

RESEARCH POLARIZING MICROSCOPES



RPL-Series



RPL-55



RPL-55B



RPL-55T

Research Polarizing Microscope is a principal piece of equipment used by the geologists to observe the optical properties of minerals. It has indispensable applications for Petrography, Crystallography, Geology, Mineralogy, Ceramics, Toxicology, Chemical Microscopy or detecting defects in semiconductors or finding stress points in metal, glass and textiles, etc. It permits orthoscopically or conoscopically to examine and identify the structures and Characteristic of material with highly resolved distinctive images under various magnifications.

RPL-55 ADVANCED RESEARCH MONOCULAR POLARIZING MICROSCOPE

Focussing : Co-axial focussing is provided with coarse tension adjustment ring and graduated slow motion knobs. Adjustable safety lock is attached to prevent the breakage of specimen slides.

Compact ball-bearing rotating stage, 140mm diameter, graduated with vernier, lock and stage specimen clips.

Compensator : Gyps 1λ (1st order red compensating plate, 560 nanometers) Mica $1/4\lambda$ (145 nanometers) and Quartz Wedge (I-IV order)

Built-in focussable Bertrand lens with center adjustable. Built-in analyzer removable from optical path. Analyzer can be rotated 90° with a vernier reading to $6'$. Compensator 1λ , $1/4\lambda$ and Quartz Wedge can be inserted in the tube as per requirement. Fully rotatable Polarizer on a strain free N.A. 1.25 abbe condenser with iris-diaphragm.

Illuminator : Koehler's illuminator with pre-centred 20W tungsten halogen source and integral electric transformer with intensity control is concealed inside the base. Input voltage 220 or 110 Volts.

Supplied complete in a box with following optical combination.

Plan Objectives : PF 4x / 0.10, PF 10x / 0.25 and PF 40x / 0.65 SL

Eyepieces : HKW 10X (Paired) and WF 10x Cross.

RPL-55B ADVANCED RESEARCH BINOCULAR POLARIZING MICROSCOPE

Technical specifications are same as per Model RPL-55, but supplied with adjustable Binocular Observation Head and following optical combination.

Plan Objectives : PF 4x / 0.10, PF 10x / 0.25 and PF 40x / 0.65 SL

Eyepieces : HKW 10X and WF 10x Cross.

RPL-55T ADVANCED RESEARCH TRINOCULAR POLARIZING MICROSCOPE

Technical specifications are same as per Model RPL-55B, but supplied with adjustable Trinocular Observation Head and following optical combination.

Plan Objectives : PF 4x / 0.10, PF 10x / 0.25 and PF 40x / 0.65 SL

Eyepieces : HKW 10X (Paired) and WF 10x Cross.

Accessories : Vinyl Cover, Duster, Cleaning Brush, Filter, Spare Bulb, Spare Fuse and Operating Instruction Manual.

Packing : In full mould Styrofoam / Thermocol Container / Storing Box.

Optional Accessories : Detachable Mechanical Stage, Objectives PF 20x and PF 60x. Micrometer Eyepiece WF 10x. Micro-photographic Equipment, Wooden Storing Cabinet, Aluminium Storing box with lock and key, etc.



ORE MICROSCOPES (Polarizing Microscopes with reflected illuminator)

ROM-Series

ROM-11 LABORATORY ORE MICROSCOPE

Monocular inclinable body having coarse and graduated fine motion knobs, bright-field reflected light incident illuminator consists of polarizing unit, sub-stage illuminator, circular cantering rotatable stage with calibration. Built-in slide out analyzer, λ -Gypsum Plate, $\lambda/4$ -Mica Plate and focussable Bertrand lens. All slides are locked into the tube and can be inserted in the optical path as per requirement. Abbe Condenser with polarizing mount graduated to 360° , analyzer provided in a slide along with Bertrand lens, mica and gypsum plates.

Supplied with following Optical combination in thermocol/full mould box.

Objectives : 04x, 010x and 040x

Eyepieces : WF 10x, and H10x Cross

ROM-22 INCLINED ORE MICROSCOPE

Monocular inclined microscope having precise coarse & fine motion system, circular graduated stage equipped with built-in focussable Bertrand lens with centre adjustable. Built-in analyzer removable from optical path. Analyzer can be rotated 90° with a fine vernier reading. Compensator λ and $\lambda/4$ can be inserted in the tube as per requirement, alongwith reflected light incident illuminator consists of polarizing unit and special sub-stage transmitted illuminator and variable light control transformer. Supplied with following optical combination in thermocol/full mould box.

Objectives : 04x, 010x and 040x

Eye piece : WF 10x, (Paired) and H10x Cross

ROM-33 BINOCULAR MICROSCOPE

Binocular Inclined Microscope having precise coarse and fine motion system, circular graduated stage equipped with built-in focussable Bertrand lens with centre adjustable. Built-in analyzer removable from optical path. Analyzer can be rotated 90° with a fine vernier reading. Compensator λ and $\lambda/4$ can be inserted in the tube as per requirement, alongwith reflected light incident illuminator and special sub-stage transmitted Koehler's illuminator and variable light control transformer. Supplied with following optical combination in thermocol/full mould box.

Objectives : 04x, 010x and 040x

ROM-44 TRINOCULAR ORE MICROSCOPE

An advanced Model of Ore Microscope most suitable for photomicrography and CCTV observations. Having Precise Coarse & fine motion system, circular graduated stage equipped with built-in focussable Bertrand lens with centre adjustable. Built-in analyzer, removable from optical path. Analyzer can be rotated 90° with a vernier reading. Compensator λ and $\lambda/4$ can be inserted in the tube as per requirement, alongwith reflected light incident illuminator and variable light control transformer. Supplied with following Optical Combination in thermocol/full mould box.

Objectives : 04x, 010x, and 040x

Eyepieces : WF 10x (paired) and H10x Cross



ROM-11



ROM-22



ROM-33



ROM-44

COMPARISON MICROSCOPES



RCM-Series



RCM-505

RCM-505 FORENSIC COMPARISON MICROSCOPE

Recommended for comparative study of bullets, cartridge cases etc. and in criminal investigations, where the uses of this microscope are very many. It is equipped with a special vice type mechanical stage to accommodate objects of small diameter, like hair, fibre bullets, coins, industrial/engineering materials etc. Special replaceable attachment has also been provided to hold materials like notes, cartoons, stamps, finger prints etc.

Supplied with the following optical combination, in a wooden storing cabinet.

Semi Plan Objectives : M4x, M10x and M40x

Eye Piece : WF 10x

RCM-505T All technical specifications are same as per Model RCM-505 but supplied with adjustable Trinocular Observation Head.



RCM-555

RCM-555 METALLURGICAL COMPARISON MICROSCOPE

This microscope has been designed for quality control, to compare the standard sample with the one in production, its major applications are in industries pertaining to Dies, Tools, Cutters, Blades, Wires etc. It is a multi-integral precision instrument of high performance of fullest versatility for visual observation. Sub-stage lights are provided for transparent specimen. The two images of the objects can be observed in same field of view. Supplied with the following optical combination, in a wooden storing cabinet.

Semi Plan Objectives : M4x, M10x and M40x

Eye Piece : WF 10x

RCM-555T All technical specifications are same as per Model RCM-555 but supplied with adjustable Trinocular Observation Head.



RCM-22

RCM-22 ADVANCED FORENSIC COMPARISON MICROSCOPE

This microscope is for Crime Scene Investigation and Forensic Science. Analyze and Compare Bullets, Bullet Cartridge Casings, Scratch Marks, Wires, Fibre, Hair, and Paint Fragments. Polarization Capable: Includes both Polarizer and Analyzer for viewing under Cross Polarization Conditions. Two Separate Specimens can be Studied Simultaneously with a Split Screen Viewing. The Comparison Bridge brings Both the Beam Paths together. The two Images of the Objects under Examination can be Observed in the Field of View in Multiple Ways. They can be Observed together, Side-By-Side, Separated by a Thin Line that can be Moved to Either Side Allowing More or Less of Either Object to be Viewed. On the Extremes, the Field of View can show Only the Left Object or Only the Right Object. The Viewing also has the Capability to Overlap the Images, as well as Control the Amount of Overlapping. Includes Two Photo Ports, One for Still Camera and One for CCD Video Camera!

ACCESSORIES FOR COMPARISON MICROSCOPE MODEL RCM-505 & 555 SERIES

CM-1 Micrometer Slides 1/100 & 10/100
CM-4 Semi Plan Objectives : 3x, 20x and 60x
CM-6 Halogen Bulb 6V / 20 Watts

CM-2 Polarizing attachment
CM-5 Aluminium Storing Box
CM-7 Photomicrography equipment

RADICAL Instruments

E-mail : microscopes@vsnl.com, Website : www.radicalindia.com **30**



PROFILE PROJECTORS

RPP-Series

RPP-12 PROFILE PROJECTOR

For accurate magnification, maximum luminosity, great contrast, uniform resolution to the edge of the screen, freedom from distortion of the images. It is supplied with standard lenses with magnification 25x and 50x for contour projection. The maximum visible part of the object on the screen are 112mm and 5.6mm respectively. The screen size is 330mmx380mm (13"x15"). The maximum diameter and length of work accommodated on the stage are 40mm x 150mm respectively. It is having wooden storing cabinet with lock and key for safe custody of lenses etc. The height and weight of the instrument is approximately 1448mm (4'-9") and 68 kg respectively optional available magnification 10x.

RPP-12A SENIOR PROFILE PROJECTOR

All technical specifications are as per Model No. RPP-12 but having micrometer measuring system. Stage size 125x125mm & L.C. 0.01 mm.

RPP-150 PROFILE PROJECTOR (Screen Size 150mm)

A dual purpose instrument having halogen projection bulb 12Volt / 100 Watt workable on 220Volt AC. Equipped with an efficient cooling fan inside, 150mm diameter built-in fine grain glass screen, which is removable to take image on the wall or screen giving a screen magnification of 50x. Cross Travel Stage size 125x125 mm. Table Travel upto ϕ 25 mm, Micro-Head Standard 0-25mm, least count 0.01 mm. Rotary Measuring Stage Glass ϕ 62mm. Vertical focussing by rack and pinion. The light source with halogen lamp offers increased contrast, extended life span and improved edge resolution. Lamp is cooled by a silent cooling fan. Light intensity control system allows different intensities as per requirement. Supplied complete

RPP-250 PROFILE PROJECTOR (Screen Size 250mm)

Compact light weight Table Top with easy operations. 250mm diameter screen with 90° cross line and chart holders. Screen is graduated to 360° with vernier reading 6 minutes. Projection Light Source with 24V / 150W Halogen Lamp. Double Oblique Light Source for Surface Illumination. Two adjustable dichroic reflector lamps 12V / 100W each. Focussing can be adjusted manually by hand knob. High Quality objective lenses. Optical distortion below 0.15%. Standard magnifications : 10x, Optional : 20x and 50x. Cross Travel Stage size 125x125 mm. Table Travel upto 35x35 mm (with the use of Gauge Blocks) Micro-Head Standard 0-25mm, least count 0.01 mm. Rotary Measuring Stage Glass ϕ 62mm. Vertical focussing by rack and pinion. Measurements available through Manual or optional Digital Micrometers. Cooling by built-in noiseless & vibration free fan. Available in 110V & 220V through low voltage transformers. Supplied complete with vinyl cover, bulb, fuse, operating instruction manual etc.



RPP-12



RPP-150



RPP-250

31 E-mail : microscopes@vsnl.com, Website : www.radicalindia.com

RADICAL Instruments

PROFILE PROJECTORS



RPP-Series



RPP-3000

RPP-3000

PROFILE PROJECTOR (Screen Size 300mm)

Standard Features :

Compact light weight Table top with easy operations. 300mm diameter screen with 90° cross line and chart holders. Screen is graduated to 360° with vernier reading 6 minutes. Projection Light Source with 24V / 150W Halogen Lamp. Double Oblique Light source for Surface Illumination. Two adjustable dichroic reflector lamps 12V / 100W each. Focussing can be adjusted manually by hand wheel. High Quality objective lenses. Optical distortion below 0.15%.

Standard magnifications : 10x, Optional : 20x, 50x and 100x. Measurements available through Manual or Digital Micrometers. Optional Work Tables for Micrometer Heads and for linear scales. Cooling by built-in noiseless and vibration free fan. Available in 110V or 220V through low voltage transformers. Supplied complete with operating instruction manual. Optional Cabinet base metal stand.

RPP-3000DM

Profile Projector with Digital Micrometer

RPP-3000DR

Profile Projector with D.R.O. & Aluminium Stage

RPP-3000DRS

Profile Projector with D.R.O. & Stainless Steel Stage

RPP-3000DRSW

Profile Projector with D.R.O. & Software

RPP-3000DP

Profile Projector with Data Processor



RPP-350

RPP-350

PROFILE PROJECTOR (Screen Size 350mm)

Standard Features :

Compact light weight Table Top with easy operations. 360mm dia. screen with 90° cross line & chart holders. Projection Light Source with 24V/150W Halogen Lamp. Double Oblique Light Source for Surface Illumination. Two adjustable dichroic reflector lamps 12V / 100W each. Motorised Focusing with 60mm focusing range. High Quality objective lenses. Optical distortion below 0.15%.

Standard magnification : 10x, Optional : 20x, 50x and 100x. High Quality European made objective lenses, Optical distortion below 0.1%. Optional Work Tables for Micrometer Heads & for linear scales with Digital Readout. Cooling by built-in noiseless and vibration free fan. Available in 110V & 220V through low voltage transformers.

Supplied complete with operating instruction manual. Optional Cabinet base metal stand.

RPP-350DM

Profile Projector with Digital Micrometer.

RPP-350DR

Profile Projector with D.R.O. & Aluminium Stage

RPP-350DRA

Profile Projector with D.R.O. & Angular Protractor

RPP-350DRS

Profile Projector with D.R.O. & Stainless Steel Stage

RPP-350DP

Profile Projector with Data Processor



PROFILE PROJECTORS

RPP-Series

FLOOR MODELS WITH DUAL ILLUMINATION

RPP-33 PROFILE PROJECTOR

Standard features : Antiglare hard glass screen, graduated & rotatable through 360° having least count 1 minutes of an arc. Provided with four slips to hold overlay charts and drawings. Mirrors are optically true with surface hard coated to ensure optimum light reflection for best image contrast, long life and edge to edge sharpness on the projection screen. Contour illumination is provided with a 24V/150W halogen lamp having a built in condenser system. The illumination can be adjusted through a solid state transformer. A specially designed 12V/100W halogen light ensures uniform surface illumination system for the above. This provides shadow less light on the optical axis for inspection of cavities etc. Main input 220-240 volts AC having built in transformers, On-Off Switch, variable intensity controller for both illumination system, indicator and glass tube. Projection accuracy $\pm 0.1\%$ for contour illumination and $\pm 0.15\%$ for surface illumination.

Technical Specifications : Screen size 350mm & work stage over all size 150mm x 150mm. Lenses 10x Objective (Standard), Cross movement : 50mm x 50mm (without measuring units), Measurements by standard micrometer heads 0-25mm & least count is 0.01mm.

RPP-44 PROFILE PROJECTOR

Standard features : Same as above Model RRR-33, Technical specification are given below for Model RPP-44.

Technical Specifications : Screen size 500mm & work stage over all size 300mm x 200mm, Lenses 10x Objective (Standard), Cross movement : 150mm x 100mm (without measuring units), Measurement by fine zero adjustment micrometer head 0-50mm. having least count is 0.001mm.

Supplied complete as above, with standard multilayer coated objective, spare bulb, a vinyl cover and operating instruction manual.

OPTIONAL ACCESSORIES : Objectives 20x and 50x, V-Block with clamp, Swivel Center Support Holder, Digital Readout System, Digital Protractor, Work Stage, Calibrated Glass Scales, Standard Overlay Charts etc.

ACCESSORIES FOR PROFILE PROJECTORS

- PP-4 10x magnification for RPP-12/12A
- PP-4 Objective 20x, 25x or 50x for RPP-250
- PP-5 Objective 20x or 25x or 50x (RPP-3000)
- PP-5A Objective 100x for RPP-3000
- PP-6 Digital Micrometer (Set)
- PP-7 DRO System (Least Count 0.001 mm)
- Data Processor
- Profile Charts (for Radius and Protractor)
- X - Y Stage Size 200 x 300mm with Micrometer Head of 50mm
- PP-9 Digital Protractor (Angular) Readout System
- PP-1 Centre Holding Device
- PP-2 V Block
- PP-3 Vee Support
- Stainless Steel Stage
- CimPROJ Dimensional Measuring Software Package alongwith compatible Computer System



RPP-33



RPP-44

TOOL MAKER'S MICROSCOPES



RTM-Series



RTM-500

RTM-500 RADICAL TOOLMAKER'S MICROSCOPE

It is an ideal measuring instrument for simplifying inspection and precision measurement of diameter, forming tools, gauges as well as template checking of threads and angles. specially recommended for Technical Institutions

TECHNICAL SPECIFICATIONS :

Eyepiece	:	WF 10x (with cross) and WF 10x (with micrometer)
Objectives	:	2x - 3x - 5x
Field of view	:	6mm - 3.5mm - 2mm
Magnifications	:	20x - 30x - 50x

MEASURING STAGE : 125mmx125mm with interchangeable intermediate table to receive different optional accessories. Equipped with micrometer head 0-25 mm reading 0.01 mm, life long smooth movement is assured by the incorporation of hard steel rolling balls both in longitudinal and transverse slides. Rotary Measuring stage dia 130mm is mounted on the table with 55mm glass aperture, circular graduated scale is divided into 360° with both side vernier reading 5 minutes.

OBSERVATION TUBE : Monocular inclined at 45° fitted with Gonio-metric head graduated 360°.

ILLUMINATIONS : Two possible range of illuminating systems are provided with standard equipment to meet every application, operated through 6 volts solid state variable light control built-in transformer.

- Sub-stage transmitted light from a bottom source providing collimated green filtered light for viewing contours and transparent objects.
- Surface incident illuminator for examination of opaque objects.



RTM-900

RTM-900 RADICAL TOOLMAKER'S MICROSCOPE

It is an ideal measuring instrument for simplifying inspection and precision measurement of diameter, forming tools, gauges as well as template checking of thread and angles.

STANDARD SPECIFICATIONS : Total Magnification 30x, Objectives 2x, Eyepiece 15x (with cross) Working distance 65mm, Field of View 6mm.

OBSERVATION TUBE : Monocular inclined at 30° stand. Large and heavy base provides extra overall rigidity to the instrument.

MEASURING STAGE : 150mm x 150mm assembled on ball bearing guides to provide accurate and smooth travel upto 50mm in each direction with the use of gauge blocks having micro-head standard 0-25mm, least count 0.01mm.

EYEPIECE PROTRACTOR : Graduated in 360° with adjustable vernier reading to 6 Min. is coupled with monocular ocular tube for smooth angle measurement.

ILLUMINATION :

- Sub-stage lamp provides transmitted light from a bottom source providing collimated green filter Halogen light.
- Oblique illuminator with adjustable inclination for surface illumination of sample with relief structure, is also provided. Three separate knobs for different illumination is provided with variable light control on the front panel. Optional - LED uniform illumination system for cool long life.



LARGE TOOL MAKER'S MICROSCOPES

RTM-Series

LARGE TOOLMAKER'S MICROSCOPES : is well suited for measuring dimensions and angles of machined parts. It can also be used to check shape, sizes of screws and gears by observing through recticles eyepieces. The compact microscope makes it ideal for use on shop-floors and quality control departments having limited space different pattern recticles are available on request.

RTM-99 RADICAL LARGE TOOL MAKER'S MICROSCOPE

Large Toolmaker's Microscope base provides extra overall rigidity to the instrument. 300 x 200mm sized stage assembled on ball bearing guides for accurate & smooth strokes, having coarse and fine motion adjustments. Observation Tube : Monocular, inclined at 30 degrees coupled with graduated eyepiece protractor.

Base	:	Large and heavy base provides extra overall rigidity to the instrument size 350mm x 250mm.
Stage	:	300mm x 200mm size X-Y table, assembled on ball bearing guides to provide accurate and smooth travel upto 100mm x 50mm. Glass plate size 200mm x 100mm.
Illumination	:	Sub-stage lamp emits transmitted light from a bottom source equipped with collimated green filter halogen light. Oblique illumination through circular fluorescent light / LED illumination.

Objective : 2x achromatic.

Eyepiece : WF 15x with cross reticle. Micrometer : 0-50mm Micrometer Heads, LC 0.001 mm (1 micron)



RTM-99A with Accessories

RTM-99A RADICAL LARGE TOOL MAKER'S MICROSCOPE WITH DRO : All technical specifications are as per Model RTM-99, but fitted with two-axis **Digital Readout System** having least count of one micron 0.001mm, Cross movement 100mm x 50 mm.

ACCESSORIES FOR TOOL MAKER'S MICROSCOPES RTM - Series

- TM-1 Centre Holding Device :** For measuring pitch diameter and other workpieces which has center holes.
TM-2 V Block : For measuring round bars and other work-pieces without center holes. Set of 2 nos. with clamps, size 24x16mm.
TM-3 Holder with Clamp : For clamping light and rather thin workpieces on the stage glass.
TM-4 Vee Support : With spring clamps for inspection of parts without centres or counter bores.

MEASURING EYEPIECES WITH RECTICLES

ME-1 Metric Coarse Thread 0.25 to 1.0mm	ME-2 Metric Coarse Thread 1.25 to 2.0mm	ME-3 Concentric Circle 0.05 to 4mm
ME-4 55° Angle	ME-5 60° Angle	ME-6 Whitworth Thread 60-26 TPI
ME-7 Whitworth Thread 24-18 TPI	ME-8 Measuring Micrometer Eyepiece	ME-9 Stage Micrometer 10/100 parts

TM-11 TWIN SPOT LIGHT OBLIQUE ILLUMINATION :

With adjustable inclination for surface lighting of samples and relief structure can also be fitted as optional.

TM-12 DEPTHSCOPE ATTACHMENT : can be provided with the microscope. It is useful for depth measurement by optical means without physical contact with the specimen. Dial gauge mechanism is coupled with the fine focus control of the microscope.

TM-13 Spare Objectives : 1x, 2x, 3x, 5x, 10x, 20x & 40x

TM-13A Eyepieces : WF 10x, WF 15x & WF 20x

TM-14 Digital Micrometer Heads : Range 0-25mm. The Digimatic Micrometer Heads provide easiest and most efficient means of obtaining precision on measurement of linear travel on x-y stage. Extra large LCD readout with 0.001mm (one micron) resolution, having inches/mm mode, zero - setting functions etc.

TM-14A Digital Micrometer Heads : Same as TM-14 but **Range 0-50mm.**

TM-15 CCD Camera : High quality color USB 2.0 PC digital image system for Tool Maker's Microscopes. 1280x1024 clear images with high resolution. 0.5x reduction lens built-in already. Making measurement across microscope images with the software included. Capturing, Saving, Editing & E-mailing your images on PC screen. Save the images in different files like BMP, TIFF, JPG, PICT, PTL etc. Adapters included for 23mm, 30mm and 30.5 mm eye tubes. User friendly software, very easy installation and USB connection.

TRAVELLING MICROSCOPES / SPECTROMETERS



RVM-Series



RVM-201

TRAVELLING MICROSCOPES : are designed to meet the requirements of Research, Colleges, Schools and Industrial laboratories. They are used for accurate measurement of the diameters of different objects. They are also used in Physics Laboratories for more accurate determination of small variation in the liquid levels, Manometers, the refractive index of liquids as well as in surface tension & viscosity experiments.

The travelling microscope consists of a cast iron base with machined vee-top surface and is fitted with three levelling screws, one being fixed the microscopes can travel Horizontally 22 cm. and vertically 15 cms. with the help of slides. Two slow motion knobs are provided for taking accurate readings. Vernier readings 0.01 mm. or 0.02 mm. Microscope tube consists of eyepiece 10x with 15 mm. or 75 mm. Objective . For placing objects on horizontal stage, made of milky cenolite sheet is provided on the base.



RVM-202

RVM-201 TRAVELLING MICROSCOPE

Having movement horizontally and vertically with stainless steel and vernier reading to 0.01 mm.

RVM-202 Technical specifications are same as above but fitted with Micrometer head controlling the movements.

RVM-203 SIX POSITION VERNIER MICROSCOPE

Linear microscope is a light instrument designed for use in School and College Laboratories for demonstration and measuring purpose. Microscope travel 17 cm. divided in half millimeter vernier constant 0.02 mm. or 0.01 mm. Complete in wooden box.



RSP-601

SPECTROMETER : are used for the determination of measurement of Prisms angle refractive index of the Prism material determination of wavelength and frequency of emitted light. This is a robust instrument designed specifically for student educational use; Equipped with a heavy metal base for stability and an adjustable prism table, marked with grooved lines, Main graduated scale of 150mm or 175mm diameter is fixed, double ended verniers reading to 30 seconds, of an arc having rotary movement. The telescope is mounted on a movable pillar having fine adjustments along its axis. Collarimeter is mounted on a fixed pillar having objective, Eyepiece and Rack Pinion fine focussing.

RSP-601 SPECTROMETER 6" CIRCLE, 1 minute of an arc, vernier readable by two opposite verniers. Complete in plywood cabinet.

RSP-630 SPECTROMETER 6" CIRCLE, 30 seconds of an arc, vernier readable by two opposite verniers. Complete in plywood cabinet.

RSP-701 SPECTROMETER 7" CIRCLE, 1 minute of an arc, vernier readable by two opposite verniers. Complete in plywood cabinet.

RSP-730 SPECTROMETER 7" CIRCLE, 30 seconds of an arc, vernier readable by two opposite verniers. Complete in plywood cabinet.

RSP-720 SPECTROMETER 7" CIRCLE, 10 seconds of an arc, vernier readable by two opposite verniers. Complete in plywood cabinet.



RSP-630



SHOP MICROSCOPE & MEGNASCOPE

ROM/RBM-Series

ROM-100

SHOP MICROSCOPE

This microscope is a precision workshop instrument. The light source is adjustable on a swivel. The reticle can be focussed by moving the eye piece lens up or down. The object is focussed by rack and pinion movement. It is inexpensive substitute for Tool Maker's Microscope and are used where conventional tools like micrometer, dial gauges are ineffective. The measurements can be done with the microscope. The Microscope are available in 40x, 60x & 100x magnifications.

Technical Specifications :

Model	R-40	R-60	R-100
Magnification	40x	60x	100x
Work distance*	24	24	6.4
Field of View*	4.25	3.25	1.7
Least count*	0.02	0.02	0.01

* Dimensions given are in mm.



ROM-100

RBM-101

BENCH MAGNIFIER (MAGNASCOPE) : is specially designed for assembly & inspection in industrial purpose. the magnifier is fitted with a 100mm optical glass lens of 3x. It has maximum possible power for a lens of its size consistent with virtually no distortion or chromatic aberration. It gives fatigue-free stereo view equipped with round fluorescence tube which has a shadowless illumination, works on 220V mains.



RBM-101

RBM-102

POCKET OPTICAL COMPARATOR

is made from clear acrylic cell which allows outside light to illuminate the object and accepts all glass reticles of 27 mm diameter. It is supplied with standard linear scale reticle in a carrying case.



RBM-102

RBM-103

RADICAL ILLUMINATED OPTICAL COMPARATOR

is a versatile device for rapid measurements of length, diameter, angles, threads, etc., and has its own light source. It is provided with two elements of 10x, aberration free magnifiers for convenience of observation. This can be focussed by spiral movement of eye piece. The light source consists of 2x 1.5 volt of standard no. 950 dry cells. A choice of ten reticles of 48.5 mm. diameter glass disc are available to suit various requirements. Any two reticles, as per choice, are supplied along with flash light comparator. Spare reticles can also be supplied at extra cost.



RBM-103

ILLUMINATED MAGNIFIERS



RBM-Series



RBM-101



RBM-104



RBM-105

Radical RBM Illuminated Magnifiers : are designed for specialized inspection requirements in the different industries under specific applications. These magnifiers have maximum magnification upto 7x, with the help of 2x auxillary lens. The magnification is without any chromatic or spherical aberrations over the entire field of view, providing perfect strain-free vision. The lens provides bi-ocular vision with depth perception and comfortable working distance underneath, thus providing easy operation under the lens.

Our Illuminated Magnifiers find use in :

Electronic Industries : To check plated through holes, components such as gang condensers, assemblies and soldering of components. It is particularly used for finding fine pitch component placement accuracy; quality of solders including bridges in reflowed solder, blow holes, checking of colour codes etc.

Engineering Industries : Checking surface finish, cracks/burr and viewing profiles. For precision assemblies such as in watches, meters, instruments. Detection of surface defects on finished jobs, cutting tool angles, bolts, etc.

Medical Applications : Widely used by Dermatologists for checking skin textures and skin examinations. Used by Dentists, Ophthalmologists, Plastic surgeons, Pediatric surgeons, Cosmetologists & Orthopedic surgeons.

Beauty Parlour Applications : Conducting thermolysis procedures for threading. Used to locate black heads, for checking skin disorders.

Quality Control & Inspection : Used in most of the industries in quality control & inspection depts. Service as a good inspection aid at different stages.

Specifications

Model Number	RBM-101	RBM-104	RBM-105
Magnification	3.5x	3.5x	3.5x
Body Material	Alum. & C.I.	Alum. & Brass	Aluminium
Body Color	Siemens Grey	Siemens Grey	Siemens Grey
Illumination Type	Top	Top	Top & Bottom
Illumination	22W Circular Fluorescent Tube Dia. 216mm		
Color Temp of Light	6500°K	6500°K	6500°K
Outer Ring Diameter	220mm	220mm	220mm
Lens Diameter	148mm	148mm	148mm
Lens Material	Optical Glass	Optical Glass	Optical Glass
Effective Lens Dia.	135mm	135mm	135mm
Working Distance	220mm	220mm	220mm
Field of View	160mm	160mm	160mm
Maximum Height	380mm	580mm	390mm
Vertical Movement	210mm	N.A.	210mm
Horizontal Movement	250mm	890mm	250mm
Rotation	360° degree	360° degree	360° degree
Lens Tilt	90° degree	90° degree	90° degree
Stand Type	Table Top	C Clamp	Table Top
Base Size (LxBxH)	225x190x80mm	N.A.	365x285x80mm
Weight	8.4 Kgs.	5.0 Kgs.	9.0 Kgs.
Packing Dim. (cms.)	57x29x33	68x31x38	55x34x33
Optional Accessory	2x Auxillary Lens to make the magnification 7x		



OVERHEAD PROJECTORS

RP-Series

RP-22 RADICAL OVERHEAD PROJECTOR

Overhead Projectors are compact, efficient, versatile and light in weight. Its Optical components designed to give crisp sparkling image on the screen, as we write, draw or sketch our illustration on a transparent cellophane sheet. A most compact, light weight and sturdy model, equipped with 600 watts, halogen lamp to ensure optimum brightness in projection, Double Fresnel Lens and thermostatically controlled cooling system. Size of Projection writing stage **250mm x 250mm**, made from ABS Plastic. The projection head with elevation device and sensitive focussing can be done through Rack & Pinion. When switched on, the interlocked light control switch, provides protection to the lamp against voltage surge. It also helps to get the desired intensity of light. Supplied complete in sturdy card board box with cellophane roll and its attachment, cleaning cloth, vinyl cover and operating instructions manual.



RP-22

RP-22A RADICAL OVERHEAD PROJECTOR (LOW VOLTAGE)

A most compact, light weight and sturdy model, fitted with low voltage Halogen Lamp (24 volts 250 watts) through transformer. It can be used for long duration due to less heat generation. Halogen lamp and fresnel lens ensure optimum brightness in projection and efficient thermostatic controlled cooling system is provided. Projection writing stage of **250mm x 250mm**. size & is fabricated from ABS Plastic. The projection head with elevation device and sensitive focussing can be done through rack & pinion. When switched on, the interlocked light control switch provides protection to the lamp against voltage surge. It also helps to get desired intensity of light. Supplied complete in sturdy card board box with cellophane roll and its attachment, cleaning cloth, vinyl cover and operating instructions.



RP-22A

RP-22B

RP-22B RADICAL OVERHEAD PROJECTOR (TWIN-BULB)

All specifications as per model RP-22A, but fitted with dual bulb system. Supplied with two halogen lamps.

RP-25 SENIOR OVERHEAD PROJECTOR

A high quality twin-bulb Overhead Projector incorporating all the most wanted features & is available at affordable price. It is having sturdy durable ABS plastic housing with lock, size of Projection writing stage **285mm x 285mm**, economy switch for extending the normal life of the lamp, deluxe Fresnel Lens, automatic shuts off the power on opening the top cover, axial blower cooling system, thermal cut-out switch, folding projection arm, glass reflecting mirror and conveniently operated twin bulb system 24V-250W Tungsten halogen lamps. During presentation, should a lamp gets fused, you can easily switch to another lamp, but just sliding a lever & the lamp changer puts you back in action once again. Supplied complete in a sturdy cardboard box with writing roll attachment with cellophane, vinyl cover, writing pack, Two Bulbs 24V-250W etc.

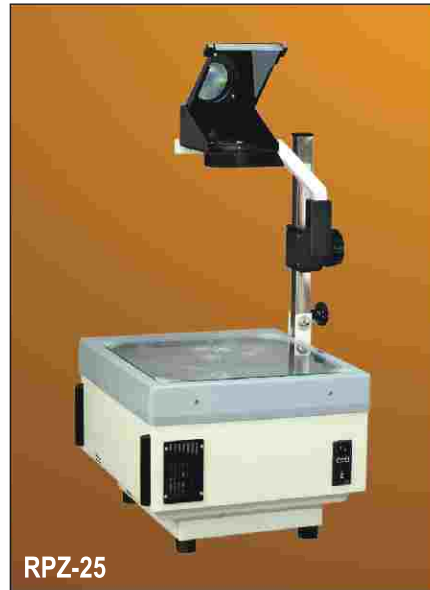


RP-25

OVERHEAD PROJECTORS



RP-Series



RPZ-25

RPZ-25 SENIOR OVERHEAD PROJECTOR

Overhead Projection, a method of projecting transparencies, has brought the Overhead Projector to the very forefront of the visual aid world. The product is simple in concept and operation, yet its value in helping people communicate with each other is unlimited by the understanding, skill and imagination of its user.

A high quality twin-bulb Overhead Projector incorporating all the most wanted features & is available at affordable price. It is having sturdy durable ABS plastic housing with lock, size of Projection writing stage 285mm x 285mm, economy switch for extending the normal life of the lamp, deluxe Fresnel Lens, automatic shuts off the power on opening the top cover, latest ventilating cooling system, thermal cut-out switch, folding projection arm, glass reflecting mirror and conveniently operated twin bulb system 24V-250W Tungsten halogen lamps. During presentation, should a lamp gets fused, you can easily switch to another lamp, by just sliding a lever and the lamp changer puts you back in action once again. Supplied complete in a sturdy cardboard box with writing roll attachment with cellophane, vinyl cover, writing pack, two bulbs 24V-250W etc.

RPZ-25A SENIOR A4 PORTABLE OHP WITH TRIPLE PROJECTION LENS

All technical specifications are same as per **Model : RPZ-25**. But incorporated with 3 element vario-focal : 280mm-340mm high definition lens.



RP-33

RP-33 PORTABLE OVERHEAD PROJECTOR

It is a flexible type overhead projector, which can be folded in seconds to carry it comfortably in a moulded luggage carrying case. Smooth effortless focusing with three element high definitions vari-focus lens. Picture sharpness compensator guarantees a brilliant picture with resolution and optimum contrast. These overhead projectors are compact, efficient, versatile, light in weight and easily foldable to carry around. Their optical components are designed to give crisp sparkling image on the screen, as we write, draw or sketch our illustration on a transparent cellophane sheet. Smooth effortless focussing with 3 element vario-focal : 280mm - 340mm high definition lens, Projection distance 1.2 to 3.2 meters, picture sharpness compensator guarantees a brilliant picture with resolution and optimum contrast. It is provided with twin 24V 250 watts Halogen Bulbs fuse 3A. Even if one lamp fails, the twin lamp switch over facility enables you to change the lamp instantly. The mini Turbo cooling fan protects the projector mechanism without disturbing the audience. It is also provided with a thermal cutout to protect mirrors, lamps and lenses. Fresnel lens A4 size (285x285, hard coated and scratch resistant is provided. Its folding dimensions are 42cm x 32cm. x 11cm. and gross weight is 6 Kgs. (Complete in case)

Overheating : If the projector exceeds safe operating temperature, the automatic

temperature control thermostat will cut off the power to lamp automatically. After the temperature drops to a normal level, the power will automatically turn on again.

RP-33A PORTABLE OVERHEAD PROJECTOR IN 36V / 400 WATT : All technical specifications are same as per **Model : RP-33**. But incorporated with halogen bulbs 36V/400 Watt fuse 5A for more brightness in projection - 3800 lumens.



ACCESSORIES FOR OVERHEAD PROJECTORS

OHP-1 OVERHEAD PROJECTOR STAND : Folding type, metallic stand with adjustable height, having sturdy platform, on which the projector can be kept .

OHP-2 CELLOPHANE ROLL : Made from imported high quality material, perfectly transparent 10 metres in length.

OHP-3 TRANSPARENT OHP MOUNTS : Mounted in a sturdy card board sheet 240mm x 240 mm. for preparing drawing / data / transparencies.

OHP-4 OHP PERMANENT TRANSPARENCIES : Made from selected drawings in natural colour, Provides a distinct projection. Over all size 360x255 mm with 240mm x 180mm mask opening. Mounted in card board frames. Available on different topics of Botany, Zoology etc.

OHP-5 TRANSPARENCY MAKING KIT : A highly useful kit for overhead projector users for making their own transparencies. Each Kit consists of the following material :- 100 Nos. very fine cellophane sheets, 4 different colours, 20 Nos. transparent graph sheets of 2 different sizes : 25 Nos. transparencies mounts; 10 sheets of different patterns; 6 bottles, T.P. Inks; 6 Special felt pens of different sizes & colours; 6 glass marking pencils, stencils, cello tape and a complete set of drawing instruments, all packed in an attractive box.

OHP-6 FILM SLIDES AND STRIPS ATTACHMENT FOR OHP : Additional advantage for use as a slide projector for 2"x2" kodachrome slides.

OHP-7 OHP LASER POINTER : To produce an intensified clearly visible dot on the subject matter and very useful for presentation, having range upto 100 feet.

OHP-8 SPARE HALOGEN BULB : Quartz Iodine Lamp 600/650 watts.

OHP-9 HALOGEN BULB : 24V, 250 watts.

OHP-10 Plywood Cabinet for storing of Overhead Projector.

RP-7 PROJECTION SCREEN MAP TYPE : Can be hanged on the wall or black board, size 120cm. x 130cm. Supplied in a rexin bag.

RP-77 PROJECTION SCREEN (TRIPOD MODEL) : Sturdy and portable with collapsible, tripod stand and steel metal housing equipped with automatic spring roller system. Screen size : 120cm. x 130cm.

RP-77A PROJECTION SCREEN (TRIPOD MODEL) DELUXE : Very sturdy and portable, assembled from the best material. Tripod stand and steel metal housing with automatic spring roller system. Screen size : 132cm. x 138cm.

RP-77B PROJECTION SCREEN (WALL AND CEILING MODEL) : A sturdy screen for wall mountings in lecture halls, auditoriums projection rooms etc. Equipped with a wall designed metal housing automatic spring roller system. Screen size : 132cm. x 178cm.



OHP-1



OHP-2



OHP-3



OHP-4

MICROSLIDE & SLIDE PROJECTORS



RP-Series



RP-55 MICROSLIDE PROJECTOR : (Triple Purpose) It is a compact in size, light in weight and easy to carry around. Self contained portable triple purpose microslide projector for horizontal projection of permanently mounted specimens on wall screen. The microslide projector can be kept vertically also on the table surface for making drawings and for projection of living specimens in liquid on the wall screen. Equipped with a 6 volts 20 watts Halogen bulb. Size of specimen stage 100mm x 100mm and an improved objective system for better resolution and brilliant projection have been provided. Supplied complete in a cardbox with vinyl cover, duster, variable transformer, spare bulb, operating instruction manual etc.



RP-66 RADICAL SEMIAUTOMATIC SLIDE PROJECTOR
The projector is made from mild steel sheet body having oven backed paint. It is a compact, modern and economical model of Slide Projector which accepts linear magazine of 36 slides and has a manual slide changing system. Equipped with 24V/150 watts, Halogen bulb, a fuse and hard coated anastigmatic lenses 1:2.8/85 mm. By incorporating the latest design of condenser system and heat absorbing glass, the instrument can be operated for longer durations without any loss to the slides. It has an efficient, effective cooling system. Supplied complete in a cardbox with vinyl cover, duster, fuse, operating instruction manual etc.



RP-69 RADICAL FILM SLIDE PROJECTOR (HALOGEN)
It is a compact, versatile and multipurpose slide projector having a good design and rigid construction. Equipped with 24V/150 watts Halogen bulb and hard coated anastigmatic projection lenses 1:2.8/85 mm. It is having sturdy durable ABS plastic housing and it has an efficient cooling system. By incorporating the latest design of condenser system and heat absorbing glass, the instrument can be operated for longer durations without any loss to the slides. Supplied complete with accessories for projection of 35mm film strip, 5x5 cm. Kodachrome slides and microscopic slides in light weight carrying case.



RP-88 CLASS ROOM PROJECTOR (MICROSLIDE)
The structure of microscopic specimens become visible to the naked eye by taking the projection on the wall screen, in every day laboratory routine and during demonstration to small number of viewers. Compact microslide projector for wall/screen projection of permanently mounted slides. It is equipped with a light intensity of 24V-150W halogen bulb & a turbo cooling fan. The microscope is compact in design having triple revolving nosepiece, stage size 115mm x 115mm with stage clips, separate coarse & fine focussing knobs on both side. Three magnifications of 100x, 200x and 300x are provided at a distance of three meters, for best result the distance between project & screen should be kept two to three meters. Supplied complete in a cardboard box with operating instruction manual etc.



AUTOMATIC SLIDE PROJECTORS

RP-5000 Series

Automatic Slide Projectors - 5000 Series : are economical, compact in functional design and easy to operate. Their excellent optical performance and useful features impart that confident anticipation of a successful showing of beautiful slides. The Autofocus setting can be readily adjusted with over-ride button on the remote control unit. Precise focussing takes place automatically, with amazing speed. A perfect slide changing mechanism and an accurate slide grip move the slides into the projection gate smoothly & with utmost protection.

The Projectors are fitted with a standard interchangeable lens 2.8/85mm. Other lenses are available on request.

Slide Projectors are having a standard linear magazine for 36 slides with an acrylic dust cover. Slide change forward/reverse, timer, slide Preview, Autofocus ON/OFF and Focus control knobs are incorporated on projector base through a detachable Remote Control, Green internal screen prevents distracting light during slide change. Aspherical condenser system, heat protection filter, cooling fan & thermal protective cut-out system are also provided.

Supplied in a cardboard carrying case with Operating Instructions. Dimensions 315mm x 225mm x 152mm / Weight 5 Kgs.



Technical Details	Model 5002	Model 5003	Model 5005
Autofocus on/off		●	●
Halogen Lamp 24V/150W	●	●	●
Brightness Control with LED Display			●
Electronic Timer		●	●
Unique detachable control panel			●
Remote control approx. 1m	●	●	
Wireless infra red remote control			●
Tape Connection		●	●
AV Socket & triac for Dissolve			●
Dissolving with external synchroniser possible			●
Thermal cut-out (prevents overheating)	●	●	●
Slide Previewer in Remote Control	●	●	●
Adjustable Height	●	●	●

Optional Accessories for Automatic Slide Projector :- Different Projection & Zoom Projection Lenses, Linear Magazines, Rotary Tray for 100 Slides, Projection Screens, Spare Bulbs, Laser Pointers etc.

ELEMENTRY MICROTOMES



RMT-Series

RMT-5 RADICAL HAND AND TABLE MICROTOME : The Hand Microtome is used to cut thin sections of Microscopic materials, such as specimen parts of plants and animals. It is considered as the basic form of a microtome permitting microtomic cuts by hand in a quick and accurate way. The microtome is suitable for practical courses in microscopy, for field work during excursions, for school education and for a serious amateur of biology. A well constructed hand operated bench microtome can be securely attached to the edge of any bench, table or work surface with the help of fixing clamp. The section platform has a smooth wide flat top and durable



RMT-5

glass surface to guide the sectioning razor & to protect the hand. The feed screw has fine and long threads so that the embedded material may be advanced very gradually to cut thin sections easily. The Razor is made of surgical quality steel with 75mm cutting edge.

Stage diameter	80mm	Nett. Weight	500gms.
Vertical lift	20mm	Gross Weight	1 Kg. (in case)
Least count	0.01mm	Dimensions of the Case	200x220x90mm

The Instrument is supplied with the following in a storing box : A Plano-Concave Razor, Block Holder, Table Clamping Device, Operating Instruction etc.

RMT-10 RADICAL ROCKING MICROTOME (CAMBRIDGE TYPE) : Cambridge rocking microtome is very well known and one of the best established microtomes in the world, which has given outstanding service to numerous microtomists through the years. It is designed for sectioning comparatively soft, wax-embedded tissues with a thickness range of 2 μ m to 24 μ m, in steps of 2 μ m.



RMT-10

Calibrated in 2 micron divisions, the section cutting thickness can be set easily and quickly by a single control. It is recommended for elementary biology & pathology students. The rocking microtome is an extremely reliable instrument comprising of three moving parts. The lead screw mechanism incorporates quality precision engineering and the cutting stroke is controlled by a single control lever which minimizes the operator skill required. It carries wide choice of specimen holders cylindrical holders, standard orientating & wood block holders for sectioning wax embedded specimens.

Overall Dimensions	390x200x200 mm	Nett Weight - 4 kgs.
Size of the cabinet	450x240x260 mm	Gross Weight - 10 kgs.

The instrument is supplied with the following in a storing box : Three Standard Specimen Holders, Razor with built in handle in a box, Operating Instructions and Vinyl Dust Cover.

RMT-20 RADICAL ROTARY MICROTOME (ERMA TYPE) : A very popular and standard but economically priced sectioning device providing all advantages of a precision Rotary Microtome. The interior mechanism is seated on a heavy cast metal base and completely covered with a metal cover for protection from dust and grit. The Microtome is equipped with a ball and flange type object holder vice to get



RMT-20

exact centering of specimen, knife holder with lateral movement permitting use of complete knife edge. All components are fabricated from Standard alloys/metals. The knife supplied with the Microtome is forged from imported fine grain tool steel, tested for micro-structures and it is also heat treated for optimum rigidity & sharpness.

Feed adjustments	: 1-25 microns	Overall Dimensions	: 30x33x28 cm.
Minimum thickness	: One Micron	Net Weight	: 25 kg. approx.
Total Feed Excursions	: 28mm.	Gross Weight	: 35 kg. approx.

Microtome is supplied with following accessories in a Storing Cabinet.

Object Holders	: 1 Set	Lubricating Oil Bottle	: 1 No.
Knife 120 mm in a box	: 1 No.	Dust Cover	: 1 No.
Honing Stone	: 1 No.	Operating Manual	: 1 No.



ROTARY AND FREEZING MICROTOMES

RMT-Series

RMT-30 RADICAL SENIOR PRECISION ROTARY MICROTOME (LATEST SPENCER 820 TYPE) : It is a universally approved, most modern and reliable sectioning equipment designed for very precise sectioning of tissues upto 1 micron thickness. The feed indicator, located in front of microtome is operated by the latest 'CAM DRIVE SYSTEM' for accurate feed setting from 1-50 microns in steps of one micron. It is graduated in microns, is conveniently located in the front for instant references and its setting is controlled by a knurled knob at the back of the microtomes. The interior mechanism rests on a heavy cast iron base and is covered with a full swing protective cover for easier cleaning and lubrication. The salient features include independent feed mechanism with automatic safety device, universal knife holder with lateral movements permitting use of the entire knife edge, universal vice type object holder for accurate centering of the specimen. The instrument ensures life-long smooth operation. Individual components are fabricated and assembled from selected material using latest technology. The knife supplied with the microtome is fabricated from imported fine grain steel tested for micro-structure, heat treated for optimum rigidity and sharpness. The instrument is supplied with the following accessories in sturdy wooden cabinet.

Razor 120 mm, with back & handle in box.

Oil Can	1 No.	Honing Stone in box	1 No.
Dust Cover	1 No.	Object holders (set of three)	1 Set
Illustrated operating manual	1 No.		



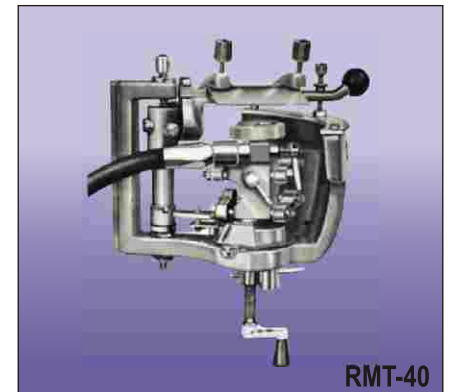
RMT-30

RMT-40 FREEZING MICROTOME WITHOUT CO₂ CYLINDER : This microtome is designed to the full purpose of accurate and quick diagnosis in surgery and also for the inspection of quality of rubbes and others. It has a table clamping device. The specimen rises accuracy and automatically by handle. The CO₂ freezing attachment is provided with a hard rubber non-conducting plate between the corrugated surface to which the object is frozen and the rest of the apparatus, which prevents the conduction of heat from the other parts of the apparatus to the specimen; thus saving time and CO₂. In operating this freezing attachment the valve at the bottom should first be closed and valve at the cylinder slightly opened to admit the gas into the tube. The Automatic feed mechanism can be thrown out of action by turning the Index Finger to the extreme left or it may be set to cut sections of any desired thickness.

Specifications :-

Freezing Stage	: 35 mm. dia.	Total Excursion of Feed	: 25 mm.
Feed Range	: 5 - 40 microns in steps of 5 microns each		
Weight	: 13 kg. approx.	Size (in case)	: 400x280x220mm.
High pressure flexible tubing	: 150 cm. (approx.)		

Each division of the graduated scale marks 5 microns, the Microtome range being 5-40 microns. The sturdy Knife Holder can be tilted to a convenient angle of the Knife suitable to the object. The instrument is supplied with following accessories in Wooden Storing Cabinet. Complete with a Razor 120mm with Back & handle, Honing Stone, Oil can, Vinyl Dust Cover and Operating Instructions manual etc. **but without CO₂ cylinder.**

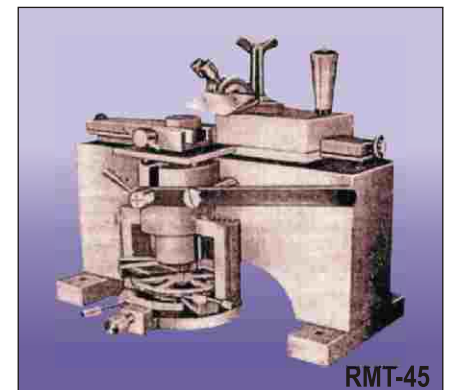


RMT-40

RMT-45 SLIDING MICROTOME : Sliding Microtome is a standard sectioning instrument especially designed for Research Laboratories for cutting sections of paraffin as well as celloiden embedded specimens.

Sliding Microtome is having the advantage of vertical object feed by micrometer screw and cylinder so rigidly held that perfect in mobility under the knife is ensured even when cutting relatively large, hard and inhomogeneous specimens. The heavy knife block mounted on slide ways can be actuated entirely by hand.

Salient Features : Sturdy built with streamlined body. Length of sliding track 27 cms. Cuts section from 1-50 microns in steps of one micron each. Equipped with sturdy knife holder adjustable to different ranges of sectioning angles. Total excursion of feed 25mm. Maximum opening of the object stage : 31x26mm. Supplied in a complete wooden case with the following accessories - A Razor, One Glass Plate for honing and three object holders.



RMT-45

MICROTOMES & AUTOMATIC KNIFE SHARPENER



RMT-50 FIBRE MICROTOME (for Textile Industries)

It is highly suitable for cutting the sections of wool fibres etc. for determination of diameter in any form by means of a Projection Microscope or a Digital Microscope. In the case of dyed, bleached or finished fibres, the diameter as determined, may be different from that of the same fibres not subjected to such treatments. Further, the estimates of fibre diameter of the same lot of wool at the various stages of processing may not necessarily be the same.

1. Fibre Hand Microtome consists of the following elements:

- a) Steel plate with a slot.
- b) Metal tongue, fixed to guides which slides along the plate, and adjustable in such a manner that it enters the slot to a predetermined distance.
- c) Steel blade pushers, equal in thickness to the width of the microtome slot; each with a stop plate situated at a fixed distance from one of its ends.
- d) A set of three pushers shall be available, the stop plates of which are situated at distances of 0.8mm, 0.6mm and 0.4mm from one of their respective ends.
- e) Glass Slide 75 x 40 mm (approximately) size.
- f) Cover Glass 50 x 35 mm size having a thickness of 0.13 to 0.17 mm.



RMT-50

2. MOUNTING MEDIUM

A suitable Mounting Medium, such as cedar wood oil and liquid paraffin, having the following properties, shall be used:
(Not supplied with Microtome)

- | | |
|--|--|
| a) Refractive index between 1.43 and 1.53 at 27°C, | b) Suitable viscosity, |
| c) Zero water absorption, and | d) No effect on the diameter of the fibre. |

RMS-100 RADICAL AUTOMATIC KNIFE SHARPENER (SPENCER TYPE)

Automatic Knife Sharpener provides a precise, efficient and safe method for honing Microtome Knives upto 140mm in length, equipped with automatic timer 0-60 min. to adjust sharpening time. It ensures a knife edge so perfect that no subsequent stropping is necessary. The knife edge is recoditioned to optimum sharpness which is so major importance to every laboratory, where material are routinely sectioned for microscopic examinations. The transparent plexi glass cover encloses the entire working mechanism and provides a safe dust and gritfree sharpening process. The knife strokes against a high frequency glass honing plate and after three exactly equivalent strokes on one side of knife edge, a cam follower automatically flips the knife and three strokes are honed on other side. The stroking cycle is repeated continually for duration of setting on Electrical Timer. The instrument is sturdy in construction and all moving parts are precision machined. All the parts of the instrument are hand assembled to ensure the trouble free and dependable service. The instrument is mounted on sound vibration absorbing rubber feet for quiet and smooth operation. The instrument is supplied with the following accessories in a storing cabinet, **but without micro abrasives.**

Universal Knife Holder	1 No.	Honing glass plate	2 No.
Honing glass Compound	1 Bottle	Knife Inspection Block	1 No.
Redressing Pad	1 No.	Operating Instructions Manual etc.	



RMS-100

MICROABRASIVES SUSPENSION (FOR AUTOMATIC KNIFE SHARPENERS)

MA-2000 MicroAbrasive suspension for coarse honing of Microtome knives (2 bottles of 200 ml. each)

MA-3000 MicroAbrasive suspension for fine honing of Microtome Knives (2 bottles of 200 ml. each)



MICROTOME ACCESSORIES & TISSUE PROCESSORS

AM-1 RAZOR ATTACHMENT (SAFETY BLADE HOLDER)

A very simple attachment permitting a safety blade to be attached & used this attachment in place of Microtome knife, very suitable for cutting accurate sections of soft tissues.

AM-1A DISPOSABLE RAZOR HOLDER : Our standard Microtomes blade holder can be used with both sliding & rotary microtomes. Supplied complete in a wooden storing box.

--- DISPOSABLE MICROTOMES BLADES IMPORTED (PACK OF 50)

AM-2 MICROTOME RAZORS

Rotary Microtome Razors fabricated from imported fine grain tool steel, heat treated and tested for micro-structure. Supplied with back and handle in box.

- | | |
|---------------------------------|---------------------------------|
| a) Size 120 mm both sides wedge | b) Size 140 mm both sides wedge |
| c) Size 160 mm both sides wedge | d) Rocking Microtome Razor |

AM-3 OBJECT HOLDERS

- a) Set of three object holders for Rotary Microtomes.
- b) Set of three different object holders for Rocking Microtomes.

AM-4 HONING STONE

- | | |
|---------------------|----------------------|
| a) Size 8" (20 cms) | b) Size 10" (25 cms) |
|---------------------|----------------------|

AM-5 LEATHER STRAP : A sharp edge can be restored quickly to a knife with judicious manual stropping on leather straps. Stropping polishes the razor edge and removes fine metal burrs retained along the edge. Made of best quality leather mounted on wooden frame, for final stropping of Microtomes knives.

AM-6 L. MOULDS (BRASS) : L-Shape type embedding paired mould are used for making parafin blocks. Microtomes parafin blocks can be made of different sizes by adjusting L-mould.

Size : (a) 37mm x 25mm x 15mm (b) 50mm x 25mm x 15mm (c) 75mm x 30mm x 19mm

RTP-11 'RADICAL' TISSUE PROCESSOR UNIT (MANUAL)

Having a sturdy stainless steel basket, a rotor and 12 tissue container, complete with thermostatically controlled wax bath & two one liter beakers with cover. Supplied complete in box with operating instructions.

RTP-22 'RADICAL' 'HISTOKINETTE' (AUTOMATIC TISSUE PROCESSOR)

Equipped with latest micro switch mechanism for trouble free performance and convenience in use. Supplied with one stainless steel basket rotor, one stainless steel basket, 24 Tissue capsules, 10 one liter beakers, 2 Nos. Thermostatically controlled wax bath, 6 nos. Calibrated timer disc & one cutting plier, dust cover & instruction manual etc.

RTP-33 'RADICAL' 'HISTOKINETTE' (AUTOMATIC TISSUE PROCESSOR WITH SAFETY DEVICE)

All specifications are same as per Model RTP-22, but equipped with latest built in safety device to protect tissue from 10th stage and 11th to 12th stage that is in wax during electric failure. Supplied with one stainless steel basket rotor, one stainless steel basket, 24 Tissue capsules, 10 one liter beakers, 2 Nos. Thermostatically controlled wax bath, 6 Nos. Calibrated timer disc & one cutting plier etc.

RTP-44 'RADICAL' AUTOMATIC TISSUE PROCESSOR (ADVANCED MODEL)

Advanced Model with two basket Rotor, built in safety device and the equipment is supplied with 2 S.S. Basket Rotors, 2 S.S. Baskets, 24 Tissue Capsules, 10 One Liter Borosil Glass Beakers with out lip, 2 Nos. Thermostatically controlled wax bath, 6 Nos. of 24 hr. calibrated metallic timing disc and one cutting plier., dust cover & instruction manual etc.

NOTES



INDEX

S.No.	Model No.	Name	Page No.
		STUDENT BIOLOGICAL MICROSCOPES	
1.	RDM-2	Dissecting Microscope	01
2.	RDM-4	Senior Dissecting Microscope	01
3.	RM-1	Phoenix Microscope	01
4.	RM-1A/RM-1B/RM-1C	School Microscope	01
5.	RM-2/RM-2A/RM-2B	Student Microscope	02
6.	RM-3	Medical Microscope	02
7.	OT	Observation Tube	02
		ACCESSORIES FOR STUDENT BIOLOGICAL MICROSCOPES	
8.	RL-1	Sub-Stage Microscope Lamp	03
9.	RL-1A	Sub-Stage LED cordless illuminator	03
10.	----	Eye-pieces / Objectives / Bulbs / Detachable Mechanical Stage /	
11.		Co-axial Mechanical Stage	03
		LABORATORY MICROSCOPES	
12.	RM-600	Radical Monocular Laboratory Microscopes	04
13.	RM-600B	Radical Binocular Laboratory Microscopes	04
		ACCESSORIES FOR LABORATORY MICROSCOPES	
14.		Model No. RM-600 / RM-600 B	04
		ADVANCED RESEARCH MICROSCOPES	
15.	RMH-4/RMH-4B/RMH-4C	Monocular / Binocular / Trinocular Research Microscopes	05
		CO-AXIAL RESEARCH MICROSCOPES	
16.	RXL-4/RXL-4B/RXL-4T	Monocular / Binocular / Trinocular Research Microscopes	06
		ADVANCED CO-AXIAL RESEARCH MICROSCOPES	
17.	RXLr-3B/RXLr-3T	Advanced Research Binocular / Trinocular Microscope	07
18.	RFM-1	EPI-Fluorescent Microscope	07
19.	RXLr-4	Research Microscope	08
20.	RXLr-4 POL	Polarizing Microscope	08
21.	RXLr-4 Series	Coolsopes	08
		ACCESSORIES FOR MICROSCOPES	
22.	RA-1	Camera Lucida (Prism Type)	09
23.	RA-2	Camera Lucida (Mirror Type)	09
24.	RA-3	Double Demonstration Eyepiece	09
25.	RA-4	Phase Contrast Attachment (Turret Type) (Achromatic)	09
26.	RA-4A	Phase Contrast Attachment (Turret Type) (PLAN Achromatic)	09
27.	RA-4B / RA-4C	Phase Attachment	09
28.	RA-5 / RA-5A	Dark-Field Attachment	09
29.	RA-9 / RA-9A	Simple Bio-Therm Heating Stage / Digital Bio-Therm Heating Stage	10
30.	RA-10	Pointer Eyepiece	10
31.	RA-22	Dual Viewing Head Attachment (Two Observation Head)	10
32.	RA-23	Multiviewing Head Attachment (Three Observation Head)	10
33.	RL-1	Sub-Stage Microscope Lamp	10
34.	RL-1A	Sub-stage LED cordless illuminator with chargeable battery	10
35.	RL-2	Universal Microscope Lamp	10
36.	RL-3	Microscope Lamp	10
		INVERTED TISSUE CULTURE MICROSCOPES	
37.	RTC-6	Inverted Tissue Culture Microscope	11
38.	RTC-99	Trinocular Inverted Tissue Culture Microscope	11
39.	RTC-8	Binocular Inverted Microscope with Phase Attachment	11
40.	RTC-8A	Trinocular Inverted Microscope with Phase Attachment	11

INDEX



S.No.	Model No.	Name	Page No.
41.	RTC-7	ADVANCED INVERTED TISSUE CULTURE MICROSCOPES	12
42.	RTC-7A	Biological Inverted Tissue Culture Microscope with Flourescent Attachment	12
43.	RSM-1 / RSM-1A	STEREOSCOPIC MICROSCOPE	13
44.	RSM-2	Student Stereo Binocular Microscope	13
45.	RSM-2A/RSM-2B/RSM-2C	Inclined Stereo Binocular Microscope	13
46.	RSM-3	Inclined Stereoscopic Binocular Microscope	13
47.	RSM-4/RSM-4A/RSM-44/RSM-4F/RSM-4U	Inclined Industrial Stereo Microscope	14
48.	RSM-8/RSM-8A	STEREO ZOOM MICROSCOPE	15
49.	RSM-88/RSM-8F/RSM-8DF	Binocular Stereo Zoom Microscope	15
50.	RSM-9/RSM-9A	Trinocular Stereo Zoom Microscope	16
51.	RSM-99/RSM-9F/RSM-9DF		16
52.	FI-1	ACCESSORIES FOR STEREO/STEREO ZOOM MICROSCOPE	17
53.	FI-2	Fibre Optics Illuminator (Single Light Guide)	17
54.	SI-7	Fibre Optics Illumination (Double Light Guide)	17
55.	SI-8	Incident Halogen Illuminator	17
56.	ZM-4	Dark Field Attachment	17
57.	ZM-5	Universal Stand	17
58.	ZM-6	High Intensity Fluorescent ring illuminator	17
59.	ZM-8	Spare Circular Fluorescent Bulb	17
60.	ZM-9	Eyeiece with Graticules	17
61.	ZM-10	Polarizing Attachment	17
62.	RXL-Digi	Gliding Stage	17
63.	RSM-Digi	DIGITIZED MICRO-IMAGE EXPERT /DIGITAL MICROSCOPE	18
64.	RDMS-100	Digital Research Pathological Microscope	18
65.	PRM-11	Digital Stereo Zoom Microscope	18
66.	PRM-11A	Digital Liquid Crystal Microscope	18
67.	PRM-12/PRM-12A	PROJECTION MICROSCOPES	19
68.	PRM-15	Student Projection Microscope	19
69.	PRM-18	Senior Projection Microscope	19
70.	PRM-18T	Radical Projection Microscope	19
71.	RPL-4	Radical Projection Microscope	19
72.		Radical Senior Projection Microscope (with Binocular Head)	20
73.	RMM-5	Same as PRM-18 But with Trinocular Head	20
74.	RMM-6	Polarising Projection Microscopes	20
75.	RXM-7	Projection Microscope Accessories	20
76.	RXM-7B	UPRIGHT METALLURGICAL MICROSCOPES	21
77.	RXM-7T	Portable Metallurgical Microscope with Chargeable Battery	21
78.	RXM-8T	Laboratory Mettallurgical Microscope	21
79.	RMM-55/RMM-55B/RMM-55T	Monocular Metallurgical Microscope	21
80.	IM-1	Binocular Metallurgical Microscope	21
		Trinocular Metallurgical Microscope	22
		Universal Trinocular Metallurgical Microscope	22
		Monocular / Binocular / Trinocular Metallurgical Microscope	22
		Heavy Base with co-axial mechanical stage for x-y movement	22



INDEX

S.No.	Model No.	Name	Page No.
81.	RMM-77	INVERTED METALLURGICAL MICROSCOPES	23
82.	RMM-88	Inverted Metallurgical Microscope	23
83.	RMM-1	Inverted Metallurgical Microscope (Binocular)	23
84.	RMM-2	Inverted Metallurgical Microscope	24
85.		ACCESSORIES FOR METALLURGICAL MICROSCOPES	25
86.	RPL-1	POLARIZING MICROSCOPES	26
87.	RPL-4	Laboratory Polarizing Microscope	26
88.	RPL-3/RPL-3B/RPL-3T	Polarizing Projection Microscope	26
89.	RPL-55/RPL-55B/RPL-55T	POLARIZING MICROSCOPES	27
90.	ROM-11	Monocular / Binocular / Trinocular Polarizing Microscopes	27
91.	ROM-22	Accessories / Packing / Optional Accessories	27
92.	ROM-33	RESEARCH POLARIZING MICROSCOPES	28
93.	ROM-44	Advanced Research Monocular/Binocular/Trinocular Polarizing Microscopes	28
94.	RCM-505/RCM-505T	Accessories / Packing / Optional Accessories	28
95.	RCM-555/RCM-555T	ORE MICROSCOPES	29
96.	RCM-22	Laboratory Ore Microscope	29
97.	RPP-12/RPP-12A	Inclined Ore Microscope	29
98.	RPP-150 / RPP-250	Binocular Microscope	29
99.	RPP-3000	Trinocular Ore Microscope	29
100.	RPP-3000DM	COMPARISON MICROSCOPES	30
101.	RPP-3000DR	Forensic Comparison Microscope	30
102.	RPP-3000DRS	Metallurgical Comparison Microscope	30
103.	RPP-3000DRSW	Advanced Forensic Comparison Microscope	30
104.	RPP-3000DP	Accessories for Comparison Microscopes	30
105.	RPP-350	PROFILE PROJECTOR	31
106.	RPP-350DM	Profile Projector / Senior Profile Projector	31
107.	RPP-350DR	Profile Projector	31
108.	RPP-350DRA	Profile Projector	32
109.	RPP-350DRS	Profile Projector with Digital Micrometer.	32
110.	RPP-350DP	Profile Projector with D.R.O.	32
111.	RPP-33 / RPP-44	Profile Projector with D.R.O. & Stainless Steel Stage	32
112.	RTM-500	Profile Projector with D.R.O. & Software	32
113.	RTM-900	Profile Projector with Data Processor	32
114.	RTM-99	Profile Projector	32
115.	RTM-99A	Profile Projector with Digital Micrometer.	32
116.		Profile Projector with D.R.O.	32
117.		Profile Projector with D.R.O. & Angular Protractor	32
118.		Profile Projector with D.R.O. & Stainless Steel Stage	32
119.		Profile Projector with Data Processor	32
120.		Profile Projector	33
121.		Accessories for Profile Projector	33
122.		TOOL MAKER'S MICROSCOPES	34
123.		Radical Tool Maker's Microscope	34
124.		Radical Tool Maker's Microscope	34
125.		Radical Large Tool Maker's Microscope	35
126.		Radical Large Tool Maker's Microscope with D.R.O.	35
127.		Accessories for Tool Maker's Microscope	35

INDEX



S.No.	Model No.	Name	Page No.
106.	RVM-201	Travelling Microscope	36
107.	RVM-202	Travelling Microscope fitted with Micrometer Head Controlling Movement	36
108.	RVM-203	Six Position Vernier Microscope	36
109.	RSP-601/RSP-630/ RSP-701/RSP-730/RSP-720	STANDARD SPECTROMETERS	36
110.	ROM-100	SHOP MICROSCOPE & MEGNASCOPE Shop Microscope	37
111.	RBM-101	Bench Magnifier (Magnascope)	37
112.	RBM-102	Pocket Optical Comparator	37
113.	RBM-103	Radical Illuminator Optical Comparator	37
	RBM-101/RBM-104/RBM-105	ILLUMINATED MAGNIFIERS	38
114.	RP-22/RP-22A/RP-22B	OVERHEAD PROJECTOR Radical Overhead Projector	39
115.	RP-25	Senior Overhead Projector	39
116.	RPZ-25	Senior Overhead Projector	40
117.	RPZ-25A	Senior A4 Portable OHP with Triple Projection Lens	40
118.	RP-33/RP-33A	Portable Overhead Projector	40
119.	OHP-1	ACCESSORIES FOR OVERHEAD PROJECTOR Overhead Projector Stand	41
120.	OHP-2	Cellophane Roll	41
121.	OHP-3	Transparent OHP Mounts	41
122.	OHP-4	OHP Permanent Transparencies	41
123.	OHP-5	Transparency Making Kit	41
124.	OHP-6	Film Slides and Strips Attachment for Overhead Projector	41
125.	OHP-7	OHP Laser Pointer	41
126.	OHP-8	Spare Halogen Bulb	41
127.	OHP-9	Halogen Bulb	41
128.	RP-7/RP-77/RP-77A/RP-77B	Projection Screen Map Type/Tripod Type/Deluxe/Wall & Ceiling	41
129.	RP-55	MICROSLIDE & SLIDE PROJECTORS Microslide Projector (Tripe Purpose)	42
130.	RP-66	Radical Semi-automatic Slide Projector	42
131.	RP-69	Radical Film Slide Projector (Halogen)	42
132.	RP-88	Class Room Projector	42
133.	Model - 5002/5003/5005	AUTOMATIC SLIDE PROJECTORS	43
134.	RMT-5	ELEMENTARY MICROTOMES Radical Hand and Table Microtomes	44
135.	RMT-10	Radical Rocking Microtome (Cambridge Type)	44
136.	RMT-20	Radical Rotary Microtome (ERMA - Type)	44
137.	RMT-30	ROTARY AND FREEZING MICROTOMES Radical Senior Precision Rotary Microtome (Latest Spencer 820 Type)	45
138.	RMT-40	Freezing Microtome without CO ₂ Cylinder	45
139.	RMT-45	Sliding Microtome	45
140.	RMT-50	MICROTOMES & AUTOMATIC KNIFE SHARPENERS Fibre Microtomes	46
141.	RMS-100	Radical Automatic Knife Sharpener	46
		MICROTOME ACCESSORIES & TISSUE PROCESSORS	47