

RUBBER

Industry Product Guide

Preventive Maintenance and Calibration Program:

The IDM Preventive Maintenance and Calibration (PM&C) program has been designed to make the maintenance and calibration of your valuable testing equipment more cost effective by preventing breakdowns and downtime by regular calibration, service and replacement of defective parts. IDM's PM&C system takes care of all service and repair needs you may have. It is an on-site maintenance and calibration service available on a regular basis, suitable to your needs and your testing equipment.

The PM&C program is the best way to ensure your testing equipment is maintained in optimum working condition. PM&C team members are supplied with the necessary means to sustain your testing equipment's peak performance throughout its lifetime, benefiting both you and your equipment. Testing equipment in your facility (or at IDM) will be calibrated using industry-wide, internationally recognised standards or by your specific requirements. Calibrated instruments are labelled accordingly and documented with an IDM full calibration report or certificate of conformance (whichever is applicable). All calibrations are maintained in IDM's calibration database and you will be notified when your next service/calibration is due. IDM's Calibration work is comprehensive- adjusting your equipment to give you the right results, whenever possible.

Through this system of scheduled PM&C, IDM can help you improve productivity by reducing down time, minimising unscheduled maintenance and the need for service calls. We schedule in agreed dates and periods for the PM&C program, and give you prior notification so you have time to prepare yourself. This service is available in Australia only at this point of time.

IDM provides OEM services:

- Project development from concept to completion
 - Conceptual 3D modelling & precise manufacturing drawings to make your product come to life
 - Design individual components to complete machinery
 - Research & development project management
 - Over 50 years of experience designing customised instruments and machines
 - Designing production machinery & specialists in testing instruments
 - Cost-effective design simplification
 - Integrating numerous automation technologies such as pneumatic, hydraulic, servo drives, sensor technology, PC control, PLC interfaces, safety devices, linear motion etc.
 - Flexible in-house manufacturing utilising CNC lathe & milling machines, general machining, surface grinding & fabrication
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**7-in-1 Environment Meter
Model LM-9000**

A The LM-9000 is an all in one hand-held instrument to provide measurements for Air Velocity/Temp, Humidity/Temp, CFM, CMM, Dew Point, Wet Bulb, Wind Chill & Heat Index.



**Carbon Black Dispersion Tester
Model UD-3500**



The Carbon Dispersion Tester covers the degree of dispersion of carbon black in rubber. Via PC using the software program, users can store and print grey level analysis, dispersion and/or pixels diameter

**Cavity Sample Moulds
Model: D0004 (2 Cavities)
Model: D0005 (4 Cavities)**

The 2 and 4 cavity sample Moulds have been produced to fill certain requirements in the specification for vulcanising rubber as well as plastic.



**Clicker Press
Model: SE 25**



The Swing Arm Clicker Presses are used for a wide variety of die cutting applications. The most common uses are cutting soft to semi-rigid materials such as gaskets, leather, cork, rubber, elastic, foam and other like materials.

The SE 25 is completely hydraulic and is made of strong casting material to ensure powerful yet quiet running.

**Coefficient of Friction Testers
Model: C0008
Model: C0008-VS (Variable Speed)**



IDM's COF Testers determine the static and kinetic friction of sheeted materials and can measure Static COF (peak) from a resting position and continue to move testing surfaces in a relative motion to give an accurate kinetic COF (dynamic) result.

These units employ a stationary sled with a moving plane. With the option of a computer software package to record data, IDM's COF Testers have proven to be fast, reliable and accurate instruments to determine coefficient of friction in various areas of manufacturing.



Compression Tester, 65 Tonne Model C0011

The 65 Tonne Press is easy to use with an electric hydraulic pump with a vertical above mounted cylinder. Designed for various compression tests it comes fitted with load cells to measure the load applied. Having a large work area, this machine is adaptable to many applications.

Cutting Dies - Tool Steel C0024 Series

Tool Steel Cutting Dies are used for the cutting of plastics, paper, textiles and rubber samples. They can be used along with IDM cutting presses for sample preparation.



Cutting Dies – Ruler Type Model: C0025

Ruler Type Cutting Dies are used for cutting of plastic film, paper and rubber samples used for tensile and tear testing (dumbbell, trouser, etc). They are manufactured with a ply backed knife-edge, and can be manufactured to suit various international test standards.

Cutting Presses – Pneumatic

Model: C0050-3 (3 Tonne)
Model: C0050-10 (10 Tonne)

IDM's Pneumatic Cutting Presses are used for sample preparation of various different sized test pieces. Tool Steel and Ruler Dies can be used and interchanged with ease.



The Pneumatic Cutting Press is one of the easiest and versatile cutting presses to operate on today's market. It is compact in size and fits onto a work table to conserve work space and is available in stainless steel for clean room environments.



Cutting Templates – Stainless Steel Model: C0034

Manufactured from stainless steel with an easy to grip handle to provide a consistent cut out shape for example; Coefficient of friction testers, Colour fastness tester, etc.

**Din Abrader
Model D0008**

The Din Abrader is primarily for use in determining the resistance of vulcanised rubber to abrasive forces using a cylindrical type drum. It may however be used to determine the resistance to abrasion of other types of materials such as certain plastics. A cylindrical shaped test piece is abraded across a surface of known abrasiveness for a defined distance under a certain load.



**Wet Din Abrader
D0008-W**

The Wet Din Abrader determines the resistance of rubber to abrasion using a cylindrical drum device. It is manufactured from Stainless Steel to enable it to be used with water. The method involves determining the volume loss of a rubber through abrasion, by rubbing over a specific grade of abrasive cloth.

**Dry Bath Aging Block
Model D0001**

The Dry Bath Aging Block is used for determining the long-term effects of elevated temperature on various materials like rubber, plastics, textile etc. Samples are placed in glass tubes. The 24 holes for insertion of the tubes are 38mm by 280mm.



Durometers

IDM supply a range of analogue and digital Durometers which are designed to measure the hardness of materials including rubber and plastic. Durometers consist of 3 types: Type A for medium hardness, Type B for high hardness and Type E for low hardness.

Constant Pressure Load set-ups include a Durometer and stand, which utilizes a stepper motor driving system for more precise testing.

**Dynamic Fatigue Tester
Model UD-3800**

Provides complete testing solutions for various types of materials and component analysis. Features configurable technical specifications, protective fenced cage and electrical safety system.





Dynamic Testing System Model UD-3800XYZ

Performs intensive fatigue testing on specimens with three-axis force application (horizontal, vertical and torsional). Multi-axis testing significantly reduces testing time.

Filler Dispersion Grader Model FDG-A1

This instrument provides visual as well as automatic analysis for rapid, comparative, and quantitative assessment of fillers dispersion in rubber, which may affect many properties including abrasion resistance, tensile strength, tear strength, and fatigue resistance. This instrument essentially ensures the quality of mixing and helps optimizing your compounding cycle.



Force & Torque Gauges

IDM offer a wide range of digital force and torque gauges, grips and accessories which suit a variety of industries around the world, including rubber, medical, pharmaceutical, packaging, automotive, consumer products, aerospace, food and beverage and more.

Heated Laboratory Press L0002 & L0003 Series

For applications including moulding rubber, plastic and composites, IDM's Laboratory Presses are designed for pressing or helping to form samples between two heated platens. Two digital temperature controllers enable the platens to be heated or cooled and even set process times for heating and cooling. A digital panel meter is used to display the compression force (kgf) enabling fast and accurate operation.



Mooney Viscometer Model UM-2050

The UM-2050 is an advanced Mooney Viscometer, operated via PC using the specially designed software program to provide curves and values of mooney viscosity, scorch time, and stress relaxation time.

Ozone Test Chamber Model UA-2074

The Ozone Test Chamber consists of one main unit and a sub-unit. The main unit is inclusive of the operational panel, ozone generation module, ozone detection module, air flow module, cooling compressor, testing chamber, activated carbon cylinder, electro-mechanical system. The sub-unit is equipped with an IBM compatible PC, monitor and printer.



Ozone Testing Chamber For Tyres Model UA-2074TR

This machine simulates various temperatures, humidity levels and ozone concentrations

Permeability Cups - Vapometers

Used to determine the water vapor permeability of sheeted materials such as specialty paper grades, polyethylene, leather, vinyl, foil, laminates etc. Essential in determining if a material is moisture proof or has the ability to protect contents from the transmission of water vapor.



Rebound Resilience Elasticity Tester Model UA-2207

Used to determine resilience elasticity of elastomers, soft elastic foams and similar during shock loading calculation of median value. The resilience elasticity is defined as the ratio of the regained energy in relation to the applied energy. This ratio of energy corresponds with the quotient of the height of the resilience and the height of the drop of the pendulum.

Rheometer - Oscillating Disc Model UR-2070

The Oscillating Disc Rheometer has been specially designed to test silicone rubber. It features touch panel controls, and also U-CAD software program operated via a PC.





Rheometer - Premium Model MDR-A1

The Premium provides in-depth scorch and optimum cure time analysis. The mis-compounding system determines possible causes for failed compounds.

Rheometer - Rotorless Model UR-2010 (die chamber without seal) Model UR-2010SD (die chamber with upper & lower seals)

Rotorless Rheometers have been specially designed to test silicone rubber. With VCH software, the accuracy of die oscillating frequency and torque transmission can be checked automatically.



Rheometer - Rubber Process Analyzer Model MDR-U6S

The Rubber Process Analyzer Rheometer is designed to automatically provide various cure data and graphical curves via PC.

Rub Proof Tester Model: I0005

Used to evaluate the ink transfer from printed/coated materials from rubbing.

Dead loads are placed on top of the upper disc to achieve a known pressure. Sample holders are manufactured to enable dry or wet rubs and a digital cycle counter stops the test at the pre-set value.



Steel Cord Gas Tightness Tester Model SPM-SGC

Used to determine the cord elastomeric compound penetration and actual condition of the steel-cord coating and penetration with core rubber and the corrosion protection of the steel-cords embedded in a conveyor belt.

Thickness Gauge - Deep Throat Model: T0021

The Deep Throat Gauge has been specifically designed for measuring thickness at a greater distance from the samples edge.



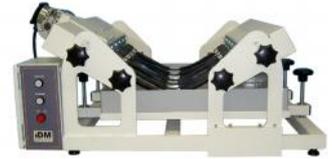


Thickness Gauges - Hand Held Series T0014 Series

Handheld Thickness Gauges can be used on many different materials where an accurate measurement of thickness is required. Different models are available depending on weight and contact point required.

Torsion Bending Fatigue Tester Model SPM-TBF

The Torsion Bending Fatigue Tester determines the water tightness as well as the corrosion resistance of the steel cords in the conveyor belts, at the same time. The Torsion Bending Fatigue Tester requires the steel cords to be opened during testing; therefore delivering information on the rubber penetration and the rubber coating of the steel cords.



Tyre Plunger & Bead Unseating Tester 50kN Model UP-2091

This machine conducts plunger tests and bead unseating tests, showing values at selected points on displayed curves. Results for plunger energy, strain, force, testing time and average of plunger energy can be stored or exported to excel, pdf formats etc.

Universal Static Tyre Testing System Model UP-2092

With modularized design to suit up to thirteen different testing functions, this machine operates via PC & software which provides automatic data analysis. Machine performance is approved by globally renowned tyre manufacturers.



Tensile Strength Tester 2,000kg Capacity Model UT-2080 (with extended safety options)

Run via PC, software provides automatic data analysis. With 2,000kg capacity, various fixtures and load cells are available. The unit can be equipped with safety fenced cage (pictured) which provides a protective viewing window and electrical circuit safety system.

Tensile Strength Tester 25,000kg Capacity Model UT-3700

Performs tension, compression, tear, adhesion, shear strength and bending tests for special rubbers, metals, conveyor belts, continuous tracks and more.
Run via PC with proprietary software to provide automatic data analysis.



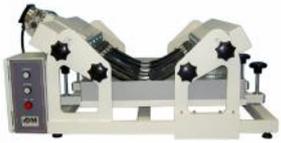
Voltage Touch Meter Model VTM

With the touch of a finger, Voltage Touch Monitor can be reliably used to warn and educate those who work in the most static-sensitive environments, including areas in which a fraction of a volt is critical. When used to verify the operation of wrist straps and conductive footwear, it detects problems in the *entire* system. This includes unexpected bad ground plugs, bad floor conductance, voltage transients or AC that may be present from the air near ionizers or from contact with equipment that has a ground fault.

Voltmeter - Ultra Stable Surface DC Model USVM

The Ultra Stable Volt Meter is a chopper-stabilized (rotating) sensor meter with a remote sensor head at the end of a 100 cm long flexible cable. It measures down to 1/10 volt on a surface, and up to 20 000 volts (20 kV). The Ultra Stable Volt Meter is a non touch voltage meter. This means a reading can be obtained without touching the surface of the sample being tested.





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