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 NOx 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**

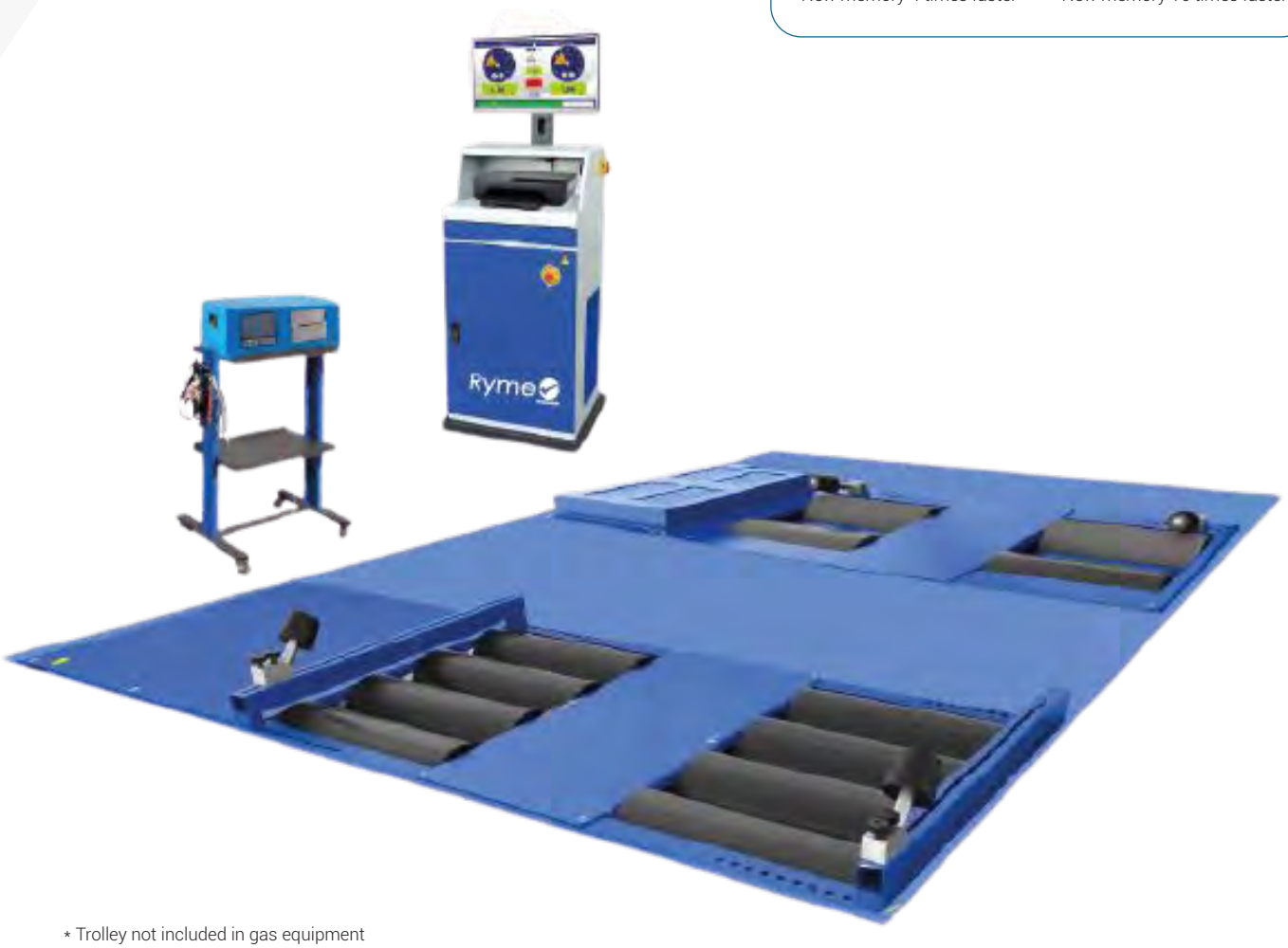
Electronics

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



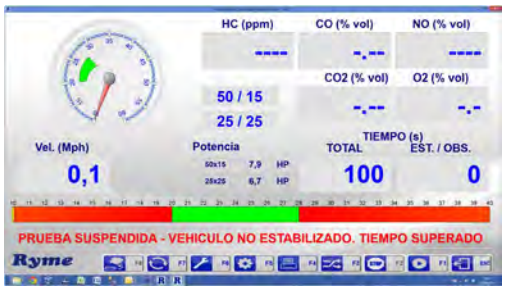
* Trolley not included in gas equipment

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 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

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

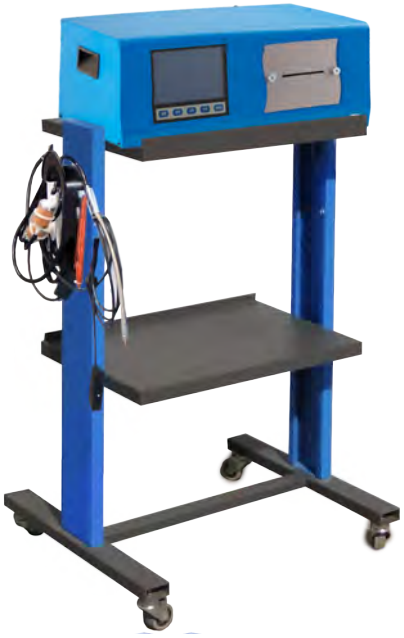
More Reliable & Precise
Improvement in the process of calibrating the main board Allows the adjustment of the weighing and force calibration to very precise values.

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 ºC a 70 ºC
Operating temperature	-5 ºC a 45 ºC
Oil probe temperature	-5 ºC a 150 ºC
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 ºC a 45 ºC
Ambient temperature	0ºC a 50 ºC, accuracy 1 ºC
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	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.