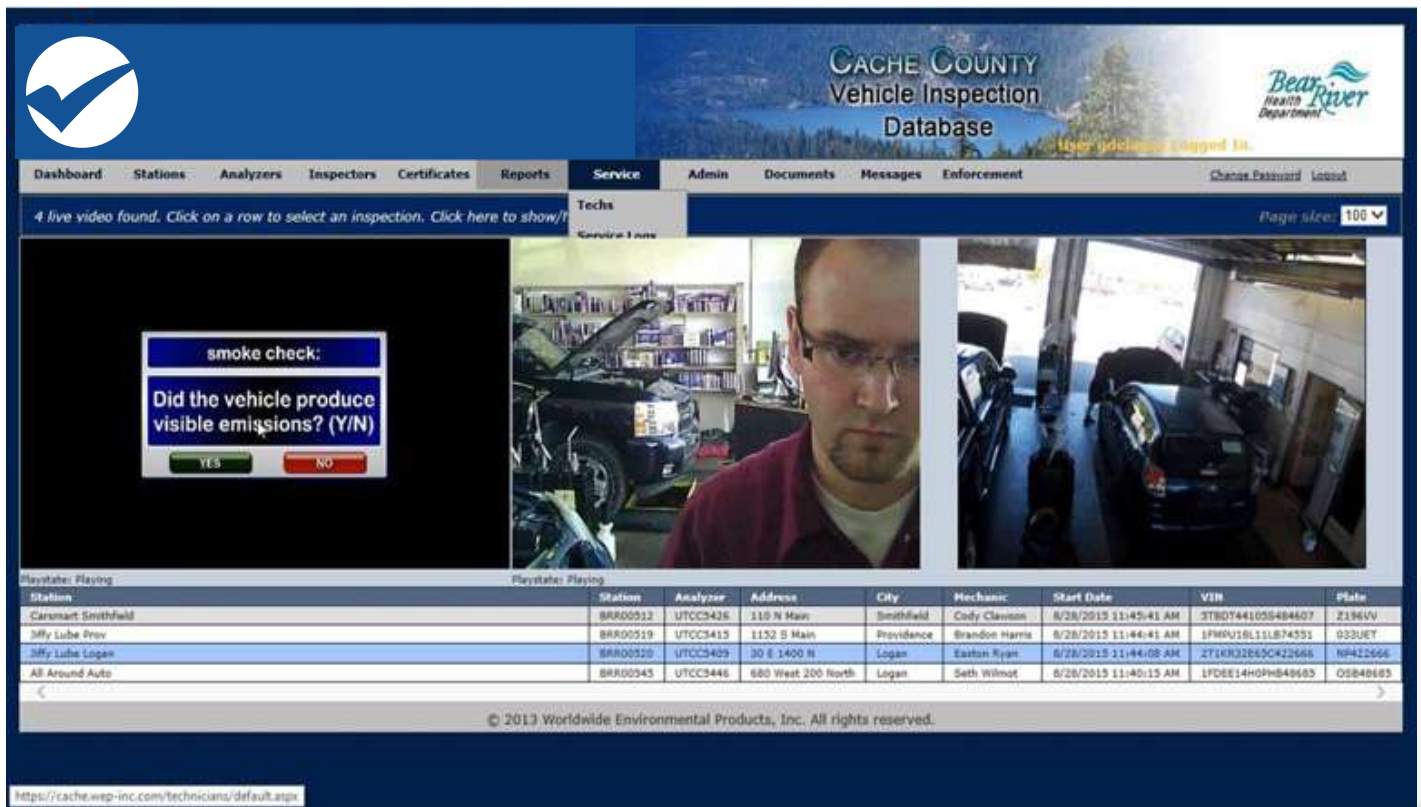
- Logical data model (ERD);
- Data dictionary; and
- Details of the data in the data dictionary.

A Web Service Specification that contains:

- Detailed descriptions of the web service methods called to pass data between platforms and invoke business logic.
- The web service methods request and response definitions and their elements.
- WSDL (Web Services Description Language) file that defines all the required methods and their input and output parameters; and
- The XSD (XML Schema Definitions) file that can be used for validating the message payload.

All these components will be developed, continuously refined, and updated in an iterative manner along with the Program ITL and MIS software.





CACHE COUNTY Vehicle Inspection Database

User: udclawson Logged In

4 live video found. Click on a row to select an inspection. Click here to show/hide

Playstation: Playing

Station: CarSmart Smithfield

Analyzer: UTCC3426

Address: 110 N Main

City: Smithfield

Mechanic: Cody Clawson

Start Date: 8/28/2015 11:45:41 AM

VIN: 3TBDT441055484607

Plate: Z194VV

Did the vehicle produce visible emissions? (Y/N)

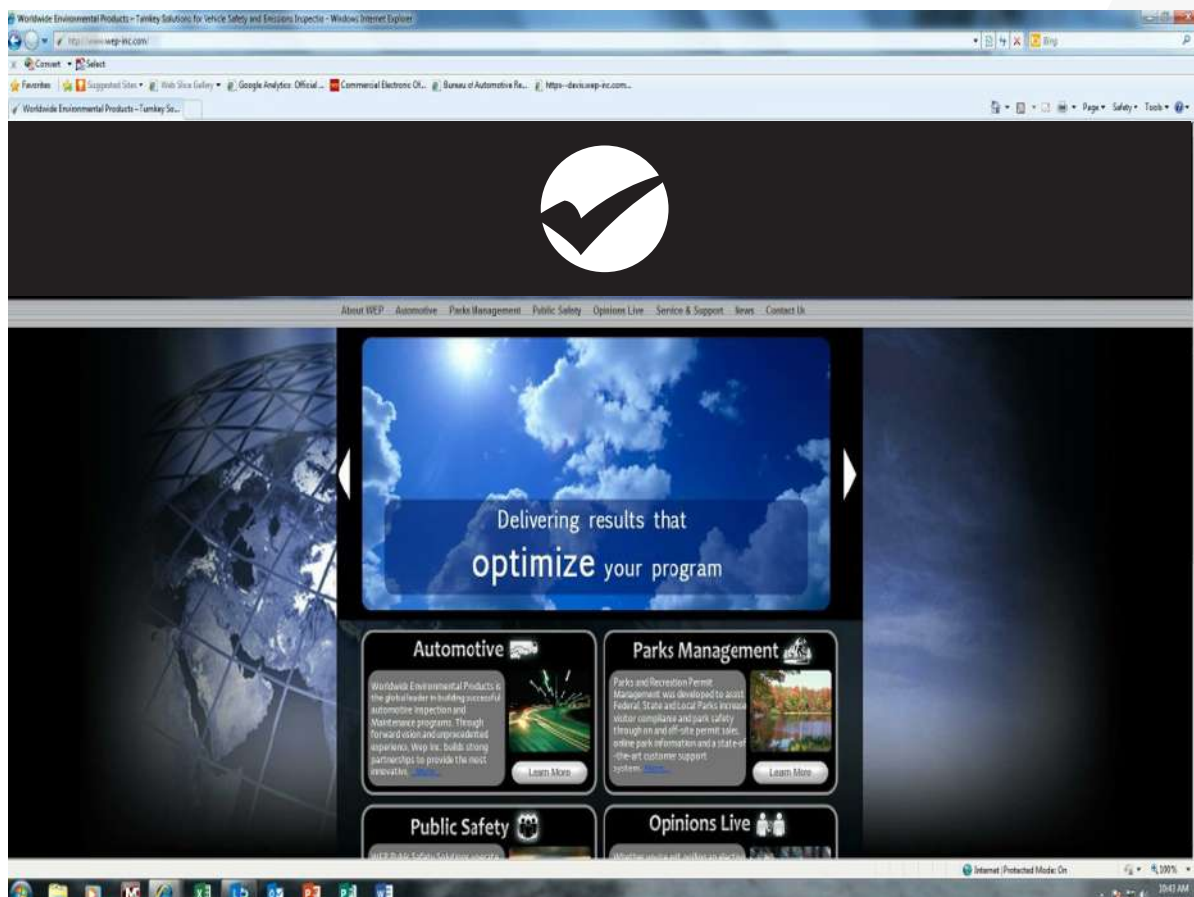
YES NO

Station	Analyzer	Address	City	Mechanic	Start Date	VIN	Plate
CarSmart Smithfield	UTCC3426	110 N Main	Smithfield	Cody Clawson	8/28/2015 11:45:41 AM	3TBDT441055484607	Z194VV
Jiffy Lube Prov	UTCC3415	1152 S Main	Providence	Brandon Harris	8/28/2015 11:44:41 AM	1FMPU16L11L874551	033UET
Jiffy Lube Logan	UTCC3409	30 E 1400 N	Logan	Easton Ryan	8/28/2015 11:44:08 AM	2T1KR32665C425666	NP412666
All Around Auto	UTCC3446	680 West 200 North	Logan	Seth Wilmut	8/28/2015 11:40:15 AM	1FD8E14H0PH846653	Q5B48653

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<https://cache.wep-inc.com/technicians/default.aspx>

VISION sample screenshot -Inspection center LIVE video recording



Worldwide Environmental Products - Tenkey Solutions for Vehicle Safety and Emissions Inspection - Windows Internet Explorer

<http://www.wep-inc.com/>

Convert Select

Worldwide Environmental Products - Tenkey Solutions for Vehicle Safety and Emissions Inspection

Delivering results that optimize your program

Automotive

Worldwide Environmental Products is the global leader in building successful automotive inspection and maintenance programs. Through forward vision and unsurpassed customer experience, Wep Inc. builds strong partnerships to provide the most innovative solutions.

Parks Management

Parks and Recreation Permit Management was developed to assist Federal, State and Local Parks increase visitor compliance and park safety through on and off-site permit sales, online park information and a state-of-the-art customer support system.

Public Safety

Opinions Live

Internet / Protected Mode On

Debido a la continua evolución de nuestros productos, las características técnicas y de diseño podrían estar sujetas a modificaciones, sin previo aviso.

Ryme has an after-sales online help system with which you can always have your equipment in perfect condition, besides being able to solve possible problems in a fast and comfortable way.

This innovative system consists of a real time help through a live Connections (video call, phone...)

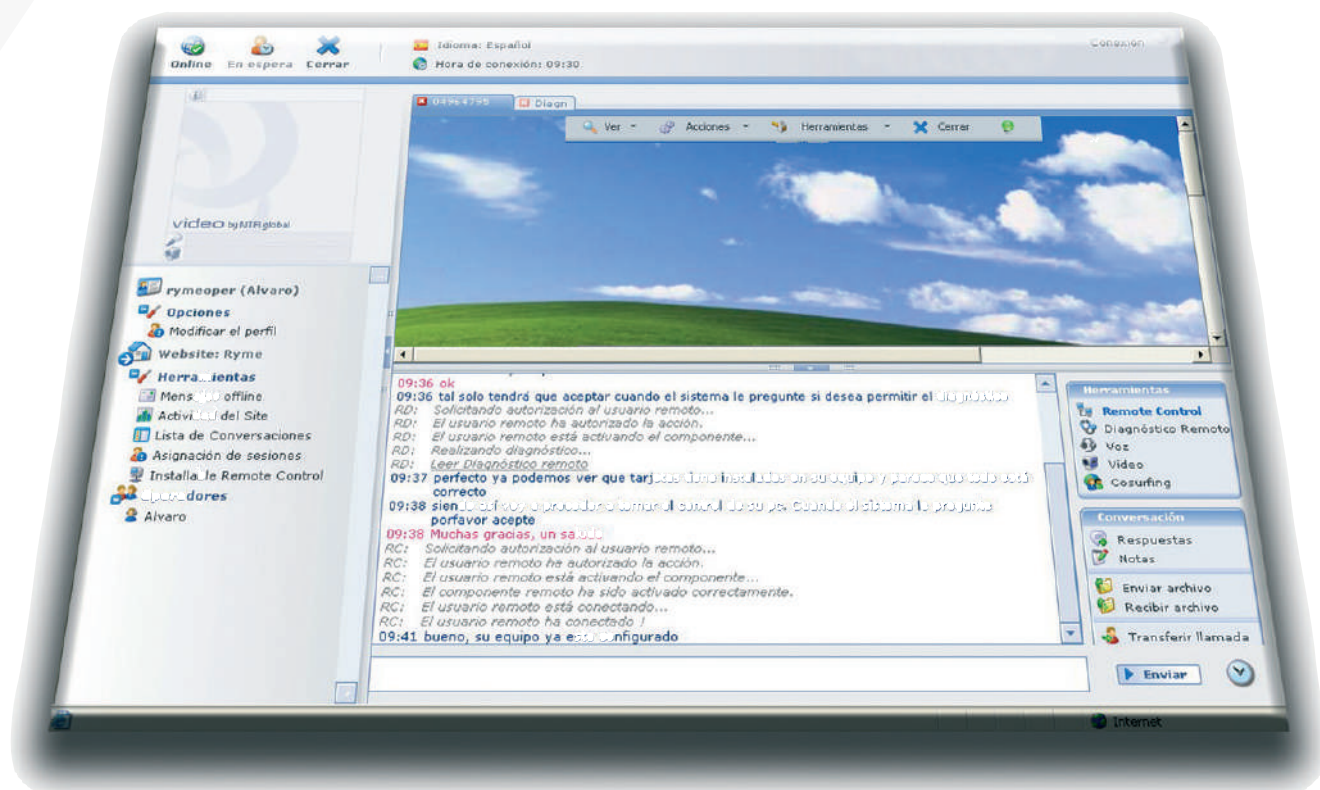
At the same time as the consultation is being attended to, the system searches the equipment for any possible anomalies.

To use this on-line help system you only have to consult our web page www.ryme.com in the section and go to the on-line AFTER-SALES section.

With this system you can talk directly with our technical service, communicate your problems and in a few moments and in a simple way, our operators perform different checks of the equipment from anywhere in the world.

In addition, since the machine computer can be accessed at any time by the service department, damaged or obsolete software components can be updated after a diagnosis has been made. This is all done in an easy and convenient way for the user.

Ryme will be able to take control of your pc in the same way as if you were present.



FINGERPRINT RECOGNITION

Using the USB fingerprint system, not only customer data but also their fingerprint can be stored in the system's database.

Thanks to this, the inspection process is speeded up because with only one fingerprint identification, the system automatically presents all the information related to the user, vehicles, personal data, inspections, invoices, etc.

This system also ensures that the person carrying out the inspection is who they say they are, only requiring correct identification on the first visit to the inspection centre.



IDENTIFICATION BY RFID CARD

We can quickly identify 13.56 Mhz radio frequency cards by proximity, that is: MIFARE® 1K S50, 4K S70 4/7-byte UID and MIFARE® Ultralight.

In this way we can identify and authorize users on each computer

- Easy to install: it connects through a USB cable to the computer and is automatically recognized by it.
- Easy to configure: using a program that does not need installation, you can configure the device parameters
- When the user swipes the card through the reader, the card's UID number is automatically sent emulating Connections from a keyboard.
- The display format of the UID number will depend on the configuration of the device.



VALIDATION PHOTO

The photo-validation system takes photographs of the vehicle that is being inspected for subsequent storage in a database.

Thanks to the photo-validation system, the security of the inspection is increased, since the vehicle is identified by means of photography.

The software allows comparing the photo of the vehicle to be verified with previous inspections, ensuring that it is the same vehicle, and otherwise indicating the inequality by means of an alarm signal.

The software helps to improve the quality procedure of the inspection center.

The photo-validation can be installed at any point of the inspection line.



HEADLIGHT TESTERS

Electronic headlight tester equipped with a camera for a complete analysis of headlights, valid for all types of headlights. Halogen, Xenon, Bixenon, LED, Low Beam, High Beam, Fog Beam, Light Type: European (Right / Left Hand Drive)

Valid for European, American and Japanese vehicles.

Interface through Graphic LCD display that, in a few simple steps, guides the operator in the execution of the test with accuracy and simplicity.

The software has been designed to cover all kinds of requirements: five languages, choice of measurement units, programming of limits and tolerances to meet each regulation, application with specific Connection protocols (eg MTCNET2, GIEGNET, GIEGLAN etc. .) with the possibility of Connections RS232, ethernet, WiFi, Bluetooth, updating of the software very simple by means of a USB key.

Its ergonomic structure is equipped with a base, made of cast aluminum, which makes it possible to accurately test motorcycles with very prominent front wheels. The column of large Dimensions confers greater stability and accuracy, inside a counterweight balances the optical camera so it can slide more smoothly.

The optical camera for the first time is made entirely of thermoplastic material, and equipped with a very large glass lens, a 5.7 "touch screen that can be placed by a front reading or surrounded by a subsequent reading. Possibility of printer on board.

The alignment system provides a laser point controlled directly by the software to be turned on only when required, and an aluminum mirror visor that simplifies the alignment.

COMPATIBLE WITH

LED
BILED

XENON
BIXENON

HALOGEN

LIGHT BEAM
LOW BEAM

FOG BEAM

TURNING
LIGHT

Inclination measurement
range from 0 up to -6



Standard Equipment



· Laser pointer & visor



· Connections RS232
· USB connections for
software update



· Reversible display support



· 5.7 " Color Touch Screen

Column 1.700 mm.



Headlight tester Software



1 Main Menu



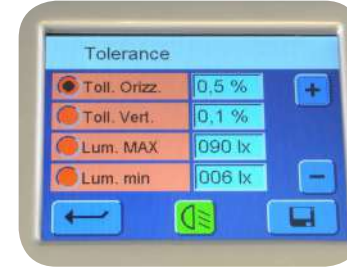
2 Selection type



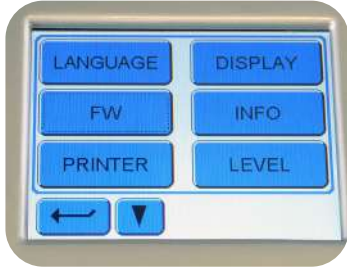
3 Test Area



4 Highlight Test Area

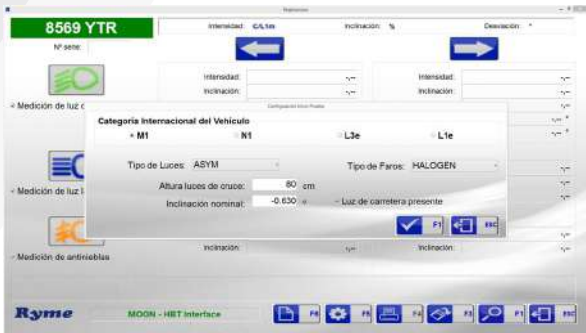


5 Tolerance adjustment






6 Setting menu

Software PC



Optional Equipment

	/HS	Height sensor
	LANCTF	LAN CTFNCN
	/INC	Inclinometer
	/R	Rail kit
	/R1	Doble raíl
	/R2	Integrated rail
	/BT	Simple Bluetooth
	GEN-SOFT	Reception, storage and data software

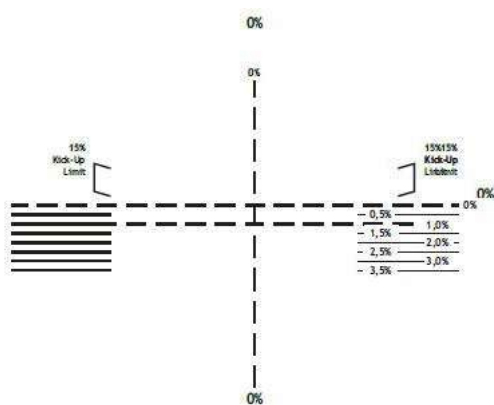
Debido a la continua evolución de nuestros productos, las características técnicas y de diseño podrían estar sujetas a modificaciones, sin previo aviso.

Analogic ruloscope with digital luxmeter manufactured in Spain.

Features:

- Suitable for the verification and adjustment of any type of headlight (low beam, high beam and fog lights), including headlights equipped with XENON and LED lamps.
- Suitable for both workshops and Technical Inspection Centers (ITV).
- Fixed verification display with scale adapted to ITV standards ($\pm 6\%$).
- Laser alignment display
- The equipment is supplied with a level adjustment on the foot to compensate for the inclination of the road surface and a level on the optical block to check it.
- Comfortable movement thanks to the position of the wheels.
- Robust anti-tip base
- Mounting, operating and calibration instructions included
- Digital luxmeter

Digital luxometer



Very simple screen

Optional Equipment



/L1

Laser pointer

**ECO
PACK**

Save space and optimize transport costs



1.900 mm. column



Debido a la continua evolución de nuestros productos, las características técnicas y de diseño podrían estar sujetas a modificaciones, sin previo aviso.

Headlight tester with digital luxmeter and laser pointer, graduated verification panel for reading all types of light (halogens, xenon, led) viewfinder with mirror, stability level, tilt adjustment, polycarbonate lens

Inclination measurement range from 0 up to -6

Standard Equipment



- Digital luxmeter



Laser pointer



Polycarbonate lens



Column in two sections

Optional Equipment



/LL

Laser Visor



R

Rail 2 trains of 1.5 meters

**ECO
PACK**

Save space and optimize
transport costs



COMPATIBLE WITH

LED
BILED

XENON
BIXENON

HALOGEN

LIGHT BEAM
LOW BEAM

FOG BEAM

TURNING
LIGHT



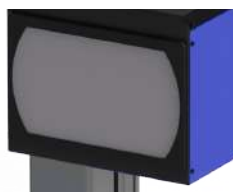
Headlight tester suitable for the verification and adjustment of any type of headlight (measures both the inclination of the main, low beam and fog lamps in both cm / 10m), including headlamps with XENON, LED and MATRIX lamps.

- Valid for light and heavy vehicles
- In addition to complying with CE regulations, it also has TÜV approval
- Connections to other PCs via USB, Bluetooth and Wifi
- You can print using any commercial printer via USB, Bluetooth or WIFI.
- Laser alignment viewer + central laser pointer for easy positioning of the equipment with respect to the vehicle.
- Swivel bar that allows 360° rotation and locking in any position of the optical block on the axis of the bar.
- Height adjustment mechanism with locking system
- Power Supply: Li-Ion batteries with input for external 230Vac charger
- Comfortable movement thanks to the position of the wheels. Robust anti-tip base.
- Supplied with assembly, handling and calibration manuals
- 10" touch screen (with Windows 10 tablet)
- HIGH quality 1.3 megapixel CMOS camera
- Very simple and intuitive software in different languages, Spanish, English, French, German, Turkish, Swedish,
- Resolution of the measurements: 0.1%

Standard Equipment



Laser visor



Laser pointer



Tablet 10"



Graduated column in cm



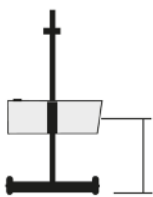
Protective cover



Rotary base



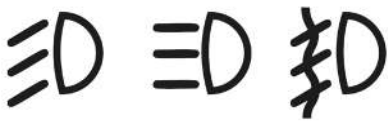
Other Information



Min height: 250 mm.
Max height: 1,350 mm

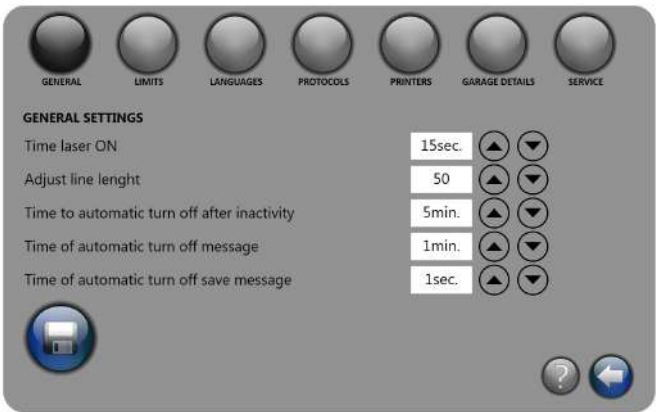
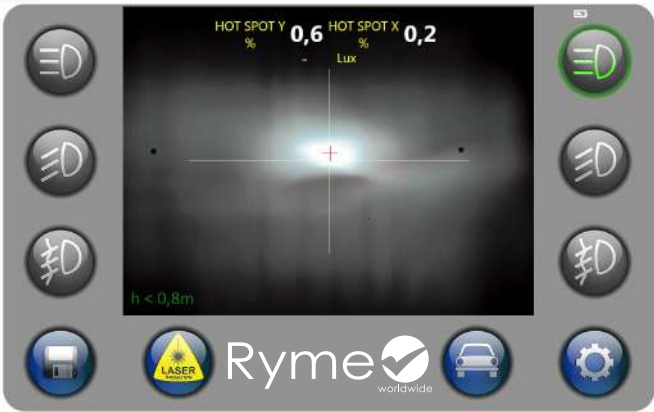


Laser & pointer laser



-6,0% up to +2,0% ±0,2%

Software



Available models

TFT-A	Standard model
TFT-B	Counterbalanced Model
TFT-C	Model with counterweight +Self-levelling

Debido a la continua evolución de nuestros productos, las características técnicas y de diseño podrían estar sujetas a modificaciones, sin previo aviso.

The new Ryme RR Headlight tester has been designed to be used as an automatic measurement device for headlight inspection in all types of vehicles. Conceived for its use mainly in vehicle inspection stations, vehicle repair shops and automobile factories among others.

Latest generation design with automatic operation that offers a HIGH speed image processing system, very fast and simple operation. Able to test all kinds of halogen headlights, xenon, LED headlights, cars and trucks.

* Optionally fog lights.

Designed with a LED display with VGA, PAL, RS232 interface and confidential connection protocol.

Very fast operation, on average 40 seconds, and only 25 seconds with dual lamp test synchronously

Thanks to the latest technology in its CCD camera processor, capture offers a wider range of tones (bright lights, midtones and shadows) in captured images.

In addition, CCD sensors create HIGH quality images with little digital noise and the image capture and processing time is shorter compared to other camera processors with CMOS technology.

COMPATIBLE WITH

BILED
LED

BIXENON
XENON

HALOGEN

LIGHT BEAM
LOW BEAM

TURNING
LIGHT

Technical Data

Central lens from the ground	350 ~ 1.400 mm.
Luminous intensity	0 a 120.000 cd $\leq \pm 10\%$
Measurement range	up 0-400 mm./10m down 0-560 mm/10m left 0-560 mm/10m right 0-560mm/10m
Accuracy	± 32 mm./10m
Power Supply	AC220V $\pm 10\%$ 50 Hz ± 1 Hz 200W/37W
Operating temperature	-5°C -+ 40°C
Test distance	1 m.

Compatible with

- The luminous intensity of the different lights.
- The displacement, both horizontal and vertical, of the lights to be measured.
- The central reference height of the headlights.

Time Optimization



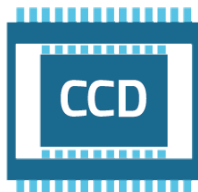
- Thanks to this equipment, we will be able to carry out a road / crossing light test, send the data to our software and follow it to our Management System in less than 50 seconds.
- Being able to achieve shorter times in the case of reading only a couple of lights, reaching approximate times of 30 sec.



Standard Equipment



**fully
automatic operation**



**High resolution
CCD camera sensor
and imaging process**



**LED display
with VGA interface**



Software



Optional Equipment



ANB Fog light check

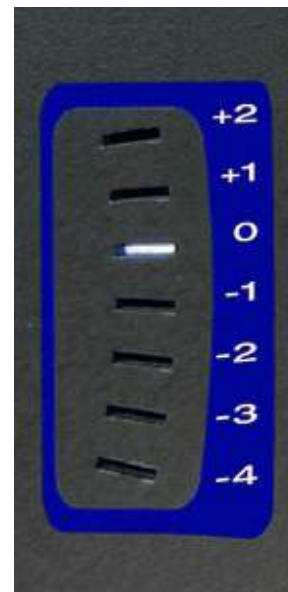


Calibrator

Dimensions

Net Weight	100 kg
Dimensions	800 x 1.700 x 670 mm.
Packed equipment dimensions	1.000 x 700 x 1.800 mm.
Rails	Length: 5 m. Weight 35 kg.

Device for the periodic verification and control of the light aligners. The Optics metal box is equipped with a low/high beacon, a key to select high/low beacon, a display for volt control, height adjustable feet, precision ruler, a 12V power supply with integrated connection cable



■ Lever for adjusting the inclination of the headlight.

Bluetooth

Wireless RS232 Clase 1 (100 m)



Bluetooth module



Bluetooth module



DB9 M/M serial cable



Serial cable DB9 M/H



Power supply

The Bluetooth kit is supplied in two different versions

025030064

Composed of the PC receiver module and the beacon transmitter module.

The kit includes:

- 2 Bluetooth modules;
- 1 serial cable DB9 M/M;
- 1 serial cable DB9 M/F;
- 1 PC power supply Charger

025030065

Composed of the beacon transmitter module.

The kit includes:

- 1 Bluetooth module;
- 1 serial cable DB9 M/M

Debido a la continua evolución de nuestros productos, las características técnicas y de diseño podrían estar sujetas a modificaciones, sin previo aviso.

Use the RYME universal calibrator to control the light intensity of the light source and ensure the stability of the light source.
Manually adjust the horizontal and vertical angles to control the high beam, or the laser beam of the optical axis angle to realize the illumination of the headlight detector.
Resistance, optical axis displacement angle and shear line angle near the light are checked.
Applicable for checking the regloscope of motor vehicles.
motor vehicle.

Features

The motor vehicle range finder is equipped with a standard light source, with a standard light source, with a precision horizontal and vertical rotation mechanism, laser, stabilized DC power supply and voltmeter, horizontal and vertical angle, rotation mechanism, horizontal adjustment mechanism and alignment mechanism.

Technical data

Luminous intensity	(50 ~ 800) × 10 2 cd
Angle of optical axis deviation	Upper 3° down, 3° left, 3° right
Measuring errors	
Luminous intensity error indication	Not more than ± 4 %.
Repeatability of luminous intensity	Not more than 1 %.
Stability of luminous intensity	Not more than 1.5% / 10 min
Symmetry of light distribution of the calibrator	Not more than 10 %.
Zero indication error of the optical axis angle	Not more than ± 5'.
Free range error of the optical axis angle rotation mechanism	Not more than ± 5'
Readjust the change of the optical axis of the horizontal adjustment mechanism	Not more than 3'.



TOOLS

· SONOMETERS · DECELEROMETERS
PRESSURE GAUGES · PORTABLE INFLATORS ...

The SC101 sound level meter is more than just a noise measuring instrument as it not only performs the measurements, but also performs the checks and calculations required by the standards, for, in situ, the final result.

It is the first integrating sound level meter with measurement protocols which simplifies the process to obtain the results. Guides the user step by step in performing measurements.

The SC101 has a large screen which displays all useful information for measurement. The displayed data vary, continuously adapting to the application chosen, so that only the necessary parameters are displayed in each application.



Software integrado con PC

Standard Equipment

- Sounlevel SC-101
- Protective case
- Protective Windscreen

Technical Data

Certificates and standards

- UNE-EN 61672-1:05 class 1, UNE-EN 60651:96 (A1:97) (A2:03) class 1, UNE-EN 60804:02 type 1
- EN 61672-1:03 class 1, EN 60651:94 (A1:94) (A2:01) class 1, EN 60804:00 type 1
- IEC 61672-1:02 class 1, IEC 60651:01 class 1, IEC 60804:00 type 1
- ANSI S1.4:83 (R2001) type 1, ANSI S1.43:97 (R2002) type 1, ANSI S1.11:04
- CE marking Complies with the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC as amended by 93/68/EEC

Measurement range

C-130 + PA-13

- LF, LS, LT y Lt

Measuring range:	A	C
Upper limit:	137	137
Lower limit	24,8	25,8

C-250 + PA-14

- LF, LS, LT y Lt

Measuring range:	A	C
Upper limit:	137	137
Lower limit	23,7	26,9

C-130 y C-250

- Lpeak

Linear measuring range:	55 – 140 dB
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Noise

C-130 + PA-13

- Electrical Noise:

Maximum	A	C
Typical	15,7	17,1
	15,0	16,3

- Total noise (electrical + thermal microphone):

Maximum	21,2	22,0
Typical	20,6	21,8

C-250 + PA-14

- Electrical Noise:

Maximum	A	C
Typical	15,7	16,7
	15,1	16,4

- Total noise (electrical + thermal microphone):

Maximum	18,9	20,8
Typical	18,4	20,2



Debido a la continua evolución de nuestros productos, las características técnicas y de diseño podrían estar sujetas a modificaciones, sin previo aviso.

Technical Data

Peak detector Lpeak

Rising time <75 ms

Microphone

- Model C-130: condenser microphone ". Nominal Capacity 22.5 pF. Nominal sensitivity: 17,5 mV / Pa in reference conditions.
- Model C-250: pre-polarized condenser microphone ". Nominal Capacity 17.0 pF. Nominal sensitivity: 46,4 mV / Pa in reference conditions.

Frequency weighting

Achieves IEC 61672 standard Class 1

Weightings A and C

Time weighting

LF, LS, as Class 1 tolerances

Parameters

Resolution: 0.1dB

Influence of humidity

Operating margin in absence of condensation: 25-90%
maximum error for 30% <HR <90% at 40 ° C and 1 kHz:
0.5 dB Storage without batteries: <93%

Effects of magnetic fields

The sound level meter complies with the basic specifications of standard 61672-1 for the required immunity to the fields to the frequency of the AC Power Supply and radio frequency.

Influence of temperature

Operation range: -10 to +50 ° C

Maximum error (-10 to +50): 0.5 dB

Storage without batteries: -20 to +60 ° C

Effects of vibrations

Frequency 20-1000 Hz and 1 m / s²: <75 dB (A)

Power Supply

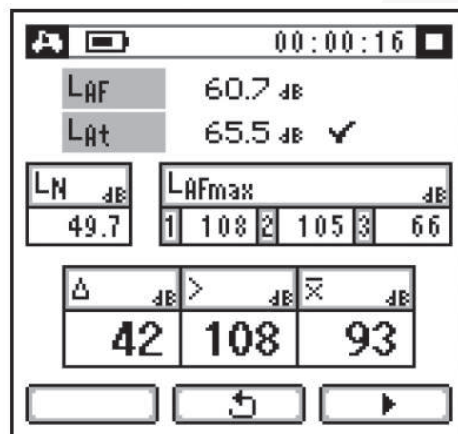
Two 1.5 V AA batteries (LR6).

Typical duration life with continuous use: 14 hours





Dimensions

Dimensions: 336 x 82 x 20 mm

Weight: with batteries: 487 g. without batteries: 438 g



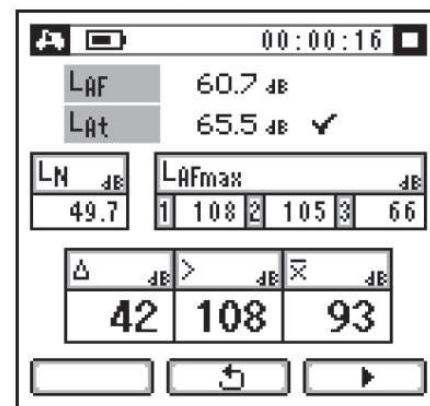
Optional Equipment

	CB006	Type 1 acoustic calibrator.		ML040	Transport case (48 x 37 x 16 cm)
	TR-40	Tripod for sound level meters faster (1.1 m.)		GEN-NET	Configuration, software and installation in an Ethernet network. (Requires GEN-SOFT)
	TK1000	Kit for exterior measurements: with desiccant, preview and micro protection against rain, wind and birds. Includes 3m cable, carrying case, microphone adapter.		GEN-INTE	Standard integration software
	CN003	Microphone extension cable (3m)		GEN-INTO	Integration software other non-integrated management software

The Class 2 integrating sound level meter SC102 is more than just a noise measuring instrument as it not only performs the measurements but also the checks and calculations required by the standards, for, in situ, the final result.

It is the first integrating sound level meter with measurement protocols which simplifies the process to obtain the results. Guides the user step by step in performing measurements.

This model of sound level meter has a removable preamplifier to perform noise measurements both vehicles and machines (pressure and sound power).



Standard Equipment

- Soundlevel meter SC-102
- Protective case
- Protective Windscreen

Technical Data

Certificates and standards

- Conformity assessment by the following combination of modules: Test model (Module B) and Declaration of Conformity based on quality assurance of the production process (module D) according to the Order ITC / 2848/2007 model on legal Metrology
- UNE-EN 61672-1: 05 Class 2, UNE-EN 60651: 96 (A1: 97) (A2: 03) class 2 UNE-EN 60804: 02 type 2
- EN 61672-1: 03 Class 2, EN 60651: 94 (A1: 94) (A2: 01) Class 2, EN 60804: 00 type 2
- IEC 61672-1: 02 Class 2, IEC 60651: 01 Class 2, IEC 60804: 00 type 2
- ANSI S1.4: 83 (R2001) Type 2, ANSI S1.43: 97 (R2002) Type 2, ANSI S1.11: 04
- CE achieving Low Voltage Directive 73/23 / EEC and EMC 89/336 / EEC as amended by Directive 93/68 / EEC

Measurement range

C-130 + PA-13

- LF, LS, LT y Lt

Measuring range:	A	C
Upper limit:	137	137
Lower limit	27,8	29,6

- L_{peak}

Linear measuring range:	55 – 140 dB	
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Noise

C-130 + PA-13

- Electrical Noise:

	A	C
Maximum	20,2	22,2
Typical	14,5	16,7

- Total noise (electrical + thermal microphone):

	A	C
Maximum	29,8	22,2
Typical	25,7	29,7



Technical Data

Peak detector L_{peak}

Rising time <75 ms

Microphone

- Model P-05: pre-polarized condenser microphone with preamplificador incorporated. Equivalent impedance 3000 Ω . Nominal sensitivity: 16 mV / Pa in reference conditions

Frequency weighting

Meets IEC 61672 standard Class 2

Weightings A and

Time weighting

LF, LS, as tolerances Class 2

Parameters

Resolution: 0.1 dB

Influence of humidity

Operating margin in absence of condensation: 25-90%

Maximum error for 25% <RH <90% at 40 °C and 1 kHz: 0.9 dB

Storage without batteries: <93%

Effects of magnetic fields

The sound level meter complies with the basic specifications of standard 61672-1 for the required immunity to the fields to the frequency of the AC Power Supply and radio frequency.

Influence of temperature

Operation range: 0 to +40 °C

Maximum error (0 to +40 °C): 0.9 dB

Storage without batteries: -20 to +60 °C

Effects of vibrations

Frequency 20-1000 Hz and 1 m / s²: <75 dB (A)

Power Supply

Two 1.5 V AA batteries (LR6).





Typical duration with continuous use: 24 hours

Dimensions

Dimensions: 291 x 82 x 20 mm

Weight: with batteries: 463 g. without batteries: 413 g

Optional Equipment

	CB004	Calibrator for sound level meters and dosimeters
	TR-40	Holding tripod for the sound level meters (1.1 m.)
	TK1000	Kit for exterior measurements: with desiccant, preview and micro protection against rain, wind and birds. Includes 3m cable, carrying case, microphone adapter.
	CN003	Microphone extension cable (3m)
	ML040	Transport case (48 x 37 x 16 cm)
	GEN-INTE	Standard integration software
	GEN-INTO	Integration software other non-integrated management software

Calibrator and programmer for all analogue and digital tachographs, mainly used in vehicle inspection stations for checking the speed limiter in tachographs.



Main Functions

- W Factor Measurement (Manual and Photocell)
- Factor Measurement K
- Parameter Configuration
- Bench test (manual and automatic)
- Odometer test
- Reading DTCs (installers only)
- Deleting DTCs (installers only)
- Sensor matching (KITAS)
- Clock Test



Technical features

- Integrated Bluetooth
- Backlit LCD display
- Dimensions: 150 x 100 x 45 mm
- Power Supply Voltage: 9 to 30 VDC
- Power Supply Current: 12 mA
- Made of ABS (IP40)
- operating temperature: -0...+70°C
- Weight: 155 g



Supported Tachographs



Stoneridge
VR2400



VDO
TSU1391



Actia
SmartTach



VDO
1318

VDO
1314



VDO
MTC01324/1390



EFKON
EFAS-4



VDO
DTC01381



Stoneridge
SE5000 Exakt Duo



Motometer
EGK100



VDO
FTCO1319

Advantage

Double accuracy

Improved data collection through pulse detection

Compact size

One of the smallest programmers on the market.

Powered by the tachograph

No power supply cable or battery required

Very easy to use

Intuitive four-line display, no training required

Automatic tachograph detection

The tachograph model is detected in the Connections

Internal flash memory

Easy update on PC through a serial port

Standard Equipment



Lighter Charger



Cable 1319 for MOT



Cable clamp Connections
ground



Cable 1318



Flat DC Test Cable for 1314



Flat DC Test Cable for 1318

Optional Equipment

3 Connections Cables:

Interface

· Power Supply

· Connections to PC for software updates and use

Equipment calibration

Bluetooth receiver for PC data download

Bluetooth adaptation for V1 devices (before 10/2017)

GEN-SOFT

Reception, storage and data software

GEN-INTE

Standard integration software

GEN-INTO

Integration software other non-integrated management software

Portable and fully device, powered by battery, that can be used in workshops, governmental authorities responsible for traffic, testing and inspection stations, etc., to test and report on the braking performance of vehicles.

BrakeCheck determines the braking performance of both the service brake pedal (brake) and hand brake, measuring deceleration. LCD to display data.



Standard Equipment

- Decelerometer
- Printer
- Charger
- Transport suitcase



Technical Data

Measures the deceleration of the front / rear end.
 Measures the Half Front / Rear Deceleration
 Measures Left/Right Point Acceleration
 Indication and value that the vehicle is pulled to the left/right
 Calculate Stopping Distance (meters)
 Calculate the test speed (km/h)
 Reading expressed in acceleration values (m/s²)
 Measurement range: 0 - 10 m/s²
 Range of measurement: 0,1 m/s²
 Operation temperature range from 0 to 50 °C

Can be used for Hand Brake Testing
 Acoustic Signal
 Simple LED indicator system
 Calibration Required" indicator
 Internal self-diagnosis
 Test results are indicated in 'G' units, they are accurate to +/- 0.02G
 RS 232 output
 Selection keys in Spanish

Optional Equipment

BOW 810	Software CABCHECKS / pack de 5
GEN-SOFT	Reception, storage and data software
GEN-INTE	Standard integration software
GEN-INTO	Integration software other non-integrated management software
	Mini USB connection cable for PC



Autonomous equipment designed to measure the pressure of automatic doors.

- Powered by 9V battery.
- Made of aluminum with anti-corrosion treatment.
- USB / Radio connection

Possibility of configuration number of measurements and number of doors

Possibility of repeating the measurement

Storage in internal memory until erased from it

Peak and hold value measurement



BORDES DE CIERRE PRINCIPALES			
	MITAD (N)	15 CM (N)	
Pico Puerta 1:	117	149	
Mantenido	95	104	
Pico Puerta 2:	136	107	
Mantenido	107	84	
Pico Puerta 3:	262	238	
Mantenido	222	180	

MEDICIÓN TERMINADA

Standard Equipment

- Pressure gauge
- 5 V charger
- Wireless receiver
- Transport suitcase

Compliance with European regulations

Software

Possibility of evaluating results on screen

Direct delivery of measured values at half and 15 cm at the door

On-screen battery level

Possibility to configure for the measurement of primary closing edges and secondary anti-compression closing edges

Configuration of the number of measurements and doors from software

Setting limits for peak and hold value

Clearing internal memory of the dynamometer from software

Technical Data

Nominal Force (Fn)	300 N
Maximum strength without loss of characteristics	500 N
Accuracy	0.2 N
Resolution	0.1 N
Working temperature	5°C a 35°C
Threshold of sensitivity (N)	50 N
Low Pass Filter Cutoff Frequency	100 Hz
Frequency Transceiver operation	863-870 MHz
Maximum measurement deviation from calibrated value (±%)	±0.4 N
Rigidity of the cell	10 + 0.2 N/mm.
Protection	IP50

Optional Equipment

GEN-SOFT	Reception, storage and data software
GEN-INTE	Standard integration software
GEN-INTO	Integration software other non-integrated management software
ENAC certified	



The rev counter equipment has been designed to be used on motorcycles and motorbikes by technical inspection centers and workshops, making it easy for the instructor to carry out the different tests quickly and easily, and to carry out pre-test controls.

Very easy to use in the test, since it incorporates a patented measurement technology that guarantees a very precise and reliable analysis in the different tests, in accordance with the latest emission control standards.

Operation

Thanks to the integration with our data reception and control software with which we can view and store the data safely, easily and quickly in our management system or database.

It does not need cables and it is self-powered with rechargeable batteries; The configurations of the number of cylinders and number of engine times are done through the keyboard, the reading of the revolutions is done on its practical graphic display.

Specs

DISPLAY

Backlit 64x128 LCD

Power Supply

Lithium battery, 3.7 V - 1000 mAh

AUTONOMY

6 hours

RANGE DE MEASUREMENT

0 ÷ 9990 rpm

TEMPERATURE PROBE

- 20 °C ÷ 200 °C

MEASUREMENT ERROR

50 rpm ó 3%

OPERATING CONDITIONS

Operating temperature:

- 10 °C ÷ 50 °C

Storage temperature:

- 20 °C ÷ 60 °C

Temperature with battery charged:

0 °C ÷ 45 °C

Operation Humidity:

10% ÷ 80% without condensation

Dimensions

204 x 110 x 117 mm

Weight

270 g

It allows the measurement of the number of revolutions without having to connect cables and sensors to the motorcycle, thus guaranteeing ease and reducing the time for carrying out the test by the authorized workshop.



Optional a practical trolley is available to facilitate mobility around the workshop without having to lift or transport them.



Universal tachometer that allows simple and precise measurement of the number of revolutions and the oil temperature of all vehicles with diesel or gasoline engines.

Universal tachometer that allows simple and precise measurement of the number of revolutions and the oil temperature of all vehicles with diesel or gasoline engines.

Standard Equipment

- Tachometer
- Connection USB cable with the control PC, and Power Supply in conjunction with the RY8800 / A / USB
- Transport case

Specs

- Engine RPM measurement by:
- connection for induction clamp.
- Two independent RPM measurement channels
- RPM boost output.
- Engine oil temperature measurement by:
- Visualization on 4 displays of 7 segments.
- Selection of motor type between 2/4 times.
- Selection of the number of cylinders: 1, 2, 3, 4, 5, 6, 7, 8, 10 or 12.





Technical features

Type of measure	RANGE	Resolution
Resolution	200 rpm - 19.990 rpm	10 rpm
Temperature	0°C - 250 °C	1°C
Power Supply	10 a 34 VDC Vehicle Battery	
Consumption	0,5 A	
Dimensions	200 x 120 x 45 mm.	
Weight	500 gr	

Optional Equipment

	RY8800/A/MODU	Module Semicable Power Supply
	RY8800/A/BAT	Semicable for Power Supply from vehicle battery
	RY8800/A/ACD	External AC / DC power supply
	RY8800/A/AL2M	2 meter Power Supply extension cable
	RY8800/A/AL6M	6 meter Power Supply extension cable
	RY8800/A/MECH	Power supply cable through the lighter



	RY8800/A/USB	AC adapter to power the module through the USB connector. Use in conjunction with RY8800 / C / USB cable
	RY8800/C/RS232	Connection RS232 cable with the control PC
	RY8800/A/AL-RPM	Extension cable for RPM sensor
	RY8800/C/ALPT100	Extension cable for the PT100 temperature probe
	TB-860	Motor antenna
	TB-870	Magnet probe for LV and HDV
	TB890	Magnet probe for motor-cycles

Engine temperature and revolution detection device that also works as a scantool. In this way the mechanic uses a single instrument to perform both tests.

It is a universal rev counter designed for use in both light and heavy vehicles. Equipped with two data acquisition systems: Ripple battery or via OBD cable. There is also the optional possibility of using it with an induction clamp or with a piezo sensor. Supports EOBD protocols: ISO9141, KW2000, PWM, VPW, CAN BUS and the latest WWH-OBD

Thanks to its interface, it can detect data in three different ways: through the induction clamp and piezo sensors, through the microphone and battery signal residual, or directly from the OBD socket (for vehicles equipped with such a protocol).

In case the detection of revolutions and motor temperature is carried out through this last modality, the instrument allows the test to be carried out without opening the motor hood, since it can connect and detect data through the EOBD protocol.

The RY3 can also be used in scantool mode; Connected to the EOBD socket, it works as a parameter reader intended for this standard, as the new emission control procedures say.

Standard Equipment

- RY3 rev counter
- Power Supply clamps (rpm reading by curling alternator)
- Microphone
- OBD cable
- Connections Bluetooth



Characteristics

PROCESSOR
MB90F591 16MHz

SERIAL RESOURCES
1 USB 1.1 colleague
1 standard RS232 colleague

EXTERNAL Power Supply
8 ÷ 32 Volt

Connections WIRELESS TO PC
Bluetooth 1.2 technology

GASOLINE AND DIESEL DETECTION BY THE VEHICLE BATTERY
Manage systems at 12VDC ed at 24VDC

GASOLINE ANALOG DETECTION
Clamp induzione

DIESEL ANALOG DETECTION
Piezoelettrica clamp

EOBD DETECTION
ISO9141-2; ISO14230; SAE J1850 PWM; SAE J1850
VPW; CAN ISO11898

CONDITIONS OF Operation
Operating temperature: -5 ° C ÷ + 40 ° C
Operation and exercise humidity: 10% ÷ 80%
without condensation
Storage temperature: -20 ° C ÷ + 60 ° C

Dimensions
155x162x63 mm

Weight
800 g.

Optional Equipment

Truck temperature probe

Characteristics

Very useful for MOT, electrical workshops, towbar installers and agricultural machinery workshops and even for private individuals. It allows to verify the correct connection of the plugs after their installation.

Versions with 4 m cable available on all models.
This allows to make the checks from the driver's seat

High brightness LED indicators
No external power supply needed.
Protected against Connections errors.

COM-04-03050

Complete set of 24V vehicles



A)

New 15-Pole Model with Simulation

Simulates the consumption of lamps. Allows the testing of all vehicles, including those equipped with CAN BUS (and other systems that detect blown lamps).

Testers

- A) DIN/ISO 12098 24V 15-Pole with Simulation
- B) DIN/ISO 1185 24V / 7-pole Type N
- C) DIN/ISO 3731 24V / 7-pole Type S



B)



C)

COM-04-03051

Complete set 12 V vehicles



A)

New 15-Pole Model with Simulation

Simulates the consumption of lamps. Allows the testing of all vehicles, including those equipped with CAN BUS (and other systems that detect blown lamps).

Includes 7 to 13-pin adapter (for using the tester in 7-pin vehicles)

- A) Trailer socket tester with simulation
13-pole 12 V DIN/ISO 11446
- B) 13 to 7-pole 12 V adapter.



B)

Portable tire inflator 803414

14 liters portable tire inflator, with automatic charge, equipped with pressure meter and injection Standard.

Gun and automatic loading valve.

Equipped with safety valve to 7 bar.

Weight 9 kg



Portable tire inflator 53024

Tank capacity	24 l.
Tank max pressure	8 bar
Calibrated security valve	8 bar
Manometer tank pressure	0 -10 bar
Max working pressure	7 bar
Manometer working pressure	0-10 bar
Working temperature	-20 ° - +60 °
Inflating hose length	1,2 m.
Inflating gun	Standard
Packing	0,090 m³
Weight	10 kg
Dimensions	28 x 33 x 86 cm.



Professional gun for inflating tyres. Designed and manufactured in Italy. Range includes pressure meter with scale of Ø 80 mm. It includes adapted nozzle for valves.
Approval model No. 86/217 EEC rule.
Available upon request head model 60E / 1, 60E / 2.

Standard Equipment

- Manometer Ø 80 mm.
- Hose 100 cm.
- Fast or manual plug adapter

Technical Data

Measuring range (bar)	0 ~ 10 bar.
Range Division	0,02 bar.
Unit of measurement	bar
Model approval	00 04.01.008

Optional Equipment

Calibration certificate



DIGITAL DEPTH GAUGE - 81008692 -



Fast and easy to use photo-optical device that accurately measures light transmission through any type of vehicle window. The TintTesta helps to verify compliance with vehicle regulations.

In recent years there has been an increase in the number of tinted vehicles. Tints can be used to absorb the sun's rays and preserve the vehicle's interior or to try to reduce the energy used by air conditioning units. There are also other applications such as privacy or improving the aesthetic appeal of a vehicle.

This type of modification to the vehicle is causing great concern for road safety. Thanks to the glass intensity meter, we can easily control and prevent vehicles from being driven with illegal tints. The minimum requirements for modern vehicles in some countries are light transmissions of 75% for the windscreen and 70% for the front side windows.

- Very easy to use
- Light and compact
- Easy to read screen
- Single operation button
- Auto power off
- Compensates for different types of crystals
- Instructions for use in front tracing
- Wide operating temperature range
- Uses four AAA 1.5V batteries
- It is easily calibrated.
- Accuracy greater than 2%
- Own independent light source
- Optional wireless printer and transport box.



Technical Data

Display LED	
Voltage	6 V DC (4x1.5 V / AAA)
Operating temperature	-10 a 50°C
Relative Humidity	0 - 95% (non-condensation)
Battery life	200 Tests (under normal conditions)
Dimensions	170 x 85 x 35 mm.
Weight	500 gr.



How do you use it?

The glass tinting strength meter is used by aligning the transmitter and receiver on opposite sides of the glass and then pressing the 'Enter' button. The glass tinting meter then emits a beam of light through the glass that is detected by its receiver probe on the other side. The unit then displays the percentage of light transmission that has passed through the glass. The reading can be recorded manually or printed out using the optional portable Printer for possible legal evidence.

The glass tinting meter is powered by four 1.5V AAA batteries. For data verification, an annual calibration is required in some countries. The glass tinting meter has no memory capacity; the operator can record each test manually for a report or use an optional Printer.

Standard Equipment



RYM805 Wireless infrared importer
Includes charger



RYM813 Carrying case

The RY 383 gas meter is a very reliable instrument for leak detection. The gas meter RY 383 measures gasoline, propane, natural gas or fuel oil vapors. When the gas meter locates any of these substances, it shows 7LED visual alarm on the display. The gas meter is operated by three buttons.

Technical Data

Gases it detects	Gasoline Propane Natural gas Fuel oil
Display	Alarm by 7 LEDs
Dimensions	173 x 66 x 56 mm.
Weight	400 g.

- Detects gasoline, propane, natural gas and fuel oil vapors
- Suitable for leak detection on GLP, GNC and GNL vehicles
- Flexible sniffer probe
- Visual alarm via 7LED
- Easy to use
- Compact design
- Lightweight



OBD device of Ryme, developed specifically for MOT, (change of regulations of May 20, 2018, Royal Decree 920/2017)

Designed for light and heavy vehicle MOT verification



Connection with any type of MOT management system

Free updates

Vehicle database

100% compatible with the world's vehicles

Supported protocols

J1850 PWM, J1850 VPW, ISO9141, ISO14230 (KWP 2000), CAN
ISOTP (ISO15765 / SAE J2480), WWH-OBD

Specially designed for

PTI Centers
Workshops

Technical features

- High reliability in reading codes
- Compatible with 100% of the world's vehicles
- Simplification of the software to analyze only the information needed by MOTs
- Free update of the vehicle database
- Saving inspection time
- Compliance NT66



Features

- Status MIL
- VIN reading
- Km/h with MIL on
- Km/h since code deletion
- Location of the diagnostic test
- Read error codes with description
- Distinction between current and pending codes
- Real-time parameter
- Driving cycles from code deletion

Includes

- Extension for difficult positions, truck adapter
- Bluetooth adapter for PC
- Specific software according to procedure manual

PIT JACKS

Models

Model	Load capacity	Stroke
HK 4/450	4 t	450 mm
HK 10/600	11 t	600 mm

Loading capacity
4 or 11 tons

HK 4/450

Hydraulic Pit Jack with manual operation

- 2 phases Manual hydraulic system for quick lift and load lifting
- Manual hydraulic operation
- Rod polished and coated with hard chrome
- Adjustable chassis to 1,010 mm.
- Easy operation through ergonomic adaptation of the various elements of operation



HK 4/450

HK 10/600

Hydraulic Pit Jack with manual operation

- 2 phases Manual hydraulic system for quick lift and load lifting
- Manual hydraulic operation
- Rod polished and coated with hard chrome
- Adjustable chassis to 1,010 mm.
- Easy operation through ergonomic adaptation of the various elements of operation



HK 10/600

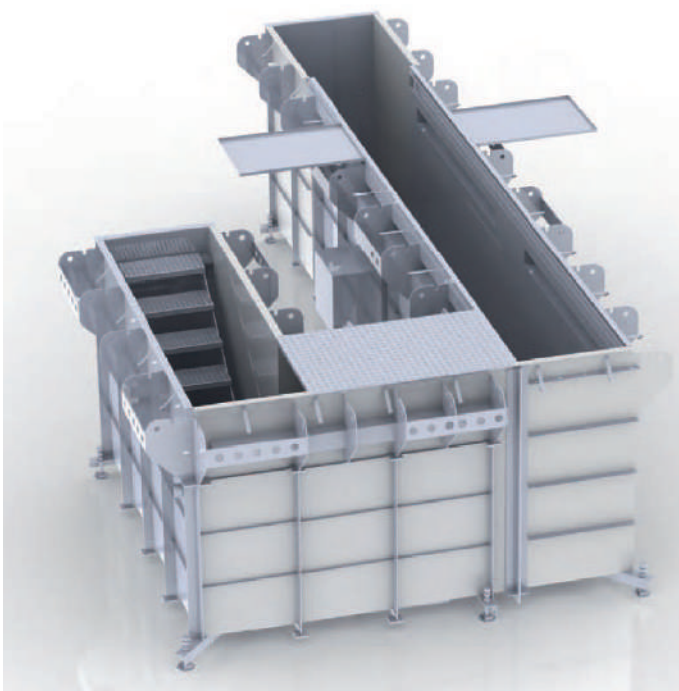
PREFABRICATED PITS

Service pits according to UNI 9721 standard

The prefabricated pit is equipped with:

- Interior lighting
- Heavy gas extraction system
- Main access staircase on one side
- Emergency plates in the main corridor.

Prefabricated service pits are modular maintenance units that are supplied complete with all the elements necessary for their operation: lighting, oil drainage, brake test bench, etc. and are delivered to the installation site.



The pit is equipped with the following:

- Support for lifting units
- Lighting accessories
- Built-in electrical installation
- Fittings for various installations
- Compressed air installation
- Non-slip floor
- Built-in drain
- Large, well-lit work area

The vehicle inspection pit has been manufactured in accordance with UNI 9721 standards, is made entirely of self-supporting steel and does not require concrete filling on the sides.

The dimensions of the pit are approved and certified, establishing a working height of no less than 1.7/1.8 metres and allowing the wheel set to be viewed with the aid of test benches installed inside the pit.

The width is 0.75/0.8 metres (pit opening) and the minimum useful length is 6 metres. We design and build inspection pits of various shapes and sizes in strict compliance with the requirements of UNI 9721.

Supplied accessories

- Special homologated stairs
- Aluminium pipes for compressed air
- Recess for pipeline reels and water pump, etc.
- Electrical installation
- 58 W approved pit lighting system.
- Electrical panel 230/400 V CE
- Provision of holes for the system of elimination of harmful gases according to the
- L-rails at the bottom for optional 15t lifting equipment or accessories
- H-rails at the top for optional 15t lifting equipment or accessories
- Special light grey corrosion-resistant resin according to standard.
- Steel floor with anti-slip almond design
- Corrosion resistant black insulating paint on the outside
- Certification Register



Operator's platform lift



Oil pump



ATEX Switchboard



Pneumatic Water Suction Pump



Movable lid, with load support, capacity 30t, L= (0.5-1m)



Compressed air installation



ATEX special lighting



Stairs

Lightweight covers

Aluminium pit cover with direct access

The pit cover makes the work area more comfortable, easily accessible and safer, and significantly reduces heating costs.

This cover has a maximum axial load of 500 N/m². Installation is quick and easy, and the system does not require any electrical connections.

The manually operated cover can be quickly closed, providing a working environment that complies with applicable safety standards. The aluminium slats can be quickly and safely removed from the box on a skid system.

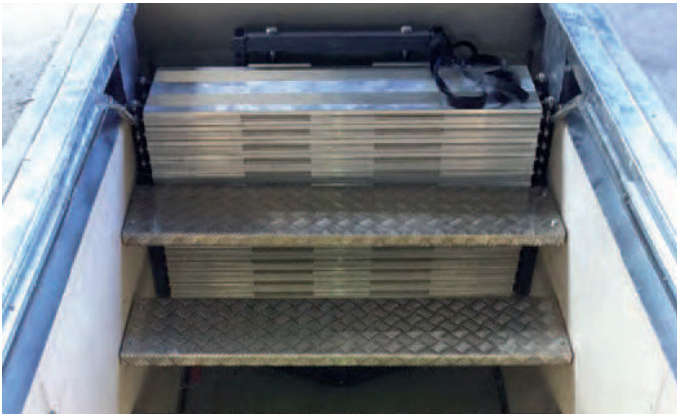
Cover Model 1

Passage pit, axial load capacity up to 500kg/m²



Cover Model 2

Aluminium cover with manual operation, without motor. Load capacity 1200 kg/m²



Cover Model 3

Motorized steel version. Load capacity 1500 and 3000 kg/m²

Debido a la continua evolución de nuestros productos, las características técnicas y de diseño podrían estar sujetas a modificaciones, sin previo aviso.

Heavy-duty truck covers

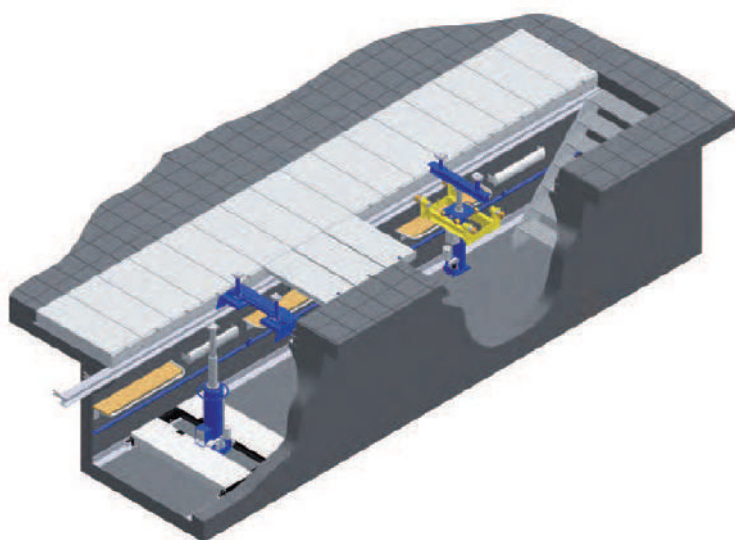
Cover Model 4

Underfloor sliding deck, 10 ton load capacity



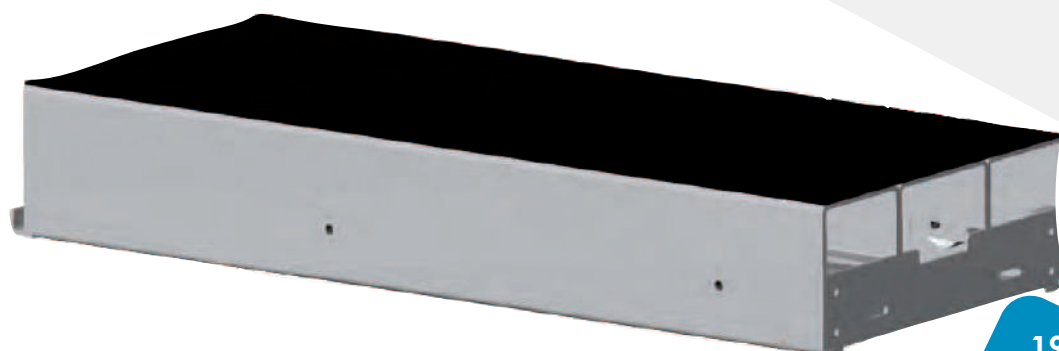
Cover Model 5

Access cover, load capacity over 10 tons



Cover Model 6

Drive cover, load capacity over 10 tons, with Pneumatics pistons





Debido a la continua evolución de nuestros productos, las características técnicas y de diseño podrían estar sujetas a modificaciones, sin previo aviso.

PORTABLE AXLE SCALES

Technical Data

Installation	Recessed
Load cells	20 Tn
Support points	4
Cell access	Plate register
Pit height	450 mm
Finish	High level anti-corrosion epoxy painting
Capacity	20.000 kg
Resolution	10 kg
Platform dimensions	3.000 x 1.000 x 450 mm

Standard Equipment

Load cells and mounting accesories
Load cell support
Connectable electronic indicator
15 m. of platform indicator wire
15 m. of PG-9 tube for platform cable
Tubed load cell wires
Complete structure with screws
Civil work drawings



Technical Data

Installation	Recessed
Load cells	20 Tn
Support points	4
Cell access	Plate register
Pit height	300 mm
Finish	High level anti-corrosion epoxy painting
Capacity	20.000 kg
Resolution	10 kg
Plattform dimensions	3.000 x 1.000 x 300 mm

Standard Equipment

Load cells and mounting accesories
Load cell support
Connectable electronic indicator
CE Certificate
Integration to management system
Tubed load cell wires
Complete structure with screws
Civil work drawings



PNEUMATIC RIVETING MACHINE

Specially designed for riveting brake shoes and clutch discs of passenger cars, semi-commercial vehicles and various other vehicles. They are the most suitable for the riveting of brake shoes and clutch discs of all types of vehicles thanks to their characteristics of speed and power, as well as their easy regulation of the distance between points. Thanks to this, it is compatible at its maximum point with the brake jaws with greater height in the central part

The RY-1000 riveting machine has been designed and manufactured with the latest processes of laser cutting-sheet manufacturing, achieving more perfect finishes. Likewise, it has been equipped with new pneumatic cylinders, making the machine faster in terms of riveting, and does not require such a large working air flow as the previous series.

No special care is required, just keep the moving parts clean and grease at least once a week. The glasses of the filter group must always be oiled and water-free.

Technical features

Max. operating pressure	12 Kg
Power	
	6 Kg 2.520 Kg
	8 Kg 3.360 Kg
	10 Kg 4.200 Kg
Max. distance between the punch holder punch	190 mm.
Minimum Distance. the punch holder with punch	0 mm.
Max. Stroke	65 mm.

Standard Equipment

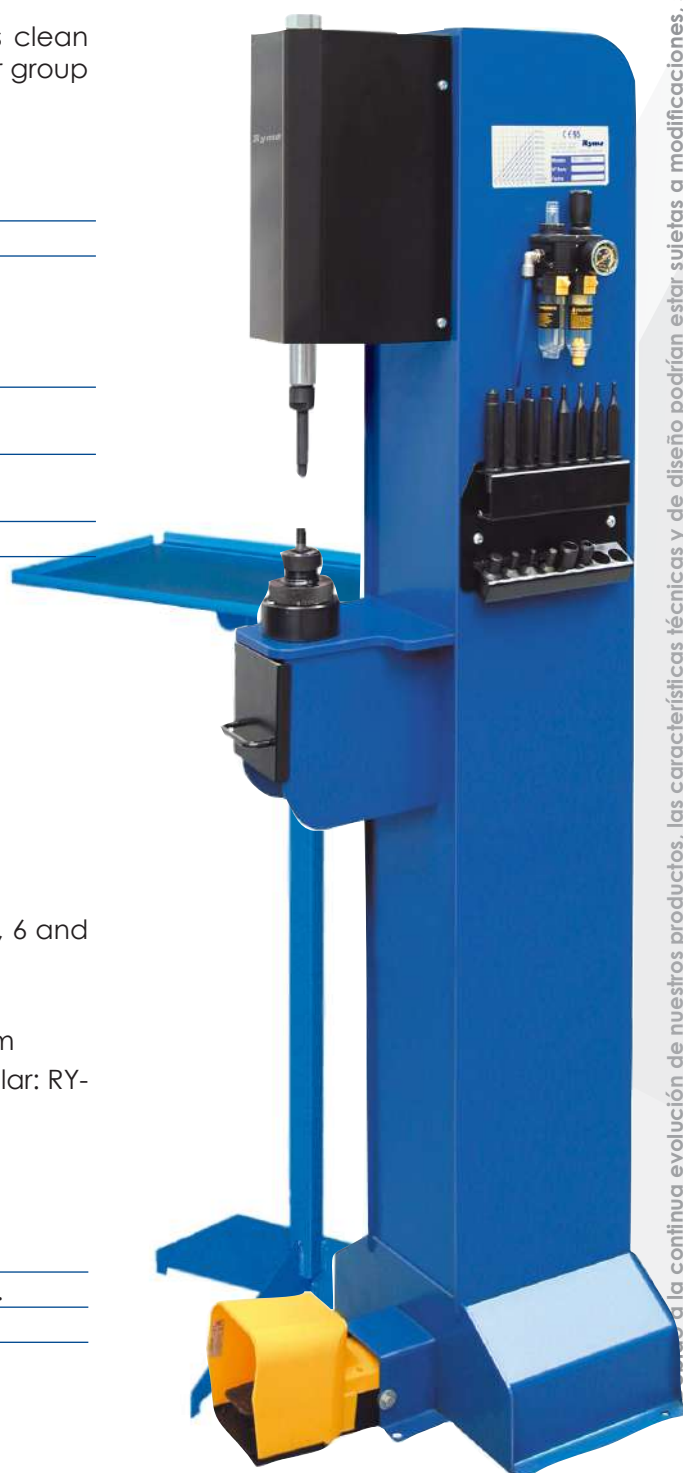
- Additional worktable
- Set of riveting hammers rivets 4, 5, 6 and 8 mm.
- Game rivets bases: 4, 5, 6, and 8 mm.
- Basis for extractors punches 11 and 17 mm.

Optional Equipment

- Tubular and semi-tubular rivet extracting punches: 4, 5, 6 and 8 mm.
- Rivet riveting hammers for sintered: Rivet; Ry-60 RY-90
- Solid riveting hammers for riveting machine: 6 and 8 mm
- Riveting tool + Base rivet 10 mm. Tubular and semi-tubular: RY-8070, 8070B RY
- Riveting tool for star riveting for 4 and 5 mm.

Dimensions

Dimensions	1.750 x 580 x 720 mm.
Weight	230 Kg



La continua evolución de nuestros productos, las características técnicas y de diseño podrían estar sujetas a modificaciones, sin previo aviso.

PUNCHERS FOR TUBULAR AND SEMI-TUBULAR FOR RIVETING MACHINE

- 830010208030 for 4 mm
- 83001020 8040 for 5 mm
- 83001020 8050 for 6 mm
- 83001020 8060 for 8 mm



PUNCHER BASES

- 830010209030B Base rivet 4 mm
- 830010209040B Base rivet 5 mm
- 830010209050B Base rivet 6 mm
- 830010209060B Base rivet 10 mm



SOCKET ADAPTOR

- 83001020002 for 4 mm
- 83001020001 for 5-6 mm



TUBULAR AND SEMITUBULAR RIVET EXTRACTOR

- 830010208061 Para 4 mm
- 830010208062 Para 5 mm
- 830010208063 Para 6 mm
- 830010208064 Para 8 mm



PUNCHERS FOR SINTERED MATERIAL RIVETING MACHINE

- 830010208010 Remache RY-60
- 830010208020 Remache RY-90



PUNCHERS FOR SOLID RIVETING IN MACHINE

- 830010208003 Para 6 mm
- 830010208004 Para 8 mm



PUNCHER + BASE RIVET OF 10 mm. FOR TUBULAR AND SEMITUBU

- 830010208070
- 830010209070B

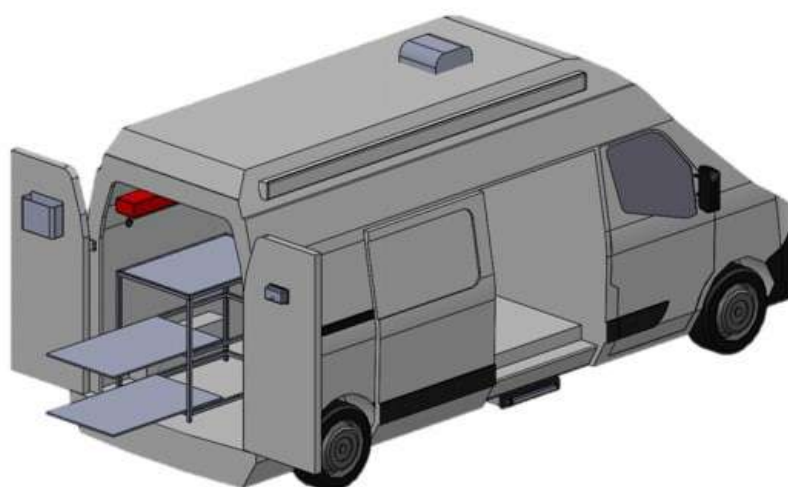
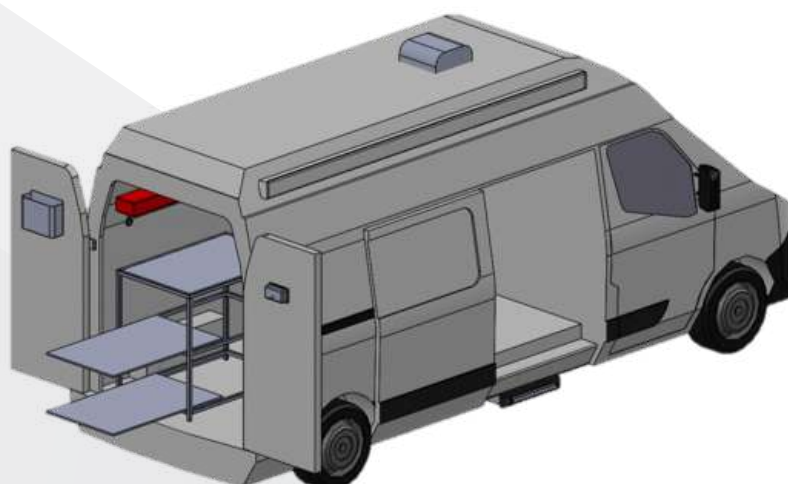


PUNCHES FOR STAR RIVETING MACHINE

- 830010207081 para 4 mm
- 830010207091 para 5 mm



MOBILE UNITS



Standard equipment

Administrative area: Located in the front and access through the side door on the right side of the van, lined panels and ceiling with polyurethane foam and white prfv skin to insulate both cold and heat. Mounting of partition wall in the center of the van to divide both cabins with 50 mm thick sandwich panel. Wiring and plugs embedded in the insulation. Assembly of 63cm white "L" shaped worktop with three stainless steel support legs and drawer unit with classifier. Preparation for hanging computer screens on the wall with two workstations. 2kw 220v hot/cold air conditioning unit mounted on the roof of the van. Mounting of router for wifi for activation by data card. Floor of office in Finnish board of 15mm finished non-skid. Installation of retractable electric step for better access to the van. Mounting of awning on top of side door for sun protection. Interior lighting with recessed LED ceiling lights and exterior work lights.

Technical area: Located at the rear of the van, van floor finished in 15mm Finnish board, van sides covered with 1.2mm galvanized sheet metal. Assembly of 220/400v Lombardini generator plus 50ltr 2cv compressor. Custom fabrication and assembly of metal cabinet with sliding trays for location of test plates and tools, assembly of rail on van roof with hoist for easy loading and unloading of the elements to the floor. Assembly of general electrical panel with 220 and 400v sockets, assembly of automatic hose reel of 15mtr, assembly of automatic reel for pneumatic hose of 15mtr. Installation of water tank and soap dispenser for hand cleaning and waste paper basket.

Legalization: processing of technical study and laboratory report, transfer to ITV for the legalization of the reform.

Adaptable vehicles: Iveco Daily, Fiat Ducato, Peugeot Boxer, Citroen Jumper, Opel Movano and Renault Master.

Included machinery

- FRM II braketester for motorbikes (Portable)
- VTC II Speedometer for motorbikes (Portable)
- RY-RAR Headlight tester
- RY-DHA Agricultural play detector
- RY-500-AGH Gas analyzer & Opacimeter
- Other peripherals for measuring agricultural vehicles & mopeds

Generic: mobile station divided into three sectors, first in administrative area, second vehicle inspection area and the third serious machine area.

Manufactured in reinforced steel structure and UPN platform, preparation of the structure at the bottom to be loaded by forklift. Welding brackets on reinforcement corners to guarantee rigidity. Thermally insulated in 50 mm sandwich panel and finished with putrusion profiles.

Administrative area: room with entrance from inspection area, separation between office and technical area, glazed at the top and white lacquered aluminum at the bottom.

Assembly of sliding window in the front part of the office.

Assembly of "L" shaped office table with drawers.

Assembly of electric router for data card insertion.

Assembly of air conditioner to 220v of 2kw of power.

Inspection area: Located in the middle part of the station, non-slip checkerboard aluminum floor, with upward opening of flaps by means of gas shock absorbers, opening of aluminum ramps hydraulically.

Coupling of inspection machinery and connections between them, commissioning.

Station access door with key.

Area illumination by means of LED ceiling lights, assembly of LED work lights illuminating towards the street on both sides, assembly of general electrical panel, assembly of several 220 and 400V electrical outlets, assembly of automatic pneumatic reel with 15 mtr. extension.

Manufacture and assembly of elevator for front axle of vehicles up to 50cm and movements of the plates for visualization of clearances, these services driven by the main distributor.

Technical area: assembly of Kohler generator with Lombardini 19 Kw 220/400v engine with diesel fuel tank incorporated, assembly of Abac compressor of 2cv and 50ltr.

Assembly of electrical panels for machine connection.

Mounting of ventilation grids for the generator and smoke outlet through the roof.

Mounting of hydraulic distributor Rexroth proportional type with exit to the side, mounting of manual pump for emergency cases, coupling of hydraulic tank inside with return filter.

Access doors with two hinged polyester leaves and watertight rubber gaskets, closing by means of espagnolette bolts.

Start-up and hydraulics: starting from all the hydraulic elements are of Rexroth brand, the main pump is driven by the generator's own diesel engine distribution, avoiding the assembly of an electric hydraulic power plant, in addition, it has a manual pump for collection in case of emergency.

Distributor with proportional safety valve, automatically regulates the pressure for each service, this is driven by electric coils and incorporates a radio frequency receiver, this allows us to deploy the station with a wireless control that regulates the actions with the corresponding steps safely without the possibility of error and cause an accident, all according to the regulations of prevention of occupational hazards.

Assembly of lifting legs with extensible legs for loading and transporting the ITV station on a gondola or platform.

- Legalization: obtaining CE marking according to 2006/42EC on the machinery directive and all relevant regulations.

Included machinery

- FRL Braketester for light vehicles
- AL NET Side slip tester
- BSU Suspension bench
- DHL TOTAL play detector
- RY-RAR headlight tester
- RY-500-AGH Gas analyzer & Opacimeter
- Other peripherals for measuring agricultural vehicles & mopeds

Designed for locations where civil works are not possible.
Totally modular, ideal for reduced locations, for extension of existing lines in stations.
All equipment is adapted to RD 920.
Approx. dimensions: 14,000 x 3,000 x 354 mm. (length x width x height)



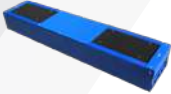





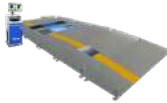
Customization

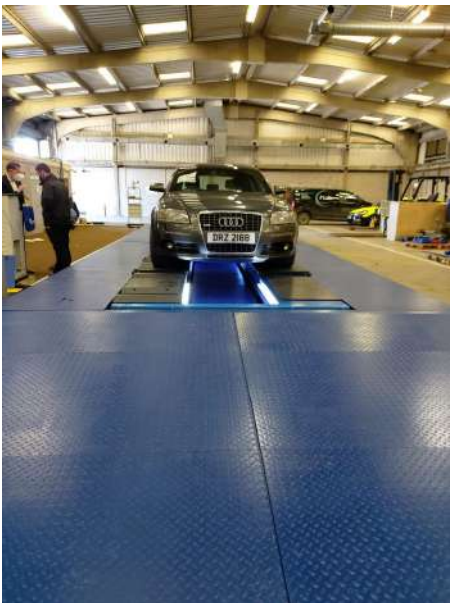
Possibility of analysis and study, under budget, for adaptation to new regulations of any region and/or country.



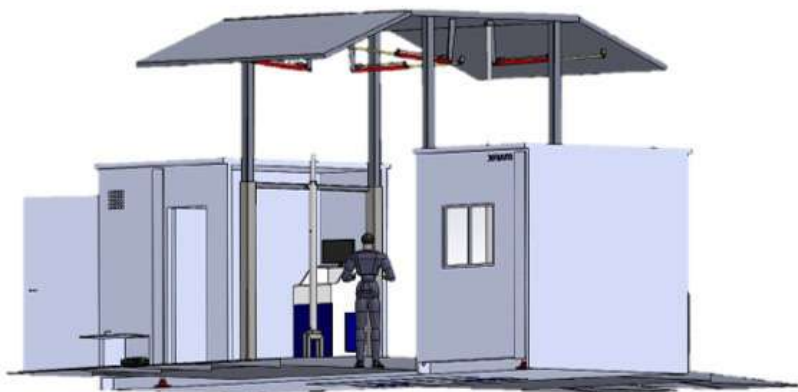
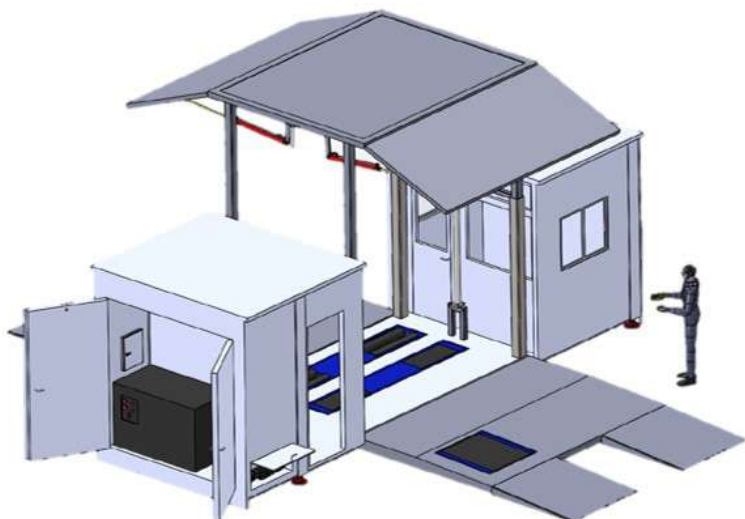
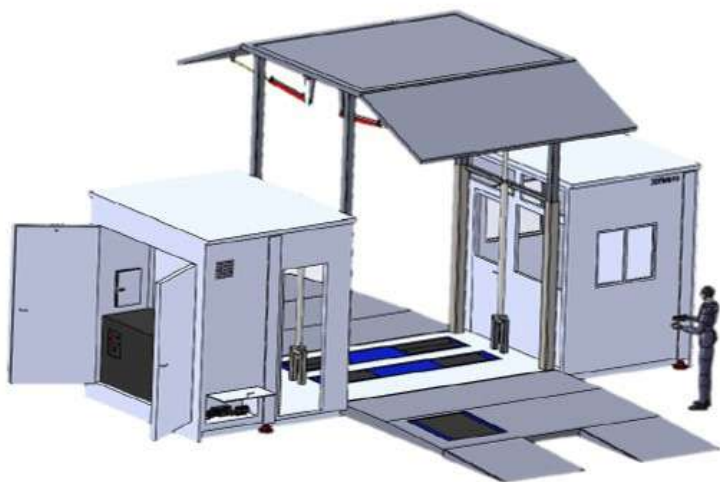
Standard equipment

	FRL NET	Light vehicles braketester
	KIT INT AL	Side slip tester integration kit
	KIT INT BSU	Suspension bench integration kit
	RY-LIFT	Lift with play detector

	RY-500-AGH	Gas anali
	RY-RAR	Analogic headlight tester *Digital headlight tester can be budgeted
	RAMPAS	Access ramps and modular elements for vehicle transit



Debido a la continua evolución de nuestros productos, las características técnicas y de diseño podrían estar sujetas a modificaciones, sin previo aviso.



Generic: mobile station divided into three sectors, first in zone Ge-
neric: mobile station divided into three sectors, first in administrative
zone, second vehicle inspection zone and the third serious machine
zone.

Made of reinforced steel structure and UPN platform, preparation of
the structure at the bottom to be loaded by forklift.
Welding brackets on reinforcement corners to guarantee rigidity.
Thermally insulated in 50mm sandwich panel and finished with
purtrusion profiles.

Administrative area: room with entrance from inspection area, se-
paration between office and technical area, glazed at the top and
white lacquered aluminum at the bottom.
Assembly of sliding window in the front part of the office.
Assembly of "L" shaped office table with drawers.
Assembly of electric router for data card insertion.
Assembly of air conditioner to 220v of 2kw of power.

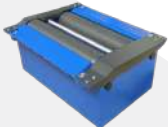



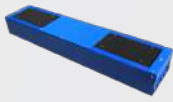
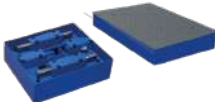
Inspection area: Located in the intermediate part of the station,
floor made of non-slip steel rhombus with removable aluminum
ramp-shaped tips for vehicle access, installation of level regulators
for a perfect support on the floor. Raisable roof with flaps to free
height of 4.2 mtr operated by hydraulic cylinders.
Coupling of inspection machinery and connections between them,
commissioning.
Access door to station with key.
Area illumination by means of embedded LED ceiling lights, assem-
bly of LED work lights illuminating towards the street on both sides,
assembly of general electrical panel, assembly of various electrical
outlets at 220 and 400v, assembly of automatic pneumatic reel with
15mtr extension.
Manufacture and assembly of elevator for front axle of vehicles up
to 50cm and movements of the plates for visualization of clearan-
ces, these services driven by the main distributor.

Technical area: assembly of Kholer generator with Lombardini 19
Kw 220/400v engine with diesel fuel tank incorporated, assembly of
Abac compressor of 5,5cv and 100ltr.
Mounting of electrical panels for machine connection.
Mounting of ventilation grids for the generator and smoke outlet
through the roof.
Mounting of hydraulic distributor Rexroth proportional type with
outlet to the side, mounting of manual pump for emergency cases,
coupling of hydraulic tank inside with return filter.
Access doors with two hinged polyester leaves and watertight rub-
ber gaskets, closing with bolts.

Start-up and hydraulics: starting from all the hydraulic elements
are of Rexroth brand, the main pump is driven by the diesel engine
distribution of the generator, avoiding the assembly of an elec-
tric hydraulic power plant, in addition, it has a manual pump for
collection in case of emergency.
Distributor with proportional safety valve, automatically regulates
the pressure for each service, this is driven by electric coils and
incorporates a radio frequency receiver, this allows us to deploy
the station with a wireless control that regulates the actions with
the corresponding steps safely without the possibility of error and
cause an accident, all according to the rules of prevention of
occupational hazards.
Assembly of hydraulic installation for ceiling lifting and flap ope-
ning.
Assembly of lifting legs with extensible legs for loading and trans-
porting the ITV station on a gondola or platform.

Legalization: obtaining CE marking according to 2006/42EC on the
machinery directive and all relevant regulations.

Included machinery

	FRU 4	Universal braketester		RY-500-AGH	Gas analyzer & opacimeter
	KIT INT AU	Side slip tester integration kit		RY-RAR	Analogic headlight tester *Digital headlight tester can be budgeted
	KIT INT BSU	Suspension bench integration kit		DHU TOTAL	Play detector with 2 plates & 4 movements

Imágenes



WHEEL ALIGNER

The Megaline 1000 W address aligner is a high-tech, reliable and rugged address alignment reliable and robust high-tech equipment for address alignment. Thanks to its wireless technology and lithium batteries, the space in the workshop is cleaner, with no cables on the floor, and measurements can be taken faster. measurements can be performed more quickly. The machine is delivered in metal cabinet with printer and 19-inch TFT screen. The PC incorporates the Windows O.S.

The Megaline 1000 W address aligner works with wireless pickups with an infrared CCD mechanism. A total of 8 cameras record all measurements and send them to the PC for processing. The sensors are easily attached to the clamps with four support tips with four support spikes, ready for use on 12" to 24" wheels. to 24-inch wheels. Communication between the sensors and the computer is stable up to a distance of 30 meters (100 feet). is stable up to a distance of 30 meters, even in environments with interference. In addition, their light weight (2.6 kg) makes them practical and handy.

The software incorporated in the Megaline 1000 W is intuitive and guides the operator step by step. It allows the measurement of toe curve, SAI, curve divergence and vehicle dimensions, among others. vehicle dimensions. It allows to choose whether the alignment is carried out with 2 or 4 sensors. It also incorporates a complete database of vehicles of vehicles with their measurements (AUTODATA) and customer database (AUTODATA).



Advantages

- Communication stability up to 30 m even in environments with interference.
- Continuous sensor calibration control thanks to the 8 optical sensors.
- Practical and easy to use thanks to its light weight (2.6 kg), extremely compact dimensions and the absence of antennas and cables.
- Possibility of use even in open and sunny environments thanks to the solar filter.
- Alignment of vehicles with a clearance of more than 12 m thanks to the enhanced LEDs.
- Reduced operator displacements thanks to the software feed control by means of the keyboard. keypad.
- Measuring speed
- FAST turning: typically 30 seconds instead of 60 (§)
- Runout to ground: typically 80 seconds instead of 160 (+)
- Possibility of measuring and adjusting the front wheels without mounting the rear sensors.
- Measurement in presence of front/rear bumper by tilting the sensors without extension aid
- Images of the adjustment points
- Adjustment with vehicle raised and wheels turned to access difficult adjustment points without the need for difficult adjustment points without losing sight of the display
- Simultaneous display of all the angles of the axle being adjusted with the possibility of enlargement

Standard equipment

- Cabinet
- Computer equipment (PC+Screen+Printer)
- Brake pedal locking tool
- Steering wheel locking tool
- 4 clamps 12" & 24"
- 4 CCD sensors
- 16 normal nails 45 mm.
- 16 nails with stop 48 mm.
- 2 rotatory plates
- Software
- Complete vehicle database



UNIVERSAL ELECTRONIC DIAGNOSIS & MEASURING SYSTEM

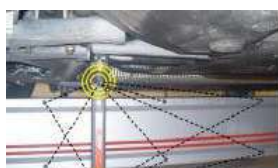
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How it works



1) SH-102

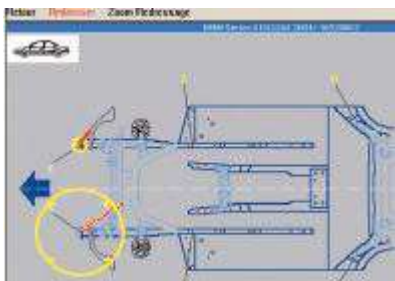
2) CH1

3) C20

4) C30

5) SC75S

Advantages



- No contact of any component, so there is no wear and tear
- Measures up to 12 points simultaneously every 1.5 seconds
- Color display, LCD presentation
- No need to check the measuring points after each shot, it measures them continuously.
- Automatic and constant system centering.
- Quarterly database update
- On screen, possibility to place some points on the photos (and drawings).
- Very clear graphics. Deformation direction is presented in 3 dimensions.
- Constant and continuous evolution during straightening

Repair certificate



Partersons Auto shop	
Damage Report	
Vehicle Information	Customer Information
Vehicle: 2014 Honda Civic (1.8L) Year: 2014 Model: Civic Color: Silver Plate: ABC-1234	Name: John Doe Address: 123 Main St, Springfield, IL 62701 Phone: (555) 123-4567 Email: john.doe@example.com
Damage Description	Damage Location
Location: Front Left Damage Type: Bumper Damage Description: Front left bumper is cracked and chipped. The damage is approximately 10cm long and 5cm wide. The paint is also cracked and chipped.	Location: Front Left Damage Type: Bumper Damage Description: Front left bumper is cracked and chipped. The damage is approximately 10cm long and 5cm wide. The paint is also cracked and chipped.
Vehicle Body Parts	Vehicle Body Parts
	

- Confirmation of the repair
- Report with the vehicle dimensions before and after the repair works

Specifications

Weight	190 kg
Voltage	220 v
Power	500 W
Cabinet dimensions	1.050 x 600 x 650 mm.

SCISSOR LIFT (WITHOUT PLAY DETECTOR)

The RY-LIFT is an electro-hydraulic scissor lift specially designed for alignment, with a capacity of 5,000 kg. and a length of 5 meters. The alignment plates can be placed in three different positions to adapt to the wheelbase of the vehicles.

Automatic regulation of the descent and acoustic signal at the last descent for greater safety. The features of this scissor lift make it one of the best options for large vehicles: vans, off-road and light commercial vehicles.

Latest technologies have been used to create the equipment, thus adding maximum precision in its finishing, achieving a robust machine with excellent aesthetics, silent and precise operation. It includes a second pair of plates to watch both axes without moving the vehicle.

Rise/Down
time

65/70
seconds

Max. load
per axle

5 Tn.

Motor 2,6 Kw

Hydraulic
pump

15
l. / minute

Equipamiento Estándar

- Scissor lift
- Sliding back plates
- Electric box
- Control post for main and secondary elevator
- Wired control torch

Datos Técnicos DH

Max load per axle	5 Tn.
Motors	2,6 Kw
Voltage	380 V/ 2,6 Kw
Maximum lift height	2,16 m.
Minimum lift height	0,29 m
Auxiliary elevator height	0,45 m
Platform length	5,00 m.
Total width	2,20 m
Access ramps length	1,35 m.
Lifting time	65 seconds
Weight	2,690 Kg.

Mechanics



Epoxy Paint

Powder-coated finish ensures optimal and long-lasting protection



Perfect Fit Assembly

Mechanical design using Perfect-Fit, which guarantees the assembly and perfect final finish on all our equipment



1. GENERAL INFORMATION

These general conditions of sale, together with the written offer of Técnicas Reunidas de Automoción S.A., from now on Seller, shall prevail over any type of negotiation or correspondence, and constitute the sole and complete agreement between the Buyer and Seller with respect to the conditions that control the order or contract. The Seller shall not be bound by any waiver or modification of these conditions that has not been expressly made in writing by duly authorized representatives.

Once the Seller receives an order or contract from the Buyer, it cannot be cancelled, nor its terms and/or conditions modified, except by mutual agreement between the parties.

The data contained in the catalogues, technical documentation, offers, plans, drawings, photographs, etc. They are approximate, so the Seller reserves the right to introduce without previous notice, the variations that it considers reasonable.

The data and information facilitated by the Seller in the offer, calculation, configuration or technical recommendation, have an orientative and not binding character, consequently, the referred information does not exempt the Buyer of the verification and test of technical qualification of the product for the required use, including the regulations that he should fulfill.

2. PRICING AND REVIEW

Prices are based on the costs of materials, labour, legislation, regulations and standards applicable on the date of the offer, and may be subject to the revision formula conveniently prepared and communicated by the Seller.

3. DELIVERY

If the Buyer causes a delay in accepting delivery, or intentionally violates another obligation to cooperate, the Seller shall be entitled to claim compensation for damages, including possible additional costs, without prejudice to any other rights it may have under the law

4. DELAYS IN DELIVERY

- (1) The agreed delivery period will be extended, without responsibility for the Seller, and for a reasonable period of time, and at least equal to the time lost due to the causes and in the cases detailed below:
 - a. When the Buyer does not pay, on the stipulated date, the agreed advances or intermediate payments.
 - b. For changes in the characteristics and/or scope of the supply at the request of the Buyer, or any other cause attributable to or caused by the Buyer.
 - c. Due to direct or indirect causes of force majeure or fortuitous event, in accordance with section 10 of these conditions.
- (2) The extension of the above-mentioned period shall take place even if such cause occurs after the Seller has delayed delivery for other reasons.

5. RECOGNITION OF MATERIAL, CLAIMS AND RETURNS

The Seller will not accept returns of materials, unless agreed by the parties. The return procedure, as well as the amount to be paid, will be fixed by the Seller, with the costs of packaging, transport and insurance being borne by the Buyer.

6. INSPECTION, TESTING AND DOCUMENTATION

The Seller shall carry out the tests of the material determined by the Seller in accordance with its processes and quality standards. Additional tests could be carried out, with the previous express acceptance of the Seller, being the eventual expenses derived from them for the account of the Buyer.

7. PAYMENT

- A) The stipulated price will be paid by the Buyer on the set dates.
- B) In case of delays in payments, the Seller, without prejudice to the possibility of exercising the corresponding actions, will charge the Buyer all the respective financial expenses, calculated according to the annual interest rate resulting from increasing by one point the interest rate for discount operations in Commercial Banks, in force at the respective maturities.

8. ASSEMBLY, DEMONSTRATION, PACKAGING, TRANSPORT AND INSURANCE

- A) Assembly, demonstration, packaging, transport and insurance are not included in the sales price, unless otherwise specified in writing.
- B) By agreement in contract or by unilateral decision of the Seller, given the nature of the product, it can be delivered packed with the cost of packaging at the expense of the Buyer.
- C) Likewise, transport and insurance are for the account of the Buyer, unless expressly indicated otherwise in writing, although at the express request of the latter, the Seller may mediate in the contracting of the same, considering the Buyer to be the shipper and responsible for the goods for all purposes.
- D) Assembly and demonstration prices are only valid for the Iberian Peninsula, for others please consult.
- E) If for reasons not attributable to T.R.A.S.A. and its personnel, once in the place of work, the contracted work or services cannot be carried out, these times and other expenses will be invoiced independently of what was contracted, according to the tariff in force of T.R.A.S.A. After-sales, some reasons; HIGH of definitive electric current or current of work, Civil work without finishing or badly conditioned, Rains or other atmospheric factors that prevent it, Floods, Being closed the work or not being able to access it, Being waiting for orders from the personnel of the contracting party, Being in the work other offices that do not allow the works of T.R.A.S.A. to be carried out, In general all the times and expenses not attributable to T.R.A.S.A.

9. GUARANTEES

Under this warranty, Seller, at its option, undertakes to repair or replace in the place it determines the parts deemed defective, according to point (1) of this paragraph, and the replaced parts remain the property of Seller. The guarantee does not cover the eventual cost of transport involved in the repair.

In no case will the Seller be responsible for the actions carried out by personnel outside its organization.

10. FORCE MAJEURE OR UNFORESEEN CIRCUMSTANCES

- (1) In the event that the Seller is prevented, in whole or in part, from fulfilling its contractual obligations, due to force majeure or unforeseen circumstances, the fulfilment of the obligations or commitments affected will be suspended, without any liability for the Seller, for as long as is reasonably necessary under the circumstances.
- (2) Force Majeure or Act of God shall mean any unforeseeable or unavoidable circumstances or events, as well as causes beyond the reasonable control of the Seller, including but not limited to strikes of suppliers, transport and services, failures in the supplies of third parties, failures in the transport systems, natural catastrophes, floods, storms, disturbances, strikes, labour conflicts, stoppages of the personnel of the Seller or its subcontractors, sabotage, acts, omissions or interventions of any type of government or agency of the same, accidental stoppages in the workshops of the Seller due to breakdowns, delays or rejections in the delivery of materials or components, delays in the processing of permits or official documents, impossibility of obtaining labour, means of transport, etc. And other causes of force majeure contemplated in the legislation in force that directly or indirectly affect the activities of the Seller.
- (3) In the event that the causes of force majeure or unforeseen circumstances persist for a period of more than three months from their occurrence, the parties shall consult each other in order to try to find a fair and appropriate solution to the situation within the following thirty days.

11. CONTROVERSY - JURISDICTION

Any dispute arising directly or indirectly from this Contract shall be submitted to the Judges and Courts of Burgos, expressly waiving any other jurisdiction.

12. VALIDITY

These general conditions of sale will come into force in February 2020, cancelling and replacing any others with a previous date, validity or effectiveness.

Except where formally permitted, no part of the assembly may be reproduced by any means or for any purpose without prior written permission from Técnicas Reunidas de Automoción S.A.

The designs are protected by copyright, author's rights and property, and/or by the legal rules that guarantee intellectual property, so that any unauthorized use of these products may be a violation of such laws.

PATENTS

- TOTALINE Brake and Suspension Bench
- Portable Brake Tester for Motorcycles
- Moped Speedometer VTC III
- Moped dyno BPC IV
- GPS Taximeter Checker
- TANDEM Inspection Line
- Roller set 6WD

Due to the continuous evolution of our products, technical features and design may be subject to change without notice.

The Buyer expressly renounces to his own jurisdiction and submits to the jurisdiction of the Courts of Burgos (Spain) for any issues arising from the purchase of our products.

DOMAIN RESERVATION - As long as the customer has not satisfied each and every one of the amounts owed as a result of the sale, the goods will be considered the property of RYME TRA S.A. with all inherent rights even against third parties that the customer must expressly warn of such condition.

Debido a la continua evolución de nuestros productos, las características técnicas y de diseño podrían estar sujetas a modificaciones, sin previo aviso.

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Ryme 
worldwide

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Inspection
Committee



v.2.0 2021