



# Measuring Tools



**6 Piece Set**

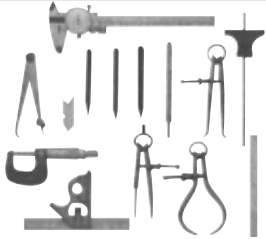
Set Model No.	Specification	Individual Model No.	Plastic case Model No.
135-0012	●0-6" White face Dial caliper	10W-S006	135-CP12
	●0-1" White face Dial indicator	605-4070	
	●0.03x0.0005" White face test indicator	605-4710	
	●0-1x0.0001" Outside micrometer	601-0111	
	●60kg Magnetic base W/fine adj.	625-0341	
	●22-pc Indicator point set	605-0022	
135-0013	●0-6" Black face Dial caliper	10B-S006	135-CP12
	●0-1" Black face Dial indicator	605-4080	
	●0.03x0.0005" Black face test indicator	605-4709	
	●0-1x0.0001" Outside micrometer	601-0111	
	●60kg Magnetic base W/fine adj.	625-0341	
	●22-pc Indicator point set	605-0022	



**6 Piece Set**

Set Model No.	Specification	Individual Model No.	Plastic case Model No.
135-0018	●0-6" White face Dial caliper	10W-S006	135-CP18
	●0-1x.0001"Outside micrometer	601-0111	
	●Square head (638-7759)	638-7756	
	●Protractor head (638-7757)		
135-0019	●Center head (638-7758)	638-7756	135-CP18
	●12" Blade (638-7752)		
	4R (8ths, 16ths, 32nds, 64ths)		
	●0-6" Black face Dial caliper		
135-0019	●0-1x.0001"Outside micrometer	601-0111	135-CP18
	●Square head (638-7759)	638-7756	
	●Protractor head (638-7757)		
	●Center head (638-7758)		
135-0019	●12" Blade 4R (638-7752)		638-7756
	(8ths, 16ths, 32nds, 64ths)		
	●0-6" Black face Dial caliper		
	●0-1x.0001"Outside micrometer		

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## 14 PIECE MEASURING TOOL KIT

**Model No.135-0000**

- 0-1" Micrometer Model No. 601-0111
- 0.0001" Graduation, Carbide Faces.
- 0-100 Dial Reading 6" Dial Caliper Model No.10w-s006
- 6" Flex Scale" 8ths, 16ths, 32ths&64ths Model No.638-7854
- 6" Combination Square Model No. 638-7750



## BENCH CENTER

For accurate concentricity inspection.

- Features:**
- 100mm/4" Outside Caliper Model No.108-1104
  - 100mm/4" Inside Caliper 108-1004
  - 4" Dividers Spring Type Model No. 108-0904
  - 6" Depth Gages Model No. 615-6122
  - Center Gage Model No.615-6300
  - 4" Hermaphrodite Caliper Model No. 108-1204
  - 5-1/2" Scriber Model No. 830-0382
  - 3piece Center Punch Set Model No. 830-0240

Distance Between Center	Center height	Weight	Model No.
500mm	170mm	80kgs	640-2001
600mm	170mm	85kgs	640-2003
1000mm	250mm	90kgs	640-2002

## PROFILE PROJECTORS

*Horizontal Benchtop Model*



- Reliable quality.
- Compact workstage with two dial indicators for measuring travels of X and Y directions.
- Complete set of the objective lens magnifications for different measuring range.
- Projection lens for a large view field and sharp image at the optimum intensity of brightness.

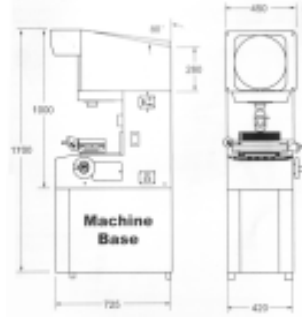
**Model No. 640-2000**

Protractor Screen.....14(355.6mm)  
 Magnifications.....10X, 20X, 40X  
 Max. Workpiece Diameter.....1.4(35.6mm), 0.7(17.8mm), 0.35(8.9mm)  
 Workstage travel.....6(152.4mm) horizontal, 2(50.8mm) vertical, Focus1(25.4mm)  
 Measurement Display system....Dial Indicator 0-1"(.001 or 30mm(.01mm)  
 Vernier Protractor graduation......5"  
 Dimensions.....900mmx400mmx800mm



## HIGH PRECISION OPTICA PROFILE PROJECTOR

- Provide accurate 2D measurement for all common geometric features such as circles, lines, angles etc.
- All measured results can be printed or transferred to computer for further processing



Specification	Model No. 640-3000			Model No. 640-3500		
<b>Table</b>						
Table Size	350x170mm			420x250mm		
Glass size	225x120mm			290x190mm		
X measurement travel	200mm			250mm		
Y measurement travel	100mm			150mm		
Z focusing travel	90mm			90mm		
XY readout resolution	0.001mm			0.001mm		
Axial measuring accuracy	(3+L/100)um			(3+L/100)um		
<b>Screen</b>						
Screen size	315mm			415mm		
A readout range	0-360°			0-360°		
A readout resolution	0.01°			0.01°		
Max. contour distortion	0.08%			0.08%		
<b>Lens</b>						
Magnifications	10X	20X	50X	10X	20X	50X
Visible field(Dia.)	30mm	15mm	6mm	40mm	20mm	8mm
Object focal distance	73mm	35mm	15mm	81mm	71mm	65mm

### Measuring System Specifications

Coordinates	X, Y axes linear transducer A axis rotary encode
Resolution	0.001mm(X, Y axes) / 0.01° (A axis)
Coordinates	X, Y and polar coordinates systems
Memory	99 features memory; 10 coordinates memory
Error comp.	Linear and non-linear error compensation
I/O interface	RS-232C I/O interface
Geometric Measurement Functions	<ul style="list-style-type: none"> <li>● 3 points circle measurement</li> <li>● points measurement</li> <li>● 2 points distance measurement</li> <li>● 2 points form a line measurement</li> <li>● 2 lines intersection measurement</li> <li>● 4 points line intersection measurement</li> <li>● point line perpendicular projection</li> </ul>

## DIGITAL READOUT SYSTEM



- Double seals design for better protection against water, dust and swarf
- 100% laser calibration
- Advanced optical measuring system
- High noise immunity & EMC design
- Robust casing, chromium plated panel
- Ultra low temperature rise transformer
- Resolution 0.005mm(0.002"), ergonomically designed keyboard
- Can be easily installed

2 Axis "X, Y" Digital Readout Carbinet only **Model No. 643-0002**  
 3 Axis "X, Y, Z" Digital Readout Carbinet only **Model No. 643-0003**  
 Data Output Line only **Model No. 643-0000**

Scale Size	2 -Axis X, Y		3 -Axis X, Y, Z
	Individual Linear Scale	Set with 2pcs scales	Set with 3pcs scales
	Model No.	Model No.	Model No.
100mm	643-1010	643-2010	643-3010
150mm	643-1015	643-2015	643-3015
200mm	643-1020	643-2020	643-3020
250mm	643-1025	643-2025	643-3025
300mm	643-1030	643-2030	643-3030
350mm	643-1035	643-2035	643-3035
400mm	643-1040	643-2040	643-3040
450mm	643-1045	643-2045	643-3045
500mm	643-1050	643-2050	643-3050
550mm	643-1055	643-2055	643-3055
600mm	643-1060	643-2060	643-3060
650mm	643-1065	643-2065	643-3065
700mm	643-1070	643-2070	643-3070
750mm	643-1075	643-2075	643-3075
800mm	643-1080	643-2080	643-3080
850mm	643-1085	643-2085	643-3085
900mm	643-1090	643-2090	643-3090
950mm	643-1095	643-2095	643-3095
1000mm	643-1100	643-2100	643-3100
1100mm	643-1110	643-2110	643-3110
1200mm	643-1120	643-2120	643-3120
1300mm	643-1130	643-2130	643-3130
1400mm	643-1140	643-2140	643-3140
1500mm	643-1150	643-2150	643-3150
1600mm	643-1160	643-2160	643-3160
1700mm	643-1170	643-2170	643-3170
1800mm	643-1180	643-2180	643-3180
1900mm	643-1190	643-2190	643-3190
2000mm	643-1200	643-2200	643-3200
2200mm	643-1220	643-2220	643-3220
2400mm	643-1240	643-2240	643-3240
2600mm	643-1260	643-2260	643-3260
2800mm	643-1280	643-2280	643-3280
3000mm	643-1300	643-2300	643-3300

\* Further measuring lengths on request