

GLOBAL ORGANIZATION - LOCAL SUPPORT

TESTING EQUIPMENT



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INTRODUCTION

YOUR NEEDS - OUR MISSION

In the rubber and tire industry yesterday's technology is being replaced by today's innovation for tomorrow's requirements. Amidst the turmoil of innovation there is, however, one constant:

VMI's commitment to supplying innovative and reliable services and equipment to the rubber and tire industry.

YOUR NEEDS - OUR CHALLENGE

VMI supplies millroom equipment and a complete line of tire manufacturing, tire curing and tire testing systems for bias and radial tires for cars, truck, utility and off-the-road vehicles. Our services range from financing through engineering and contracting projects. We also offer maintenance contracts and upgrade existing rubber and tire equipment. We work closely with clients to create customised solutions that meet their needs.

Rightfully VMI is known as the leader in millroom equipment and single-stage machines for radial car and truck tires.

YOUR NEEDS - OUR NETWORK

VMI's network of agents is constantly monitoring developments on local markets on all continents. Our R&D department collaborates with the leading international rubber research institutes and with key suppliers of commercial components. Our vast expertise and experience in rubber and tire production engineering enables us to respond rapidly to market developments and to specific needs of our clients.

For cost-effective systems that are tailored to your requirements, VMI is the company to work with.

YOUR NEEDS - OUR SERVICE

VMI's global organization includes spare-parts supply and servicing from our plants in the Netherlands, USA and P.R. of China. Our service departments are on call 24 hours a day to provide rapid on-site service.

VMI: a partner to rely on in the race against time - and your competitors!

ENDURANCE TESTER

FOR PASSENGER CAR & TRUCK TIRES



Designed for tire and wheel endurance testing, with optional camber adjustment.

- Free standing robust steel frame, not requiring a special foundation
- The modular machine setup can be configured for passenger car or for truck tires and for one or two test stations.
 - Passenger configuration; nominal speed 320 km/h, Load 25 kN (or high speed version 420 Km/h)
 - Truck configuration; speed 220 km/h, Load 100 kN
- Maintenance friendly design, all parts are easily accessible
- Precise load adjustment through servo hydraulics
- The user friendly, menu operated, control system is fully digital and operated by a real time test controller
- PC operated test system with numerous test control functions and possibility to load externally edited programs
- All tests are in compliance with the applicable DOT, ECE, SAE and other international standards
- Various optional testing features as shown in the "Options" section



FORCE AND MOMENT TESTER

FOR PASSENGER CAR & TRUCK TIRES

Specifically designed for advanced force and moment testing of passenger or truck tires. Tests in compliance to OE requirements.

The VMI F&M test machine is designed to do all kind of tire tests to measure the dynamic behavior of a tire under different slip and camber angles in a high dynamic way.

- High dynamic slip and camber adjustment
- 6 Component measurement hub, F_x , F_y , F_z , M_x , M_y , M_z
- Test speed up to 420 km/h
- Passenger version loads up to 25 kN
- Truck version loads up to 100 kN
- Robust, modular design
- High speed data collection and evaluation
- User-friendly programming of test procedure
- Menu structure can be customized
- Various options available



INDOOR TIRE TREAD WEAR TESTING MACHINE

FOR PASSENGER CAR TIRES

Specifically designed for Tire Tread Wear simulations of passenger tires. As tests can be performed in a laboratory environment tire tread wear can be determined faster and with a better repeatability than with conventional road tests.

Wheel load, acceleration and deceleration as well as tire movements can be simulated to reproduce the forces and moments a tire experiences on the road.

- High dynamic slip and camber adjustment
- Driven and braked tire spindle
- 2 Component measuring hub; F_z , F_y
- Lateral force control using the slip angle motion
- Passenger version load up to 25kN
- Test speed up to 250 km/h
- Fully hydraulic system
- Removable sector plates to quickly change surface texture
- Talcum powder supply and removal system
- High speed data collection and evaluation



SIX POSITION ENDURANCE TESTER

FOR PASSENGER CAR TIRES



Horizontally aligned road wheel, designed for tire endurance testing with up to six tires to be tested simultaneously.

- Designed for nominal speed 220 km/h, Load 25 kN (35 kN optional)
- The modular machine setup can be configured for up to six test stations
- Minimum floor space requirements
- Maintenance friendly design, all parts are easily accessible
- Independent testing stations with linear guiding systems, ensuring high precision and low friction testing
- Possibility for comparison testing of different tire designs
- Precise load adjustment through servo hydraulics
- Ergonomic tire loading and unloading
- The user friendly, menu operated, control system is fully digital and operated by a real time test controller
- PC operated test system with numerous test control functions and possibility to load externally edited programs
- All tests are in compliance with the applicable DOT, ECE, SAE and other international standards
- Various optional testing features as shown in the "Options" section



ENDURANCE TESTER

FOR AGRICULTURAL & EARTH MOVER TIRES



Designed for large size, heavy duty tires.

- Designed for nominal speed 100 km/h
Agricultural tires, load 120 kN
Earth mover tires, load 400 kN
- Free standing robust steel frame, not requiring a special foundation
- The modular machine setup can be configured for one or two test stations
- Maintenance friendly design, all parts are easily accessible
- Independent testing stations with linear guiding systems, ensuring high precision and low friction testing
- Possibility for comparison testing of different tire designs
- Precise load adjustment through servo hydraulics
- Ergonomic tire loading and unloading
- The user friendly, menu operated, control system is fully digital and operated by a real time test controller
- PC operated test system with numerous test control functions and possibility to load externally edited programs
- Various optional testing features as shown in the "Options" section



UNIVERSAL TIRE TESTER

FOR PASSENGER CAR & TRUCK TIRES

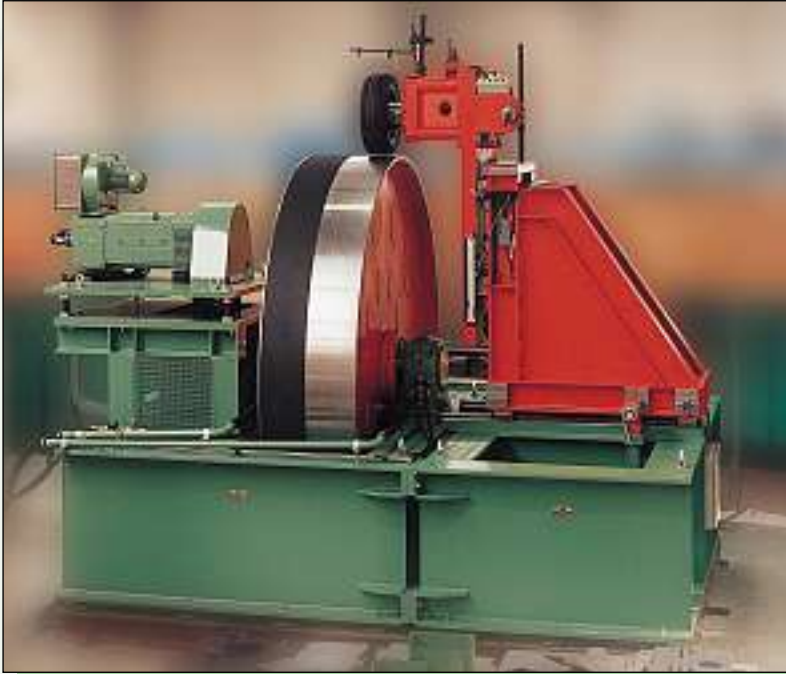


Designed for heavy duty static tire testing.

- Free standing robust steel frame requiring no special foundation
- Suitable for testing the following four distinct operational characteristics:
 - Load deflection (tire stiffness in three directions; x, y, z)
 - Bead unseating
 - Plunger energy
 - Footprints
- Minimum floor space requirements by combining the four test disciplines in one machine
- Maintenance friendly design, all parts are easily accessible
- Linear guiding systems, ensuring high precision and low friction testing
- Ergonomic tire loading and unloading
- The user friendly, menu operated, control system is fully digital and operated by a real time test controller
- PC operated test system with numerous test control functions and possibility to load externally edited programs
- Various optional testing features as shown in the "Options" section
- Note: a machine for bead unseating, plunger energy and footprint only, is also available (not shown here)

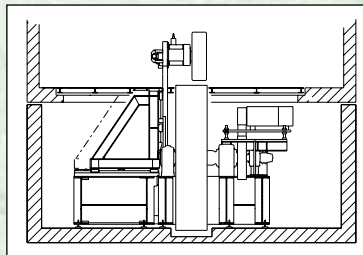
TIRE NOISE TESTER

FOR PASSENGER CAR & LIGHT TRUCK TIRES



Single position vertical noise tester designed to operate at a very low noise level to provide optimum conditions for the measurement of tire generated noise.

- Road wheel and drive motor are installed in a pit or lower level under the tyre load station to realize noise insulation from the anechoic room.
- Load 25 kN, speed 320 Km/h
- Extremely low level of noise generation by machine. Tire load is adjusted by low-noise servo motor.
- Excellent simulation and measurement of noise level generated by test tire
- Maintenance friendly design, all parts are easily accessible
- Testing station with linear guiding systems, ensuring high precision and low friction testing
- Ergonomic tire loading and unloading
- The user friendly, menu operated, control system is fully digital and operated by a real time test controller
- PC operated test system with numerous test control functions and possibility to load externally edited programs
- Various optional testing features as shown in the "Options" section



LABORATORY ABRASION AND SKID TESTER LAT 100



Laboratory tester for measurement of skid, traction, rolling resistance and wear resistance of (tread) compounds with a special disc simulation road conditions.

- Free standing compact tester, requiring no special foundation
- Sample is tested in the form of a small solid compound disc rotating on a road simulation disc. The test speed, disc surface, slip angle and load can be varied
- Infrared thermometer to measure the surface temperature of the test sample during the actual test run.
- Extremely economical testing procedure, reducing road tests to a minimum
- Short compound development time, due to quick test results
- Registration of test data is executed automatically by an industrial PC
- Special LAT-Explorer software for interpretation of test results
- Optional temperature controlled disc with ice service for testing winter tire compound and hot service for testing compounds under extreme conditions
- Maintenance friendly design, all parts are easily accessible



OPTIONS AND ACCESSORIES

	ETM	ETM H	FMTM	ETM A	UTTM	TNT
Slip adjustment			○			●
Camber adjustment	○		○	○		●
Lateral force measurement			○			
Rolling resistance measurement		○	○	○		
Tire deflection measurement	○	○	○	○	●	○
Tire stiffness measurement	○		○	○	●	
Tread temperature measurement	○	○	○	○		○
Ambient air temperature measurement	●	●	●	●	○	○
Tyre contained air pressure Indication and control	○	○	○	○	○	○
Tire circumference measurement	○	○	○	○		○
Footprint device	○		○	○	●	
Double road wheel width for two types of running surfaces						●
Calibration kit	○	○	○	○	○	○
Tread contact area ratio by CCD camera					○	

- ETM = Endurance tester for passenger & truck tires
- ETM H = 6 pos. endurance tester for passenger tires
- FMTM = Force and moment tester for passenger & truck tires
- ETM A = Endurance tester for agricultural and earth mover tires
- UTTM = Universal tire test machine
- TNT = Tire noise tester
- = Optional
- = Standard

**VMI SUPPLIES A COMPREHENSIVE
RANGE OF MACHINERY FOR RUBBER
COMPOUND HANDLING, MANUFACTURING
OF TIRE COMPONENTS, TIRE ASSEMBLY,
TIRE CURING AND TIRE TESTING
FOR THE PRODUCTION OF RADIAL
PASSENGER, LIGHT TRUCK, ALL STEEL
RADIAL TRUCK AND BUS AND OFF THE
ROAD TIRES.**

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