

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

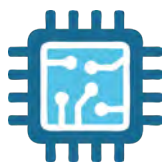
Max load per axle **3,5 Tn.**

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

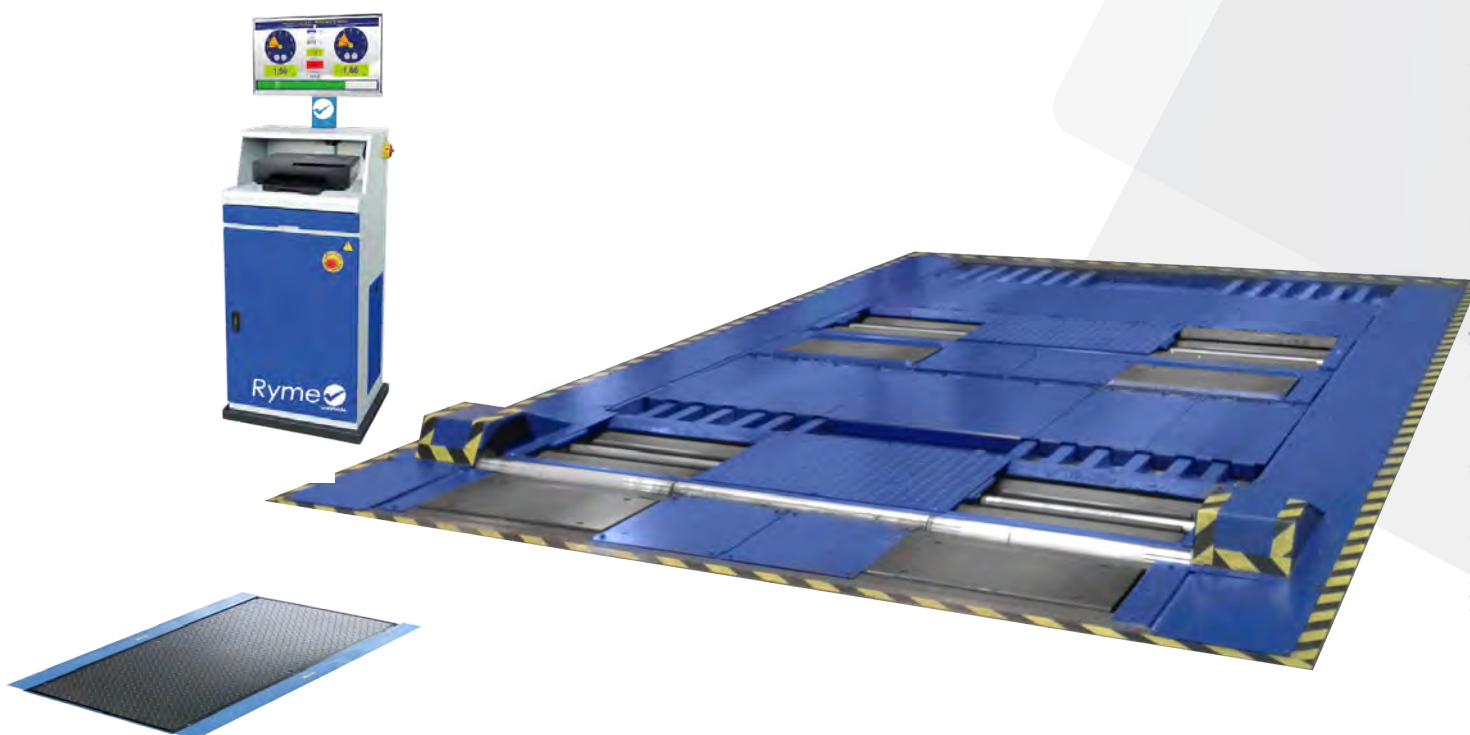
### Modular System

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



**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 Tandem

|                     |                           |
|---------------------|---------------------------|
| Power Supply        | 400 V. 50 Hz. Three-phase |
| Protection Fuse     | 3 x 50 A.                 |
| Pneumatic Supply    | P <sub>min</sub> 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)<br>B) Degrees and minutes<br>C) Diagnosis |

## Technical Data Suspension Bench

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

## Technical Data Braketester

|                       |             |
|-----------------------|-------------|
| 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<br>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

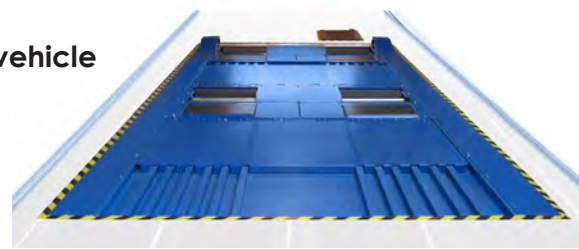
|   |   |
|---|---|
|  | GEN-MC PREMIUM CABINET Cabinet only Dimensions: 730 x 600 x 1.800 mm. |
|---|---|



## Operation

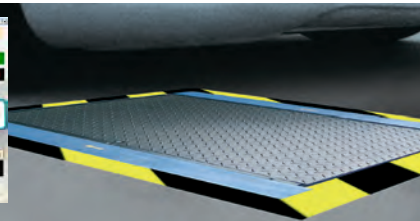
### 1. Automatic Adaptation to the distance between axles of the vehicle

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.



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