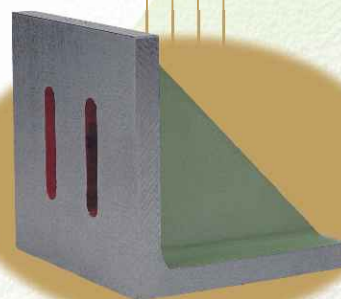
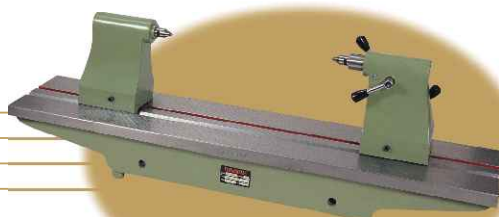
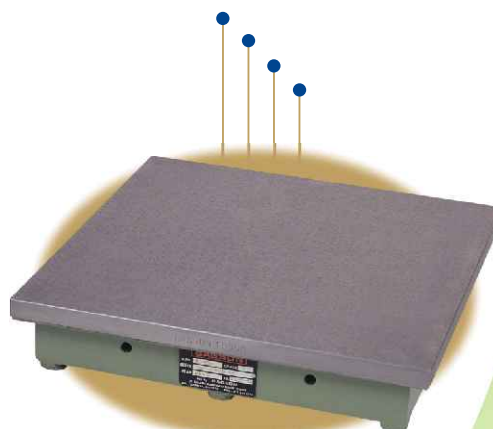




**BAGSON**

*In the age of accuracy*

# ***Precision Inspection Equipments***



**BAGSON INCOMPARABLE PRODUCTS  
ACCURACY CAN BE ASCERTAINED ONLY ON INCOMPARABLE  
BAGSON MASTER PIECES**



## Cast Iron Surface Plate

As per IS : 2285-2003 Grade 0 & 1

Made Generally as per IS: 2285-2003, Made from good quality close grained with high Density Alloyed Cast Iron Castings Conforming to Grade FG-220 of IS: 210. Stress Relieved Hand scraped surface. Provided with Lifting Handles and Rexton Cover.

Size in mm	Flatness Tolerance In $\mu\text{m}$		Size Other Than IS	Flatness Tolerance In $\mu\text{m}$	
	Grade - 0	Grade - 1		Grade - 0	Grade - 1
160 x 100	3	6	300 x 200 (12" x 8")	3	6
250 x 160	3.5	7	300 x 300 (12" x 12")	4	8
250 x 250	3.5	7	450 x 300 (18" x 12")	4	8
400 x 250	4	8	450 x 450 (18" x 18")	4	8
400 x 400	4.5	9	600 x 450 (24" x 18")	5	10
630 x 400	5	10	600 x 600 (24" x 24")	5	10
630 x 630	5	10	900 x 600 (36" x 24")	6	12
1000 x 630	6	12	750 x 750 (30" x 30")	6	12
1000 x 1000	7	14	900 x 900 (36" x 36")	7	14
1600 x 1000	8	16	1200 x 900 (48" x 36")	7	14
2000 x 1000	10	19	1500 x 900 (60" x 36")	8	16

Other bigger sizes on request.



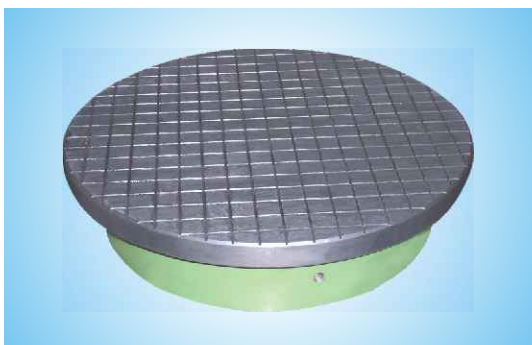
## Granite Surface Plate

As per IS : 7327-2003 Grade 0 & 1

1. Made out of Selected Black Granite having uniform Texture & Colour.
2. Very dense and hard wearing. Its inherent properties provides a high module of rigidity and stability, corrosion, moisture, maintenance free.
3. Non-magnetic, non glaring, economical, lesser wear, no oiling, no rust.
4. Lapped to a velvet top finish no wringing.
5. Increases life of height gauge and other tools.
6. Supplied with Rexton cover.

Size In mm	Flatness Tolerance In $\mu\text{m}$	
	Grade - 0	Grade - 1
250 x 250 x 50	3.5	7
400 x 250 x 50	4	8
400 x 400 x 60	4.5	9
630 x 400 x 80	5	10
630 x 630 x 80	5	10
1000 x 630 x 150	6	12
1000 x 1000 x 150	7	14
1600 x 1000 x 200	8	16
2000 x 1000 x 250	9.5	19

Other bigger sizes on request.



## Lapping Plate

Made from good quality close grained high Density Alloyed Cast Iron Castings conforming to Grade FG 220 of IS : 210. Stress Relieved Hand scraped surface. Generally supplied with 2 x 2 mm serrations.

Round Shape $\phi$ in mm	Square Shape Size In mm	Accuracy In $\mu\text{m}$
150		2
200	200 x 200	3
300	300 x 300	3
450	450 x 450	5
600	600 x 600	5

Other bigger sizes on request.

# Precision Inspection Equipments



Made generally as per IS: 5980-1978. Made from good quality of Castings with high Density Alloyed Cast Iron castings conforming to Grade FG-220 of IS: 210. Stress Relieved Hand Scraped Surface. The centres are having such design that on placing at any centre distance, they remain aligned.

All the centres are provided with carbide Tipped dead centres,

Admit Between Centre In mm	Centres Height In mm	Co - axiality Of Centres In $\mu\text{m}$
300	125	10
500	125	15
500	160	15
500	200	20
750	160	20
750	200	30
1000	160	20
1000	200	30
1200	200	30
1200	250	35
1500	250	40



**Bench Centre**  
As per IS : 5980-1978

Made out of good quality of Castings and is Designed as such to give Fast & Accurate readings of PCD of a Gear. The main shaft moves on Taper Roller Bearings resulting smooth, Accurate, Less wear & Fast working. The measuring balls can be changed for different Modules of Gears

Admit Between Centres Size In mm	Centre Height In mm
500	200
750	200
1000	200
1200	200
1500	200



**PCD Gear Testing Attachment**

Made out of Good Quality of Castings consists very stable base and an upright column with a Dial Mounting bracket with & without fine adjustments.

Granite Comparator stands are made out of selected Black Granite with a very Rigid fixing of steel pillar for the Dial Mounting bracket with & without fine adjustment.

Base Size In mm Of Comparator		Maximum Working Height In mm	
Granite	Cast Iron	Granite	Cast Iron
150 x 100 x 50	58 Dia	100	100
200 x 150 x 50	75 x 75	150	100
300 x 200 x 50	100 x 100	200	150

Other sizes on request.



**Comparator Stands**

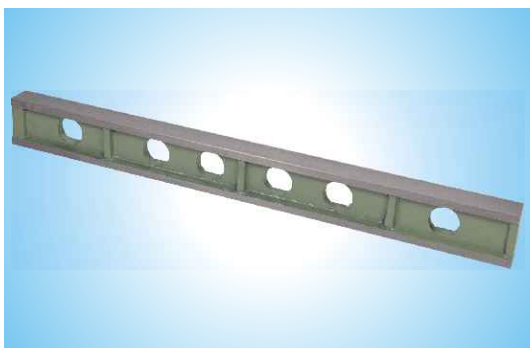


## Steel Straight Edge

As per IS : 2220-1990

Made out of EN-45 Steel up to 2000 mm. & above out of Alloy Steel, Mass Design Accuracy to IS-2220-1990 unhardened working surfaces. Provided with 2 Drill holes at Point of Best Supports.

Size In mm L x W x T	Provided Straightness Accuracy In $\mu\text{m}$	Straightness Accuracy as per IS in $\mu\text{m}$	
		Grade 00	Grade 0
300 x 50 x 8	4	4	7
500 x 50 x 8	5	4	7
600 x 50 x 8	5		
750 x 50 x 8	7	6	9.5
1000 x 50 x 9	10	8	12
1200 x 50 x 9	10		
1500 x 70 x 10	12		17
1800 x 70 x 10	12		
2000 x 70 x 10	14		22
2500 x 90 x 18	16		27
3000 x 90 x 18	20		32
4000 x 130 x 20	25		42
5000 x 130 x 20	30		



## Cast Iron I-Section St-Edge

As per IS : 5268-1991

Made generally as per IS: 5268-1991. Made from good quality closed grained with high Density Alloyed Cast Iron Castings Conforming to Grade FG 220 of IS: 210 Stress Relieved Hand Scraped Surfaces.

Size In mm L x B x H	Provided Accuracy Flatness & Parallelism in $\mu\text{m}$	Flatness & Parallelism Accuracy As Per IS in $\mu\text{m}$	
		Grade 0	Grade 1
300 x 50 x 75	3	2	3
500 x 50 x 75	4	3	5
750 x 50 x 80	4	3	6
1000 x 50 x 100	7	5	10
1500 x 50 x 150	8	6	12
2000 x 50 x 150	12	10	20
2500 x 50 x 190	14		
3000 x 60 x 235	18	15	30
3500 x 60 x 250	20		
4000 x 75 x 350	25	20	40
5000 x 75 x 350	35	25	50



## Light Weight St-Edge

Main body is made out of extruded Aluminium section. Both top and Bottom working surfaces are reinforced with steel strip. Very useful for Erections, Alignments and other purposes where very high Accuracy is not required.

Size In mm L x W x H	Straightness Accuracy In $\mu\text{m}$
1000 x 50 x 115	20
1500 x 50 x 115	25
2000 x 50 x 115	30
2500 x 50 x 115	40
3000 x 50 x 115	50
3500 x 50 x 115	60
4000 x 50 x 115	70
5000 x 50 x 215	80
6000 x 50 x 215	90

Made Generally as per IS: 5268-1991. Made from good quality close grained with high Density Alloyed Cast Iron Castings Conforming to Grade FG-220 of IS:210. Stress Relieved Hand Scraped Surface.

Length In mm	Minimum Width In mm	Provided Accuracy In $\mu\text{m}$	Accuracy As Per IS in $\mu\text{m}$	
			Grade 0	Grade 1
300	30	3	2	3
500	35	4	3	5
800	40	5	3	6
1000	45	7	5	10
1600	55	9	6	12
2000	65	12	10	20
3000	90	18	15	30



**Cast Iron Camel Back St-Edge**

As per IS : 5268-1991

Made out of alloyed steel, working edge hardened to 60 Rc provided with insulated handle, up to 500 mm full hard & above working surface hardened & lapped.

Size In mm	Straightness Accuracy In $\mu\text{m}$
100 x 50 x 8	1
150 x 50 x 8	1
200 x 50 x 8	2
300 x 50 x 8	2
500 x 50 x 8	3
1000 x 50 x 8	4
1200 x 50 x 8	5

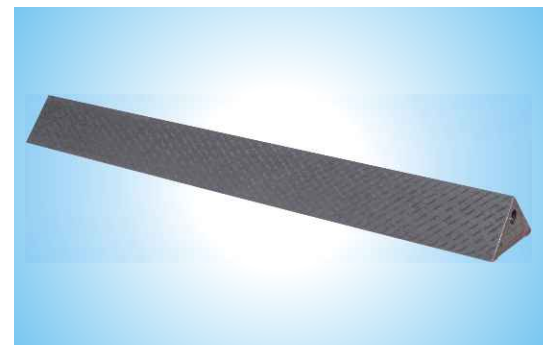


**Tool Maker St-Edge**

As per IS : 3512-1966

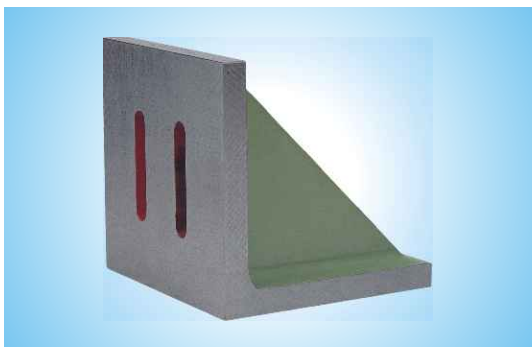
Made Generally as per IS: 8823-1978. Made from good quality close grained with high Density Alloyed Cast Iron Castings Conforming to Grade FG-220 of IS: 210. Stress Relieved Hand Scraped Surfaces. Provided with lifting handles on both ends.

Length In mm	Approx Width In mm	Flatness Accuracy In $\mu\text{m}$
250	45	3
500	60	4
600	60	5
750	80	6
1000	100	8
1250	110	13
1500	130	13
2000	160	16



**Cast Iron Triangular St-Edge**

As per IS : 8823-1978



## Cast Iron Angle Plate

As per IS : 2554-1971

Made Generally as per IS: 2554-1971. Made from good quality close grained with high Density Alloyed Cast Iron Castings Conforming to Grade FG-220 of IS: 210. Stress Relieved Hand Scraped Surfaces. Webbed & Slotted. Precision Angle plates as per IS: 6973-1973 on request.

Size In mm L x B x H	Flatness In $\mu\text{m}$	Squareness In $\mu\text{m}$	Parallelism Opp. Surface In $\mu\text{m}$
125 x 75 x 100	5	10	13
175x 100x 125	5	13	15
250 x 150 x 175	8	15	18
350 x 200 x 250	8	18	20
450 x 300 x 350	10	18	20
600 x 400 x 450	10	20	23
Size Other Than IS			
150 x 150 x 150	5	13	15
200 x 200 x 200	8	15	18
250 x 250 x 250	8	15	18
300 x 300 x 300	8	18	20

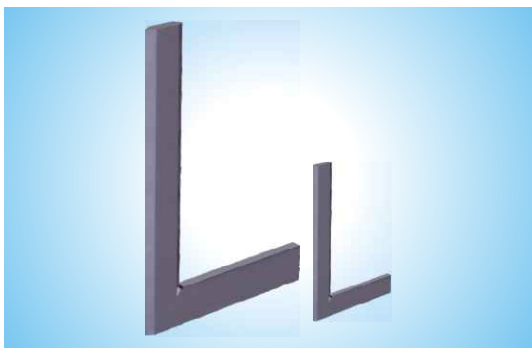


## Cast Iron Box Angle Plate

As per IS : 6232-1971 Grade - 1

Made Generally as per IS: 6232-1971. Made from good quality close grained with high Density Alloyed Cast Iron Castings Conforming to Grade FG-220 of IS: 210. Stress Relieved Hand Scraped Surfaces. Precision Box Angle plates as per IS-6985-73 on request.

Size In mm L x B x H	Flatness In $\mu\text{m}$	Squareness In $\mu\text{m}$	Parallelism In $\mu\text{m}$
125 x 75 x 100	5	10	13
175x 100 x 125	5	13	15
250 x 150 x 175	8	15	18
350 X 200 X 250	8	18	20
450 X 300 X 350	10	18	20
600 x 400 x 450	10	20	23



## Try Square (Engineer's Square)

As per IS : 2103-1980 Grade - A

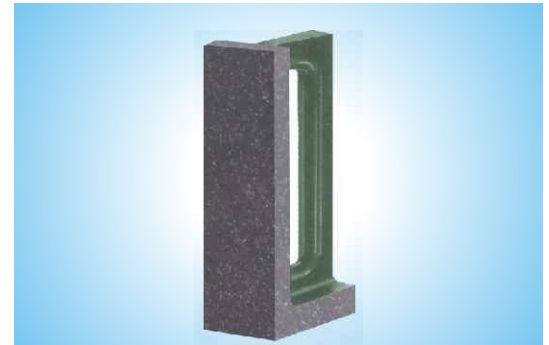
Made Generally as per IS : 2103-1980 Grade A Made from good quality of Alloy Steel Hardened, Ground & Stabilized up to 300 mm. Hardness 58 Rc. Above 300 mm unhardened & Hand scraped on Main working surfaces.

Type - 2 Plain & Beveled edge Size In mm	Perpendicularity In $\mu\text{m}$
75 x 50 x 4	3
100 x 70 x 5	3
150 x 100 x 6	4
200 x 140 x 6	4
300 x 200 x 8	5
500 x 300 x 10	10

Type - 3 Plain & Beveled edges with flange Size In mm	Perpendicularity In $\mu\text{m}$
300 x 200 x 8	5
500 x 300 x 10	10
600 x 400 x 10	10
750 x 500 x 12	15
1000 x 750 x 12	25

Made from good quality close grained with high Density Alloyed Cast Iron Castings Conforming to Grade FG-220 of IS: 210. Stress Relieved Hand Scraped Surfaces.

Size In mm	Squareness Accuracy In $\mu\text{m}$
200 x 150	3
300 x 250	3
500 x 250	5



**Cast Iron Right Angle Knee**

Made Generally as per IS-6952-1990. Made out of good quality of Alloyed Steel. Fully Hardened Ground and lapped with lifting handle.

Size In mm Lenth x $\phi$	Squareness Accuracy In $\mu\text{m}$	
	Provided	As Per IS
150 x 70	2	2
200 x 80	3	3
300 x 95	4	5
450 x 120	5	7
500 x 140	5	7
600 x 140	6	9
750 x 160	8	11

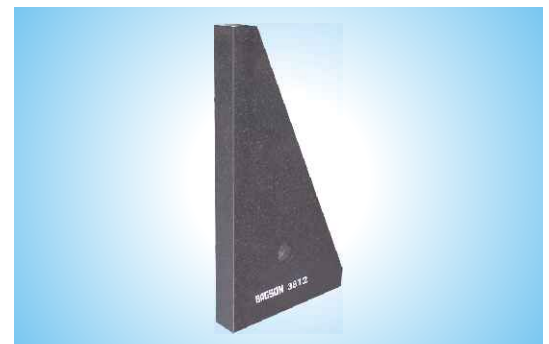


**Master Cylinder  
(Cylindrical Squares)**

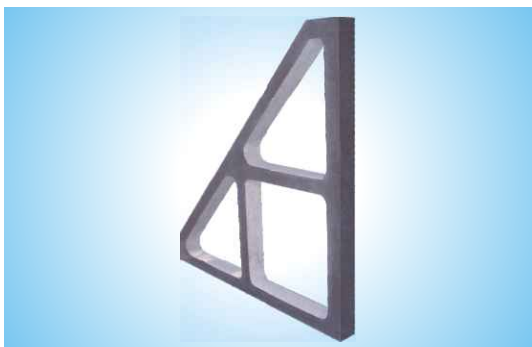
As per IS : 6952 - 90

Made out of selected black Granite having uniform texture and colour, Very dense & hard wearing, needs no oiling, velvet lapped finish on working surfaces.

Size In mm	Squareness Accuracy In $\mu\text{m}$
250 x 175 x 60	3
400 x 250 x 60	3
500 x 300 x 80	4
600 x 400 x 80	5
750 x 400 x 80	6



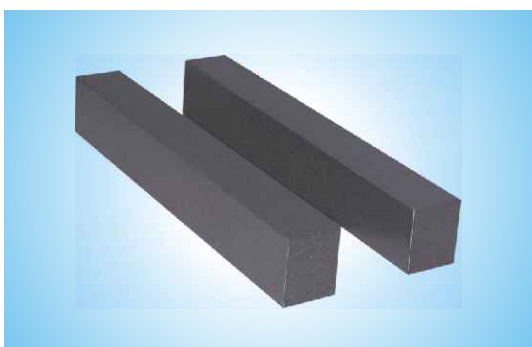
**Granite Master Angle Plate**



**Granite  
3-Axis Ref - Square**

Made out of selected Black Granite having uniform Texture & Colour, very dense & hard wearing, needs no oiling, Velvet lapped finish on working surfaces. Suitable for the squareness checking of precision machines and alignments in precision measurements.

Size In mm	Squareness Accuracy In $\mu\text{m}$	Straightness Of Working Surface In $\mu\text{m}$
1000 x 750 x 70	7	4
1000 x 1000 x 70	7	4



**Granite & Steel Parallels**

Granite Parallels are made out of selected black granite of uniform texture. Steel Parallels are made out of good quality of steel hardened ground and lapped all the four faces are working faces.

#### STEEL PARALLELS

Size In mm	Parallelism Of Faces In $\mu\text{m}$
150 x 30 x 15	5
200 x 40 x 20	6
250 x 50 x 25	6
300 x 60 x 30	7

#### GRANITE PARALLELS

Size In mm	Parallelism Of Faces In $\mu\text{m}$
150 x 50 x 25	3
200 x 100 x 50	4
250 x 100 x 50	5
300 x 100 x 50	6



**Cast Iron & Granite Cube**

C.I. cube is made out of Good quality close grained with high Density Alloyed cast iron castings conforming to Grade FG-220 of IS: 210. Stress Relieved Hand Scraped Surfaces. Granite Cube is made out of selected Black Granite having uniform texture & colour, very dense and hard wearing, needs no oiling, velvet lapped finish on working surfaces. All the three dimensions of the cube may not be same. For Same dimension place special order.

Size In mm	Squareness Accuracy In $\mu\text{m}$	Parallelism Of Opp. Faces In $\mu\text{m}$
200 x 200 x 200	4	5
300 x 300 x 300	5	8
500 x 500 x 500	10	15

#### WE UNDERTAKE:

1. Calibration of these items Traceable to NPL for ISO - 9000, TS-16949
2. Jobs for scrapings



# DELHI METCO

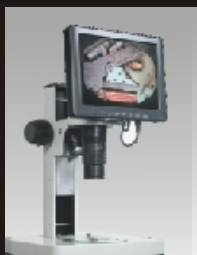
Deals in : Metallurgical & Testing Lab Equipments

An ISO 9001:2008 Certified Company

# PORTABLE MEASURING INSTRUMENTS



- Product from Metallurgist
- Nationwide Service Network
- Over 1000's of installations
- Free Consultations



DEALS IN : MICROSCOPES, HARDNESS TESTER, UTM MACHINE, SALT SPRAY CHAMBERS ETC.

### Application

With principal of Measuring Indication, we can measure the thickness of non-magnetic coating layers on magnetic substrate. Such as: (aluminum, chrome, copper, enamel, rubber, paint) on magnetic substrate (steel, iron, alloy and magnetic stainless steel)

With NF Type (Eddy Current) principal, we can measure the thickness of nonconductive coating layers covered on non ferrous substrate. Such as: (enamel, rubber, paint, vanish, plastic, anodic-oxide layer) covered on nonferrous substrate (aluminum, brass, zinc, tin and nonmagnetic stainless steel)



DM-01



DM-02

### SPECIFICATIONS:

MODEL	DM-01	DM-02
Operating principle	F & NF	
Measuring Range	0~1250um/0~50mil (default range)	
Resolution	0.1/1	
Accuracy	±1~3%n or ±2.5um	
Min. radius work piece	F: Convex 1.5mm / Concave 25mm N: Convex 3mm / Concave 50mm	- -
Min. measuring area	5 mm	6 mm
Min. sample thickness	0.3 mm	
Metric/ imperial	Convertible	
Power Supply	4 x 1.5 V AAA (UM-4) Battery	
Battery Indicator	Low Battery Indicator	
Auto Switch off	Yes	
Dimensions	124 x 62 x 30 mm	126 x 65 x 27 mm
Weight (Not including battery)	115 g	81 g

## ULTRASONIC THICKNESS GAUGE

### Applications:

Used for measuring thickness and corrosion of pressure vessels, chemical equipment, boilers, oil storage tanks, etc. in industries of petroleum, shipbuilding, power station, and machine manufacturing.

### SPECIFICATIONS:



DM-8812

MODELS	DM-8812
Measuring range	1.2-225mm / 0.05-9 inch
Operating principle	ULTROSONIC
Materials measured	Any hard materials, including steel, cast iron, aluminum, red copper, brass, zinc, quartz glass, polyethylene, PVC, gray cast iron, nodular cast iron and other materials.
Sound velocity	500 - 9000m/s
Lower limit steel pipes	φ15x2.0mm, φ20x3.0mm determined by the transducer
Calibration block	included
Resolution	0.1mm
Accuracy	±(0.5%n+0.1)
Interface port	with RS232C
Power supply	4x1.5V AAA (UM-4) battery
Operating conditions	0~+40° / 0-90%RH
Dimensions / Weight	120x62x30mm / 164g (not including battery)



**DM-300**

**SPECIFICATIONS:**

MODEL	DM-300
Scanning Range	2.5 mm ~5000 mm
Scanning Resolution	0.1mm (2.5~100mm), 1mm (100~5000mm)
Gain Range	0~110dB
Sound Speed	1000~9999m/s
Bandwidth	0.2~15MHz
Unit	Metric/inch
Interface	RS232
AC Requirements	240V AC, 50Hz
Weight	1.47kg
Overall Dimension	243 x 173 x70 mm

**FEATURES**

- Measuring of pitch interval and analysis of echo times
- Auto-calibration of probe and auto-gain
- Two measuring unit: mm/inch
- Equipped with gate setting and alarming function
- All built-in software can be up-graded on PC
- Lock/unlock the system parameters
- Two measurement displaying mode: A-scan and B-scan
- Freeze/defreeze waveform and detection parameters
- Communicating with PC by RS232 port for transferring the measuring data and system parameters
- 40 detecting channels are available with separated detecting parameters and DAC curve in every channel
- Automatic generation of DAC curve, and 30 points can be recorded at most, adjustable offset curves and gain correction functions are available
- Provided with linear reject function, the highest range is 80% of the screen height
- Memory up to 300 A scanned images, parameters and DAC, and 30000 thickness values
- Four Rectify Ways: positive half-wave, negative half-wave, full wave and radio frequency
- Three detecting modes: single-probe, dual-probe ones and transmission

**SURFACE PROFILE GAUGE**



**DM-2858**

Applications: Specially used to take accurate measurement of the peak-to-valley height of the surface profile of the surface profile of blast cleaned surfaces.

**SPECIFICATIONS:**

MODEL	DM-2858
Display	4 digits, LCD
Range	0 $\mu$ m to 800 $\mu$ m (0 mils to 30 mils)
Accuracy	$\pm$ 5% or $\pm$ 5 $\mu$ m, (whichever is the greater)
Resolution	1 $\mu$ m (0.1 mils)
Metric and Imperial switchable	
PC interface	RS232C
Measurement speed	>30 readings per minute
Weight	280 g
Dimensions	162 x 65x 28 mm (6.4 x 2.6 x 1.1 inch)
Operating temperature	0°C to 50°C, <80%RH
Case	High impact ABS
Batteries	4 x 1.5v (AAA) battery

This instrument is compatible with four standards of site to measure surface roughness of various machinery-processed parts, calculate corresponding and clearly display all measurement parameters. When measuring the roughness of a surface, the sensor is placed on the surface and then uniformly slides along the surface by driving the mechanism by the sharp built-in probe. This roughness causes displacement of the probe which results in change of inductive amount of induction coils so as to generate analogue signal, which is in proportion to the surface roughness at output end of phase-sensitive rectifier. The exclusive DSP processes and calculates and then outputs the measurement results on LCD.



**SPECIFICATIONS:**

**SRT-6210**

MODEL	SRT-6210
Display	4 digits, 10 mm LCD, with blue backlight
Parameters	Ra, Rz, Rq, Rt
Measuring Range	Ra, Rq: 0.005-16.00um/0.020-629.9uinch Rz, Rt: 0.020-160.0um/0.780-6299uinch
Accuracy	≤±10%
Fluctuation of display value	Not more than 6%
Sensor	Test Principle: Inductance type Radius of Probe Pin: 5um Material of Probe Pin: Diamond Dynamo-measurement of Probe: 4mN(0.4gf) Probe Angle: 90° Vertical Radius of Guiding Head: 48mm
Maximum driving stroke	17.5mm/0.7inch
Cutoff length (l)	0.25mm / 0.8mm / 2.5mm (optional)
Evaluation length	5L
Driving speed	sampling length = 0.25mm Vt=0.135mm/s sampling length = 0.8mm Vt=0.5mm/s sampling length = 2.5mm Vt=1mm/s returning Vt=1mm/s
Profile digital filter	Filtered Profile: RC Filtered Profile: PC-RC Filtered Profile: Gauss Non-Filtered Profile: D-P
Resolution	0.001µm if reading <10µm 0.01µm if 10µm≤reading<100µm 0.1µm if reading ≥100µm
Power Li-ion battery	rechargeable
Operating conditions	Temp. 0~50°, Humidity <80%
Size / Weight	140x57x48 mm / about 420 g

Design & Specification may be changed without prior notice.

**OTHER PRODUCTS :**





# DELHI METCO

Deals in : Metallurgical & Testing Lab Equipments

An ISO 9001:2008 Certified Company



## PROFILE PROJECTOR



**DM-300 / DM-600**

Horizontal Profile Projector with Digital Display & Data Processor is an efficient optical measuring instrument, which is easy to operate and suitable for measuring different shapes of work-pieces with complicated profiles and surfaces with heavy duty work stage to enable the inspection of heavy work pieces such as form cutters, hobs, gears, large screw threads, rolls and large turned components etc. Therefore this instrument is widely used in different machine and instrument manufacturing industries, and it is indispensable for inspection departments and workshops of relative factories.

## WITH 2D MEASUREMENT SOFTWARE

### SPECIFICATIONS:

MODEL	DM-300	DM-600
Screen Size(Dia.)	300mm	600mm
Magnification	10x (Standard) or 20x or 50x or 100x	
Rotating range	0-360°	
Working Distance	Contour-65mm, Surface 65mm	
Illumination:	Contour illumination : 12V 100W Surface illumination : 24V 150W	
Resolution	Liner : 0.001mm Angular : 1 sec	
Measuring System	Digital Data Processor (Optional PC based software)	
Cross Travel Stage	Table Size 350 x 250mm Travel up to 220 x 120mm (X x Y axis)	Table Size 600x200mm Travel up to 300 x 200mm (X x Y axis)
Focusing Travel	Y coordinate 80 mm	Y coordinate 150 mm
X,Y coordinate accuracy	(3+L/75) μm	(3+L/75) μm
Dimensions/Weight	450 x 800 x 1000 mm / 125Kgs	550 x 900 x 1250 mm / 165Kgs.

*Note : Screen size is available upto 1200mm.*



**DM16 A-Z**



**DM12 A-Z**

This is an efficient optical measuring instrument, which is easy to operate and suitable for measuring different shapes of work-pieces with complicated profiles and surfaces. Such as punched pieces, gears, cams, thread cutters, templates etc by means of profile compare measure. Therefore, this instrument is widely used in different machine and instrument manufacturing industries, and it is indispensable for inspection departments and workshops of relative factories.

## WITH 2D MEASUREMENT SOFTWARE

### SPECIFICATIONS:

MODEL	DM-12AZ	DM-16AZ
Screen Size(Dia.)	300mm	400mm
Magnification	10x (Standard) or 20x or 50x or 100x	
Rotating range	0-360°	
Resolution	Linear : 0.001mm, Angular :1 sec	
Measuring System	Digital Data Processor (Optional PC Based software)	
X,Y coordinate accuracy	(3+L/100) μm	(3+L/100) μm
Cross Travel Stage	Table Size 340 x152mm Travel up to 150 x 50mm	Table Size 420 x250mm Travel up to 250 x150mm
Focusing Travel	Z coordinate 80 mm	Z coordinate 90 mm
Illumination:	Contour illumination : 12V 100W	
	Surface illumination : 24V 150W	
Dimensions/Weight	450 x 700 x 1150 mm /80Kgs	550 x 800 x 1250 mm /150Kgs.



**DM-150**



**DM-200 / DM-300**

It is a bench type Projector suitable for all types of measurements and inspections at industries and institutions. Its multilayer coated Projection lenses provide high transmission and optimum contrast suitable for contour and surface in dimensional measurements and surface inspections. Its unique rigid pedestal system facilitates vibration free handling of components. Wide choice of accessories enhance the scope of applications in various fields. It incorporates both Epi & Diascopic illuminators designed on halogen bulb system to ensure brilliant projection on fine ground glass screen rotatable 360°. The screen has cross and detachable clips to hold comparator charts. Its precision micrometer measuring stage is fitted with Rotary measuring stage. It operates on ball bearing guides fine micrometer reading to 0.01mm. Lifelong smooth movement is assured by the incorporation of hard steel rolling balls both in longitudinal and transverse slides. The basic instrument is supplied with 10x, a multi element coated projection lens. Projection accuracy 0.1% in case of contour and 0.15 % in case of surface is provided. Accurate magnification, maximum luminosity, great contrast, uniform resolution to the edge of the screen, freedom from distortion of the image.

## WITH 2D MEASUREMENT SOFTWARE

### SPECIFICATIONS:

MODEL	DM-150	DM-200	DM-300
Screen Size(Dia.)	150mm	200mm	300mm
Magnification	10x (Standard) or 20x or 50x		
Rotating range	0-360° L.C. 1min		
Working Distance	Contour-65mm, Surface 65mm		
Illumination:	Contour Illuminators : 24V 150 Watts Surface Illuminators : 12V 100 Watts		
Cross Travel Stage	Table Size 120 x120mm Travel up to 25 x 25mm with Micrometer Head (0-25mm L.C. 0.01mm)	Table Size 150 x150mm Travel up to 50 x 50mm with Micrometer Head (0-25mm, L.C.0.01mm)	
Dimensions/Weight	19 x 37 x57cm/30Kgs	40 x 60 x 75cm/50Kgs	50 x80x100cm/80Kgs

Design & Specification may be changed without prior notice.



DELHI METCO

# DELHI METCO

Deals in : Metallurgical & Testing Lab Equipments

An ISO 9001:2008 Certified Company



## SALT/CORROSION TEST CHAMBER

- Product from Metallurgist
- Nationwide Service Network
- Over 1000's of installations
- Free Consultations

DEALS IN : MICROSCOPES, HARDNESS TESTER, UTM MACHINE, SALT SPRAY CHAMBERS ETC.

# Corrosion Basics

Corrosion causes billions of dollars in product and infrastructure damage every year. It degrades the useful properties of materials, especially metals. This can include loss of strength, appearance, and permeability to liquids and gases. In just a few days or weeks, a METCO tester can reproduce the damage that occurs over months or years outdoors.



## Cyclic Corrosion Testers

Cyclic corrosion testing provides the best possible laboratory simulation of natural corrosion. Current research indicates that cyclic corrosion testing results are similar to outdoors in resulting structure, morphology, and relative corrosion rates. Prior to cyclic testing, conventional salt spray (a continuous salt spray at 35°C) was the standard way to simulate corrosion in a lab. Because conventional salt spray methods failed to mimic the natural wet/dry cycles of outdoors, test results frequently provided poor correlation to outdoors.

In a METCO cyclic corrosion tester, specimens are exposed to a series of different environments in a repetitive cycle that mimics outdoors. Simple cycles, such as Prohesion, may consist of cycling between salt fog and dry conditions. More sophisticated automotive methods may call for multi-step cycles that incorporate humidity, along with salt spray and dry-off.

Within one METCO chamber, it is possible to cycle through all of the most significant corrosion environments. Even the most complex test cycles can easily be pro-

grammed with the easy-to-operate METCO controller.

METCO chambers are available in three types. The base model performs traditional salt spray and Prohesion tests. Model FRP performs salt spray, Prohesion, and most cyclic automotive tests. Model FRP adds variable relative humidity control and an optional shower function. All METCO chambers are available in two sizes to fulfill a range of testing requirements.

#### CONTROL SYSTEM :

- Temperature controller: Control laboratory temperature, in accordance with the standard temperature setting.
- Saturated air barrel temperature controller: Control saturated air barrel temperature.
- Timer: Adjustable 1 ~ 999 hr can be arbitrary set test time, automatic stop, end with automatic zero setting.
- Heating water tank thermostat: To protect the water heating temperature, the controller is fit laboratory temperature control this tester surrounding temperature difference too big when, must cooperate with adjustment, the setting temperature is 75 degrees in the control.
- Timer switch: Light become warped plate, control time controller power supply.

#### MACHINE INTERNAL :

- Spray tower (or baffle type): Invisible glass shower nozzle in nozzle interior, spray by tower tube guidance, then through conical disperser (or baffle) evenly dispersed spray to the laboratory internal.
- Auto Dispersion : Adjust spray amount, adjustable high spray on the conical disperser (or baffle) spray quantity increase, the lower the spray to decrease, brine preheater tank, located in spray bottom department, the tank brine is the brine added box injection preheating tank, the water level of preheating tank by floating ball control, automatic control level, the groove bottom have for washing port, port by silica gel plug control.
- Fog Collector : Nozzle have eruptive fall fog quantity to free-fall way down to 80 cm of the funnel cup inside, again by duct flow to measuring cup inside.
- Heating water tanker: This tank adherent to the laboratory bottom, used to hold water humidifying keep laboratory temperature smooth, have added wet and heat preservation function.

#### ENVIRONMENT TEST CONDITIONS :

- Environment temperature range: 15° ~ 60°
- Without strong electromagnetic field around the influence, no high concentration of dust and corrosive materials
- Without strong airflow around, when the surrounding air should be forced to flow, flow should not blows directly to the body
- Around the machine there shall be a certain distance, convenient maintenance operation

#### STANDARD SIZES

S.NO.	SIZE IN MM	CAPACITY IN LTR
1.	600 x 450 x 400	108
2.	600 x 500 x 500	150
3.	900 x 600 x 500	270
4.	1000 x 800 x 500	350
5.	1200 x 1000 x 500	600
6.	1600 x 1000 x 500	800
7.	2000 x 1000 x 600	1200



**WE ALSO CONTROL SYSTEM IN PLC TOUCH SCREEN**

The D.M. series Salt Spray (Fog) Tester has been elegantly designed strictly as per the relevant standard to evaluate the facility of rust proofed components to withstand corrosion due to atmospheric conditions. Double Walled. (Stainless Steel 316 inside & Outside Mild Steel) with duly powder coated paint.. Stainless Steel open type lid with large viewing window facility to observe samples under testing.

## CONTROL SYSTEM :

### 1. DIGITAL INDICATORS CUM CONTROLLER

Its function is to indicate and maintain the temperatures. For solution tank its function is to indicate and maintain the temperatures and for test cabinet, its function is to indicate the temperature only.

### 2. DIGITAL TIMER (999 hours) WITH CUT-OFF FACILITY

It shows the working time for the apparatus & the time consume in the process in digitally system. Time limit is for 999 hours.

### 3. HEATING SYSTEM

The Temperature within the Chamber maintained by Heater with Digital indicator cum controller System. Range upto 50°

### 4. POWER SWITCH

Light become warped type, control the total power.



## MACHINE INTERNAL

### 1. MIST DISPERSION AUTOMIZER

Atomizer made of S.S will be equipped in the Chamber having property of non-choking. It produces a mist of atomized solution, which is distributed uniformly throughout the exposure zone by means of Mist Dispersion Atomizer incorporated with a baffle to prevent dispersion of large liquid droplets.

### 2. FOG COLLECTION UNIT

Two Mist Cylinders are provided for measurement mist quantity. Each cylinder is with separate funnel for collection of mist.

### 3. DRAINAGE SYSTEM

The collected mist on the testing space will be recycled through drainage system.

### 4. HANGING PROVISION

The Sample can be hanged with S.S ROD /Acrylic rod (10 - 12mm)

## MACHINE EXTERNAL

### 1. STORAGE TANK

Separate storage tank will be provided with inlet & outlet procedure for solution to the chamber with having base stand.

### 2. AIR REGULATOR

The Air Regulator will maintain a constant pressure of Air

### 3. AIR FILTER

The compressed air will be passed through a Filter Arrangement to remove all traces of oil and solid matters before sent to the saturation tower.

#### Standard Accessories

- a) S. S. Hanger - 5 pcs.
- b) Jet Cleaning Pins – 2 nos.
- c) Sample Thread – 2mtr.

#### STANDARD SIZES

S.NO.	SIZE IN MM	CAPACITY IN LTR
1.	600 x 450 x 400	108
2.	600 x 500 x 500	150
3.	900 x 600 x 500	270
4.	1000 x 800 x 500	350
5.	1200 x 1000 x 500	600
6.	1600 x 1000 x 500	800
7.	2000 x 1000 x 600	1200





**DELHI METCO**

Deals in : Metallurgical & Testing Lab Equipments

An ISO 9001:2008 Certified Company

# STEREO MICROSCOPE





**METCO ZOOM-I**

**Binocular  
Stereozoom  
Microscope**



**METCO ZOOM-II**

**Trinocular  
Stereozoom  
Microscope**



## Technical Specifications

### Binocular Observation Head

- Observation head inclined at 45° rotatable at 360°.
- Diopter adjustment ring on ocular tube.
- Interpupillary distance from 55mm to 75mm.

### Eyepiece

Wide field 10X (paired)  
F.O.V. 22mm.

### Mechanical Body

- Lateral zoom control movement.
- Track stand with incident & transmitted LED lamps.
- Clip for holding specimen.

### Zooming Range & Ratio

Zoom 0.7X to 4.5X with magnification ratio of 1:6.5.

### Magnification Range

7X-45X.

### Working Distance

100 mm.

### Trinocular Observation Head

- Observation head inclined at 45° rotatable at 360°.
- Vertical phototube for micro photography.
- Diopter adjustment ring on ocular tube.
- Interpupillary distance from 54mm to 76mm.

### Eyepiece

Wide field 10X (paired)  
F.O.V. 22mm.

### Zooming Range & Ratio

Zoom 0.7X to 4.5X with

### Mechanical Body

- Track stand with fan type base.
- Lateral zoom control movement.
- Incident and transmitted light system with LED lamp. The system regulated with transformer has separate intensity control knob.
- On/off switch provides flexibility to use either both light or any of them.
- Clip for holding specimen. Base size is 240mm X 280mm.

### Magnification Range

7X-45X.

### Working Distance

100 mm.



**METCO ZOOM-III**



**Trinocular  
Stereozoom  
Microscope**



**METCO ZOOM-IV**



**Trinocular  
Stereozoom  
Microscope**

## Technical Specifications

### Trinocular Observation Head

- Observation head inclined at 45° rotatable at 360°.
- Vertical phototube for micro photography.
- Diopter adjustment ring on ocular tube.
- Interpupillary distance from 54mm to 75mm.

### Eyepiece

Wide field 10X (paired)  
F.O.V. 22mm.

### Zooming Range & Ratio

Zoom 0.67X to 4.5X with  
magnification ratio of 1:6.7

### Mechanical Body

- Track stand.
- Lateral zoom control movement.
- Reflected & transmitted LED Illuminator.
- The system regulated with transformer has separate intensity control knob.
- On/off switch.
- Clip for holding specimen.
- Base size is 198mm X 250mm.

### Magnification Range

6.7X-45X.

### Working Distance

105 mm.

### Trinocular Observation Head

- Observation head inclined at 45° rotatable at 360°.
- Vertical phototube for micro photography.
- Diopter adjustment ring on ocular tube.
- Interpupillary distance from 57mm to 75mm.

### Eyepiece

Wide field 10X (paired)  
F.O.V. 22mm.

### Zooming Range & Ratio

Zoom 0.8X to 5X with  
magnification ratio of 6.3:1

### Mechanical Body

- Incident and transmitted light system with LED lamp.
- The system regulated with transformer has intensity control knob.
- On/off switch to provide flexibility to use either both light or any of them.
- Clip for holding specimen.
- Lateral zoom control movement.

### Magnification Range

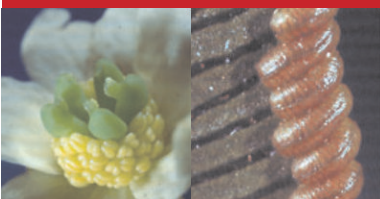
8X-50X.

### Working Distance

115 mm.



**METCO ZOOM-V**



**Trinocular  
Stereozoom  
Microscope**



**METCO ZOOM-VI**



**Trinocular  
Parallel Zoom  
Microscope**

## Technical Specifications

### Trinocular Observation Head

- Galileo optical system left & right parallel optical path.
- Observation head inclined from 45°.
- Vertical tube for micro photography.
- Diopter adjustment ring on ocular tube.
- Interpupillary distance from 55mm to 75mm.

### Eyeiece

Wide field 10X (paired)  
F.O.V. 22mm.

### Zooming Range & Ratio

Zoom 0.8X to 5X with  
magnification ratio of 6.3:1

### Mechanical Body

- Incident and transmitted light system with LED lamp.
- The system regulated with transformer has intensity control knob.
- On/off switch to provide flexibility to use either both light or any of them.
- Clip for holding specimen.
- Lateral zoom control movement.

**Magnification Range**  
8X-50X.

**Working Distance**  
115 mm.

### Binocular Observation Head

- Observation head inclined at 20°.
- Diopter adjustment ring on both ocular tube.
- Interpupillary distance from 55mm to 75mm.
- Lateral tube for digital camera.

### Eyeiece

Focusable extra wide field  
10X (paired) F.O.V. 22mm.

### Zooming Range & Ratio

- Zoom 0.8X to 8X with magnification ratio of 1:10
- Plan achromatic objective 1X.

### Mechanical Body

- Track stand with co-axial focusing mechanising.
- Incident and transmitted light system with LED lamp.
- The system regulated with transformer has intensity control knob.
- On/off switch to provide flexibility to use either both light or any of them.
- Clip for holding specimen.
- Lateral zoom control movement.

**Magnification Range**  
8X-80X

**Working Distance**  
78 mm.



# DELHI METCO

Deals in : Metallurgical & Testing Lab Equipments

An ISO 9001:2008 Certified Company

# UNIVERSAL TESTING MACHINES

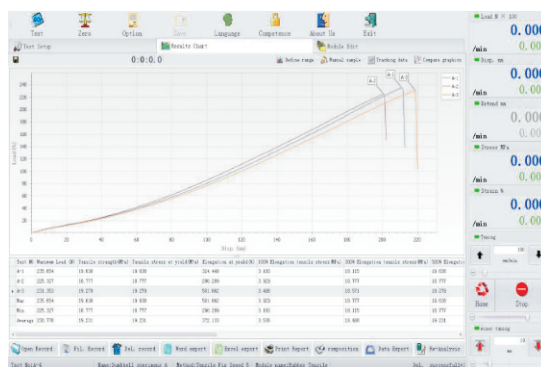


DEALS IN : MICROSCOPES, HARDNESS TESTER, UTM MACHINE, SALT SPRAY CHAMBERS ETC.

Metco testing machine is mainly used to process tensile test, compression test, bending test and shearing test of metallic material, it can also be used to process compression test and bending test of cement, concrete and other non-metallic material, with special auxiliary equipment it can also be used process mechanical property test of fastener, steel wire rope, components. It applies to aerospace industry, engineering inspection, university and college, mining industry, research institution and other fields. The testing machine meets to ISO, ASTM and other international test standard.



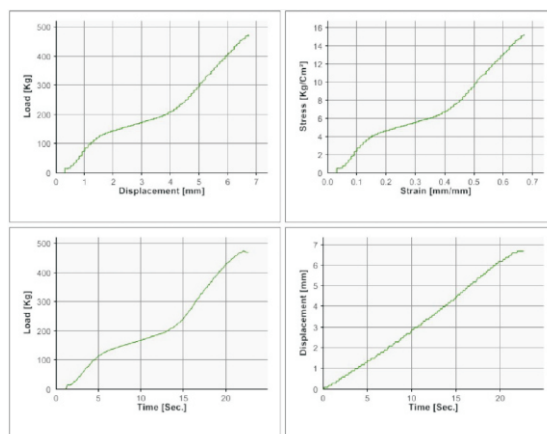
## ANALYSIS SOFTWARE



## Salient Features :

- Peak load along with on line load.
- maximum elongation with online elongation.
- Ultimate tensile strength
- Graphical display of load vs time.
- Graphical display of elongation vs time
- Graphic display of load vs elongation.
- Graphic display of stress vs strain
- Load-kN-min.
- Displacement: mm/min.
- Complete statistical analysis
- Data report management.
- PC connectivity RS - 232 / USB
- 5Tonf/50KN, 10Tonf/100KN, 20/ton, 40/ton, 60/ton, 100ton
- Reports & printouts Graphical-data type reports can be printed through software.
- Resolution of display 0.01mm.
- Speed 50 to 500mm/minute.
- Ball screw based
- 7" LCD screen

## ANALYSIS GRAPH





- This is state of the art micro processor based signal processor which operates on digital o/p signal from data Acquisition part and displays the test results on large digital displays. This also handle relevant calculation to UTS value, % displacement, Break load etc. Feature: up based.
- Large display for load and displacement.
- Centronic parallel port for printer/plotter inter face (optional)
- Data entry through push button type keyboard.

### MAIN FEATURES

- Reports & printouts Graphical-data type reports can be printed through software.
- Software The windows based software (Online simultaneously Graph plotting Load Vs Ext.,
- Stress Vs Stress,
- Load Vs Time &
- Ext. Vs Time). Data entry through software.
- Speed 20 to 500mm/minute.
- Ball screw based
- 7" LCD screen

### Safety Features :

- Machine stops after specimen failure.
- Safety against over travel of piston.
- Surge protector.
- Auto machine diagnosis.
- Safety against overload.

## IMPACT TESTING MACHINE



### CHARPY TEST :

The charpy test piece rests on alloy steel support anvils, fitted on the base of the machine rigidly held in position by Allen screws. End stopper is provided for quickly and accurately locating the test piece centrally between the supports.

### IZOD TEST :

The Izod test is clamped vertically in Izod support fitted on the base of the machine. The support is provided with a machined vertical groove to suit the test piece size. The front clamp piece and the Allen screw enable clamping of the test piece in correct height with the help of Izod setting gauge supplied

Charpy and Impact Tension Test		Izod Test
Pendulum drop angle	140"	85" 21"
Effective weight	20-59 kg.	21.79 kg
Speed	* 5.3465 m/sec	3.857 m/sec.
Impact energy	30kgm (300J)	16.4 kgm (164J)
Min. graduation	1J/2J	1J/2J
Distance of axis of hammer rotation and centre of test piece/point of test piece hit by hammer	825mm	825mm
Max. permissible loss by friction	0.5% of max. impact energy	

## SPRING TESTING MACHINE



We, DELHI METCO, are a well recognized manufacturer, supplier and exporter of Computerized Spring Testing Machine. This machine has zero result facility to signal the real time deflection occurring during the loading process. Its load indicator bears a British/ metric unit system in which the display for length will be in inches and for the load it will read in LBF. The digital displacement/ length indicator configured in this Computerized Spring Testing Machine has 0.1 mm resolution and 0.2mm accuracy by optical encoder with rotary function.

### Features:

Digital Load Indicator  
Electro Mechanical Loading  
Microprocessor Deflection Display  
Zero tar Load on Start

### Specifications:

Accuracy of Load Indicator: 0.4% FS  
Load application: Manual or Motorized  
Loading Capacity: 1 - 5000 KGF.  
Platens or springs length admit : 50 to 500mm  
Power Supply: 415V or 220 to 240, 50 Hz., 1 or 3 ph  
Resolution of Load Indicator: 0.1% FS  
Spring Diameter: Max. 150mm

## FATIGUE TESTING MACHINE

Sr. No.	Description	Unit	Values
1.	Maximum bending moment	Kg cm	200
2.	Bending moment adjustable	Kg cm	25 - 200
3.	Ranges	I Kg cm II Kg cm	25 - 125 125 - 200
4.	Gripping dia of specimen	mm	12
5.	Testing dia of specimen	mm	8
6.	Rotating speed	rpm	4200
7.	Accuracy of applied bending moment	%	± 1%
8.	Digital counter	No.of digits - 8	



This machine is used to test the fatigue strength of materials and to draw S-N diagram ideal equipment for Technical Institutions, Research Institutes, Laboratories etc. This is a rotating beam type machine in which load is applied in reversed bending fashion. The standard 8 mm dia specimen is held in special holders at its ends and loaded such that it experiences a uniform bending moment. The specimen is rotated at 4200 RPM by a motor. A complete cycle of reversed stresses in all fibers of the specimen is produced during each revolution. The bending moment is applied with a lever system and can be easily changed by moving a weight over the lever. Total number of revolutions at which the specimen fails are recorded by a mechanical counter. An interlocking system puts off the motor at specimen failure. Machine meets requirements of International / Indian Standards



**METCO-100**



**METCO-200**

METCO Series upright metallurgical microscopes are suitable to observe surfaces of opaque object or transparent object. They are equipped with long working distance plan achromatic objectives and wide field eyepieces, provided excellent optical quality and operation performance.

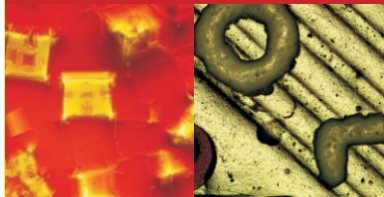
Enable selection of the illumination mode, such as reflected, transmitted and reflected light working independently or synchronously, achieved the request of different sample checking. They are the ideal instruments in research work for metallography, mineralogy, precision engineering, electronics, etc.

#### SPECIFICATIONS:

MODEL	METCO-100	METCO-200
Eyepieces	Wide Field WF 10x (Field Number Ø18mm)	
Objective	PL L5X/0.12 Work Distance: 18.3mm PL L10X/0.25 Work Distance: 8.8mm PL L40X/0.60 (Spring) Work Distance: 3.7mm PL L60X/0.75 (Spring) Work Distance: 1.34mm	
Magnification	50x, 100x, 400x & 600x (Optional upto 2000x)	
Eyepiece Tube	30° Trinocular, Inclination 30° and integrated analyzer	
Epi- illumination Unit	6V 20W, halogen lamp, brightness control. Integrated field, aperture diaphragm and filter switch device, puller polarizer Equipped with Y,B,G Filters with ground glass	
Transmitted illumination System	Not Applicable	NA.1.25 Abbe condenser Rack & pinion adjustable
Focus system division of fine focusing: 2µm	Coaxial coarse/fine focus system, with tensional adjustable and up stop, minimum	
Stage	Double layer mechanical (size: 185mm x 140mm, moving range: 75mm x 50mm)	



## DIGI METCO ZOOM-I



Digital  
Sterozoom  
Microscope  
with 7" LCD



## DIGI METCO ZOOM-II



Digital  
Sterozoom  
Microscope  
with External  
8" LCD

## Technical Specifications

### Digital Binocular Observation Head With 7" LCD Screen Fixed On Head

- Observation head inclined at 45° with built in-head camera. 7" LCD view available on-line.
- Diopter adjustment ring on both ocular tube.
- Interpupillary distance from 55mm to 75mm.

#### Eyepiece

Wide field Eyepiece 10X (paired) FOV 22mm

#### Zooming Range & Ratio

Zoom 0.7X to 4.5X with magnification ratio of 6:1

### Mechanical Body

- Incident and transmitted light system with LED lamp.
- The system regulated with transformer has intensity control knob.
- On/off switch to provide flexibility to use either both light or any of them.
- Clip for holding specimen.
- Lateral zoom control movement.

#### Magnification Range

7X to 45X

#### Working Distance

105mm

### Binocular Observation Head with LCD Camera on Vertical tube.

- Siedentopf binocular observation head & tiltable from 0° to 35°. Dioptoric adjustment on ocular. Interpupillary distance from 52 to 75mm.
- 8 inch TFT screen with resolution of 800x600 fixed on camera body.
- Digital camera is fixed with 3.0 Megapixel CMOS sensor.
- Built-in-memory storage slot for SD card maximum storage upto 8 GB.
- USB-2, AV out put for interface with external LCD monitor, computer & LCD projector.

#### Eyepiece

Focusable extra wide field 10X (paired)

### Mechanical Body

- Track stand with co-axial focusing mechanising.
- Incident and transmitted light system with LED lamp.
- The system regulated with transformer has intensity control knob.
- On/off switch to provide flexibility to use either both light or any of them.
- Clip for holding specimen.
- Lateral zoom control movement.

#### Zooming Range & Ratio

- Zoom 0.8X to 8X with magnification ratio of 1:10
- Plan achromatic objective 1X.

#### Magnification Range

8X-80X

#### Working Distance

78 mm.



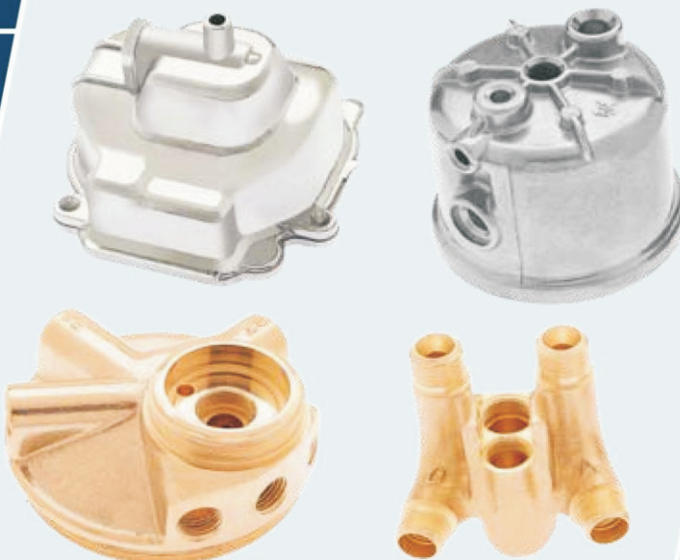
# ***In-Depth Solutions, Flawless Finishing***

*Holistic Approach*

*Complete Solutions*

*Continuous Advancement*

*Prompt After Sales Service*



# Our Products

## Vibratory Finishing Machines

Vibratory Finishing Machines are mass finishing machines, used for deburring, polishing, descaling, and surface improvement on metal and plastic components.

The machine has a steel bowl lined with rubber or polyurethane which is filled up with required media (either ceramic, plastic, maize etc. depending upon the finish required) and components. Eccentric weights are mounted on an extended shaft attached to a heavy duty motor to cause vibrations and create a spiral of the media and the components. Variations in vibration, achieved by varying weights and angles, and suitable combination of media enable machine to be used for different components.

## Standard Features :-

- Effective motor position for Superior Vibration.
- High tensile nut bolts for longer machine life.
- Efficient removal of process fluid for best surface finish.
- Energy efficient motor.
- Bowls shot blasted before and after Polyurethane lining for painting
- All internal welds ground smooth
- Anti rotation motor locking plate provided
- Bowls are stress relieved

## Additional Features:

- Complete Polyurethane lined bowl including separation area.
- Complete Polyurethane dam flap to avoid metal contact instead of metal flap.
- Polyurethane corrosion resistant paint for longer life in acidic /alkaline environments
- Accident proof media outlet design for total safety

## Advantages :

- Can handle very small to large parts.Batch or continuous operation.
- In-Process Inspection
- Integral separation.
- Better media/parts mixing since it has cascade and circular action.
- Economical for general purpose work, heavy deburring, continuous processing, and continuous inspection.
- Full automation capability.
- Batch or continuous operation.



**Standard Machine without Separation**

Model	Processing volume in litre	Motor power (HP)	Bowl O.D.(m.m)	Bowl chamber width(m.m)
SE-75	75	1.0	850	220
SE-150	150	2.0	1050	270
SE-200	200	2.5	1150	300
SE-300	300	3.0	1350	350
SE-600	600	7.5	1500	400

\*Subject to change without notice  
\*Requires manual separation of components



**Standard Machine with Separation**

Model	Processing volume in litre	Motor power (HP)	Bowl O.D.(m.m)	Bowl chamber width(m.m)
SE-75	75	1.0	850	220
SE-150	150	2.0	1050	270
SE-200	200	2.5	1150	300
SE-300	300	3.0	1350	350
SE-600	600	7.5	1500	400

\*Subject to change without notice  
\*Process volume is volume below the separation screen.

### Spirotech Machine (Curved walls)

Spirotech machines have curved bowls that allow larger batch loads and reduced process time. Recommended for light and small components. Which in standard machine, tend to float on the outer periphery of the bowl.

These machines are available with or without separation for Model 120L and above.



### Spirotech Machine

Model	Gross Volume	Motor power (HP)	Bowl U Width (m.m)
SE-120	120	1.5	285
SE-300	300	2.0	370
SE-600	600	5.0	460
SE-1200	1200	8.0	550

*\*Subject to change without notice*

### 100% Separation Machine

Certain applications require that each and every component is completely separated from media i.e. 100% separation. It is possible to achieve this 100% separation only with machines that are specially designed to suit the geometry of the components and media.

These machines are available in 120 L capacity and above. Details available on request.

### Burnishing Machine

Burnishing machines are specially designed for the burnishing process using steel media. The motors are designed for excellent cascade of the increased work load. Separation is manual.

#### Special Features:

Specially designed for finishing with steel media  
Heavy duty Vibratory Drive System  
Specially strengthened bowl

#### Advantages:

Fast Processing  
Shorter cycle times  
Higher Productivity  
Cost effective High Polishing process  
Improves corrosion resistance of product



### Burnishing Machine for Mirror Polishing Using Steel Media

Model	Processing volume in litre	Motor power (HP)	Bowl O.D.(m.m)	Bowl chamber width(m.m)
SE-60	60	1.5	780	200
SE-120	120	2.0	1150	256
SE-300	300	5.0	1350	342
SE-600	600	8.0	1700	430

*\*Subject to change without notice*



## **DELHI METCO**

*Manufacturer & Exporters of :  
Metallurgy Lab. Equipments  
Imported Microscopes*

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# DELHI METCO

Deals in : Metallurgical & Testing Lab Equipments

An ISO 9001:2008 Certified Company

# VISION MEASUREMENT MACHINES

and ANALYZER SYSTEM



- Product from Metallurgist
- Nationwide Service Network
- Over 1000's of installations
- Free Consultations



DEALS IN : MICROSCOPES, HARDNESS TESTER, UTM MACHINE, SALT SPRAY CHAMBERS ETC.

The Vision Measurement Machine adopts a High resolution, ultra-low distortion enlarging system combined by a high-resolution CCS and telecentric lens. The machine enlarges accurately a part together with high precision worktable and grid scale to measure, check and view the part.

By means of various high efficient automatic measuring functions provided by the measuring software. It is possible to enlarge the part as big as 20-125 times of the part size. It's working efficiency is largely higher than a traditional optical projector.

The Machine, equipped with the color CCD Vision magnifying system, displays the part in different color/material on a computer screen with results much better than a traditional optical projector. It is especially suitable for measuring a curve or a hyperfine part etc. that can't be measured by a slide caliper rule or another kind of gauges.

The machine worktable can be placed on a high precision datum marble platform. Because of its optical system it is much simpler than an optical projector, It is extremely easy to achieve high geometric accuracy and measurement accuracy.

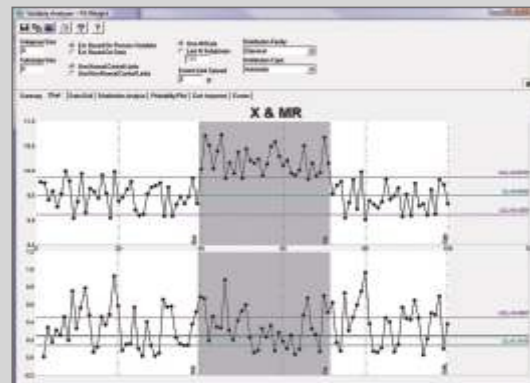
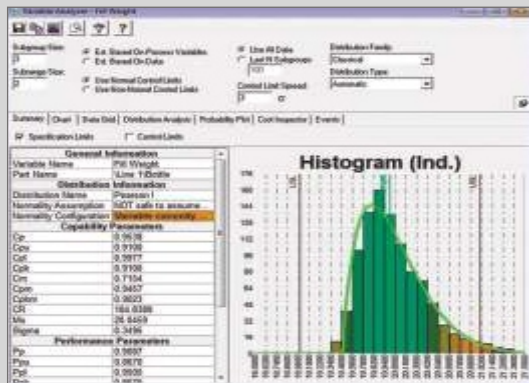
Delhi Metco owns a complete series of Vision Measurement Machines from manual type machine, NC type automatic measurement machine, to CNC fully automatic measurement machine with off-line programming, high speed and efficiency function in order to meet different customer's requirements. All Delhi Metco Vision Measurement Machines are compatible with RENISHAW high accuracy touch trigger probe to measure parts in Z-axis or simple-3 Dimensional measurement.

SPC statistical analysis software is a standard configuration for all Delhi Metco Vision Measurement Machines. It allows customers to carry out scientific analysis for the production flow to find error trend in the flow and problems in the operations. In addition, all measurement results may be exported to popular office software, such as Excel, Word to make customers save results conveniently for working out a quality inspection report or analyzing further.

Delhi Metco Vision Measurement Software can export results in image file DXF to the popular CAD software, e.g., AutoCAD, Master CAM etc. to facilitate customers to copy the results. Vice-versa, image files in DXF may also be loaded into Delhi Metco Vision Measurement Software to compare measurement results visually.

## SPC STATISTICAL ANALYSIS SOFTWARE

All Delhi Metco Vision Measurement Machines are equipped with SPC analysis software to allow customers to analyze the measurement results in order to find the error trend in the production flow and have a chance to find problems in the production process on time to make a correction. This will avoid serious errors and waste in each production stage. The SPC Statistical analysis software provides a series of chart patterns & methods for management, such as Xbar-R, Xbar-S, Xmed-R, R-Rm etc, as well as a number of diagram representation methods, for example, vertical, horizontal, 3-dimension, connection diagram etc. to improve quality management considerably.



### DM Series (manual)



- optical magnification : 0.7-4.5X
- vision magnification : 18-120X
- Video system : 1/3" CCD camera
- Rason 2D measuring software with SPC.
- Acer computer with 18.5" LCD and licensed Window-XP.

#### SPECIFICATIONS:

MODEL	DM-2010	DM-3020	DM-4030
Working Mode	Manual	Manual	Manual
X-Axis Travel	250mm	300mm	400mm
Y-Axis Travel	100mm	200mm	300mm
Z-Axis Travel	150mm	150mm	200mm
Accuracy	(4+L / 200)μm		
Resolution	0.001mm		
Repeatability	2μm		



### DM/EV Series (manual)

- Optical magnification : 0.7-4.5X
- Vision magnification : 25-145X
- Z axis motorized, with auto focus function
- Software Easson 2D version 6.0 with SPC.
- Acer computer with 18.5" LCD and licensed Window-XP.



#### SPECIFICATIONS:

MODEL	DM-EV-2515	DM-EV-2515T	DM-EV-3020	DM-EV-3020T	DM-EV-4030	DM-EV-4030T
X-Axis Travel	250 mm	250 mm	300mm	300mm	400mm	400mm
Y-Axis Travel	150 mm	150 mm	200mm	200mm	300mm	300mm
Z-Axis Travel	150 mm	150 mm	200mm	200mm	250mm	250mm
Accuracy	(3+L / 200)μm					
Resolution	0.001mm					
Repeatability	2 (μm)					
Precision Measuring Head	Without Probe	RENISHAW Touch Probe	Without Probe	RENISHAW Touch Probe	Without Probe	RENISHAW Touch Probe

**SPARTAN SERIES (CNC)**



- Optical magnification : 0.7 - 4.5X
- Vision magnification : 25 - 145X
- Can be increased upto 12-290X by supplementary lens
- Z axis auto focus
- Software Easson 2D version 6.0 with SPC
- Acer computer with 18.5" LCD and licensed Window-XP
- X/Y/Z with step motor, 100mm/s
- Motorized auto-zoom lens & 3 supplementary lenses (0.5x, 1.5x, 2x)

**SPECIFICATION:**

MODEL	DM-SP-3020	DM-SP-3020T	DM-SP-4030	DM-SP-4030T			
Working Mode	Automatic	Automatic	Automatic	Automatic			
X-Axis Travel	300mm	300mm	400mm	400mm			
Y-Axis Travel	200mm	200mm	300mm	300mm			
Z-Axis Travel	200mm	200mm	250mm	250mm			
Accuracy	(3+L / 200)μm	(3+L / 100)μm					
Resolution	0.001mm						
Repeatability	2μm						
Precision Measuring Head	Without Probe	RENISHAW Touch Probe	Without Probe	RENISHAW Touch Probe			

Design & Specification may be changed without prior notice.