

Dial Test Indicators

SERIES 513

FEATURES

Contact point length is printed on dial face to avoid accuracy issues



Scratch and smudge-resistant, anti-glare crystal for easy-to-read dial



Newly designed contact point holder prevents backlash



Includes NIST-traceable Certificate of Inspection - bidirectional



- One piece movement for high-impact resistance and durability
- Contact point length is printed on dial face to avoid accuracy issues
- Scratch and smudge-resistant, anti-glare crystal for easy-to-read dial
- Newly designed contact point holder prevents backlash
- Includes NIST-traceable Certificate of Inspection - bidirectional
- Limit hands (optional) can be attached to the bezel, allowing easy identification of the upper and lower limits of tolerance.
- A $\varnothing 8\text{mm}$ ($\varnothing 0.315$ in) plain stem (21CAB104) for the Metric models or a $\varnothing 9.52\text{mm}$ ($\varnothing 3/8$ in) plain stem (21CAB105) for the Inch models that attaches to any dovetail on the frame is supplied as a standard accessory. Other sizes are available as optional accessories:
 - $\varnothing 4\text{mm}$ ($\varnothing 0.157$ in) stem: **21CAB106**
 - $\varnothing 6\text{mm}$ ($\varnothing 0.236$ in) stem: **21CAB103**
- Optional ruby tip has wear-resistance several times greater than a carbide tip and, since it is nonconductive, it can be used safely on an electrical discharge machine.
- Using universal fonts, changing dial face color and reviewing the relationship between pointer and scale marks have drastically improved readability.
- The O-ring seal on the bezel provides smooth rotation and prevents dust and oil from penetrating the dial face.
- Bonding the bezel and crystal eliminates a gap for cutting fluid or oil to penetrate the dial face.
- A flange prevents the bezel from unintentionally being removed during handling.
- Four models are available, each with a different orientation of the dial to allow the best visibility in any situation.
 - Standard - dial is on top of the frame.
 - Vertical: dial is on the end of the frame.
 - Standard (20° tilted face): dial is on top of the frame but tilted 20° .
 - Horizontal: dial is on the side of the frame.
- The conventional method of mounting the stylus pivot bearing screw in the frame is prone to loosen with prolonged use. A unique sub-plate structure has been incorporated in all models to eliminate this issue.

One piece movement for high-impact resistance and durability



Four models are available:



Dial Test Indicators

SERIES 513 — Horizontal Type

FEATURES

- Performs easy and accurate measurement of narrow or recessed areas, plus inside and outside diameters that dial indicators cannot access.
- No-clutch structure for automatic reversal of measuring direction.
- One-piece bezel and crystal design with O-ring provide resistance to water and dust.
- The glare-free flat crystal face has a scratch-resistant coating.
- High sensitivity and quick response because of jeweled bearings.
- Standard carbide contact point provide.



513-424-10E



513-414-10E

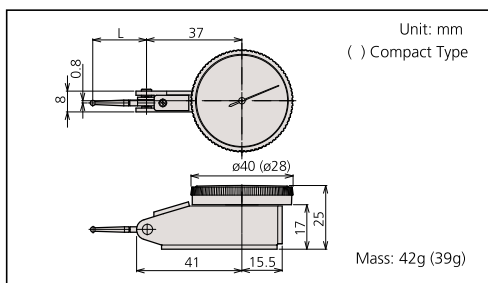


513-404-10E



513-402-10E

DIMENSIONS AND MASS



Optional Accessories

- : Swivel clamp
- : Holding bar
- : Stem
- : Contact points

Special Set: No. 513-908-10E (mm)

- 513-404-10E: Dial test indicator
- 7014-10E: Mini magnetic stand

No. 513-907-10E (inch)

- 513-402-10E: Dial test indicator
- 7014E-10: Mini magnetic stand



Description of Icon

Icon	Description
	With revolution counter
	Long contact point
	Jeweled bearing
	Double scale spacing, easy to read
	Compact
	Dustproof
	Anti-magnetic



Anti-magnet type



Double scale spacing type



Long contact point type



Jeweled bearing type



Compact type



With revolution counter type

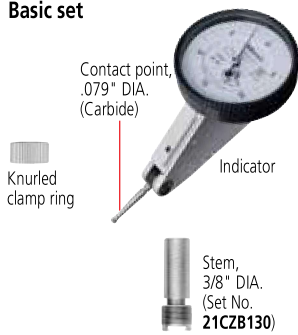
Set Configuration: Test Indicators

Inch

Full set



Basic set



T

E



SPECIFICATIONS

Inch

Graduation	Order No.		Range	Accuracy	Dial reading	Measuring force	L (mm)							
	Basic set	Full set											—	—
.00005"	513-407-10E	513-407-10T	.008"	±.0001"	0-4-0	0.3N or less	19	✓	—	✓	—	—	—	—
.0005"	513-402-10E	513-402-10T	.03"	±.0005"	0-15-0	0.3N or less	19.9	✓	—	✓	—	—	—	—
.0005"	513-472-10E*		.03"	±.0005"	0-15-0	0.3N or less	19.9	✓	—	✓	—	—	—	—
.0005"	513-412-10E	513-412-10T	.03"	±.0005"	0-15-0	0.2N or less	33.9	✓	✓	✓	—	—	—	—
.0005"	513-479-10E*		.03"	±.0005"	0-15-0	0.2N or less	33.9	✓	✓	✓	—	—	—	—
.0005"	513-462-10E		.03"	±.0005"	0-15-0	0.3N or less	19.9	✓	—	✓	✓	—	—	—
.0001"	513-403-10E	513-403-10T	.008"	±.0001"	0-4-0	0.3N or less	19	✓	—	✓	—	—	—	—
.0001"	513-473-10E*		.008"	±.0001"	0-4-0	0.3N or less	19	✓	—	✓	—	—	—	—
.0001"	513-463-10E		.008"	±.0001"	0-4-0	0.3N or less	15	✓	—	✓	✓	—	—	—

*Provided with a ø2mm ruby contact point as a substitute for ø2mm carbide contact point.

Metric

Graduation	Order No.		Range	Accuracy	Dial reading	Measuring force	L (mm)							
	Basic set	Full set											—	—
0.01mm	513-424-10E	513-424-10T	0.5mm	5µm	0-25-0	0.3N or less	22.3	✓	✓	—	✓	—	—	—
0.01mm	513-414-10E	513-414-10T	0.5mm	10µm	0-25-0	0.2N or less	36.8	✓	✓	✓	✓	—	—	—
0.01mm	513-466-10E	-	0.5mm	5µm	0-25-0	0.3N or less	22.3	✓	✓	—	✓	✓	—	—
0.01mm	513-478-10E*	-	0.5mm	5µm	0-25-0	0.3N or less	22.3	✓	—	—	✓	—	—	—
0.01mm	513-404-10E	513-404-10T	0.8mm	8µm	0-40-0	0.3N or less	20.9	✓	—	—	✓	—	—	—
0.01mm	513-474-10E*	-	0.8mm	8µm	0-40-0	0.3N or less	20.9	✓	—	—	✓	—	—	—
0.01mm	513-464-10E	-	0.8mm	8µm	0-40-0	0.3N or less	20.9	✓	—	—	✓	✓	—	—
0.01mm	513-415-10E	513-415-10T	1mm	10µm	0-50-0	0.3N or less	44.5	✓	—	✓	✓	—	—	—
0.01mm	513-477-10E*	-	1mm	10µm	0-50-0	0.2N or less	44.5	✓	—	✓	✓	—	—	—
0.01mm	513-426-10E	-	1.5mm	16µm	0-25-0	0.4N or less	22.3	✓	✓	—	✓	—	—	✓
0.002mm	513-405-10E	513-405-10T	0.2mm	4µm	0-100-0	0.3N or less	14.7	✓	—	—	✓	—	—	—
0.002mm	513-465-10E	-	0.2mm	4µm	0-100-0	0.3N or less	14.7	✓	—	—	✓	✓	—	—
0.002mm	513-475-10H*	-	0.2mm	4µm	0-100-0	0.3N or less	18.7	✓	—	—	✓	—	—	—
0.002mm	513-425-10E	-	0.6mm	7µm	0-100-0	0.4N or less	14.7	✓	—	—	✓	—	—	✓
0.001mm	513-401-10E	-	0.14mm	4µm	0-70-0	0.3N or less	12.8	✓	—	—	✓	—	—	—
0.001mm	513-471-10E*	-	0.14mm	4µm	0-70-0	0.3N or less	12.8	✓	—	—	✓	—	—	—

*Provided with a ø2mm ruby contact point as a substitute for ø2mm carbide contact point.

Metric/inch

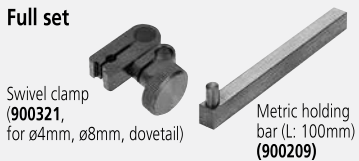
Graduation	Order No.		Range	Accuracy	Dial reading	Measuring force	L (mm)						
	Basic set	Full set								—	—	—	—
0.002mm, .0001"	513-409-10E	513-409-10T	0.2mm, .0075"	3µm	0-10-0, 0-38-0	0.3N or less	14.7	✓	✓	—	—	—	—

Inch/Metric

Graduation	Order No.		Range	Accuracy	Dial reading	Measuring force	L (mm)						
	Basic set	Full set								—	—	—	—
.0005", 0.01mm	513-406-10E	513-406-10T	.03", 0.7mm	±.0005"	0-15-0, 0-35-0	0.3N or less	19.9	✓	✓	—	—	—	—

Metric

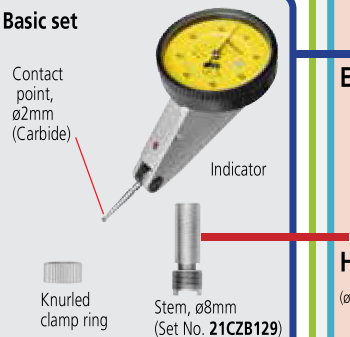
Full set



Plus set



Basic set



T

A

E

H

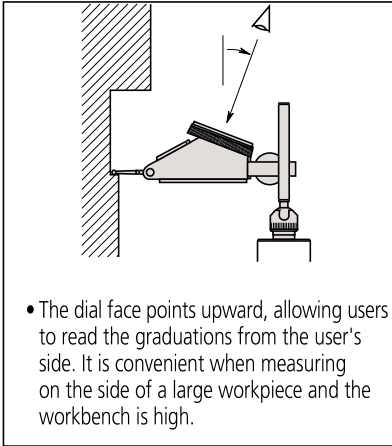
(ø 6 Stem)

Dial Test Indicators

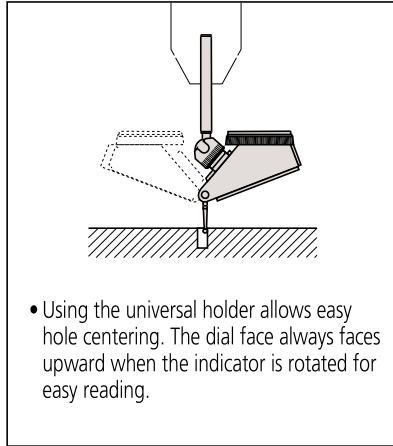
SERIES 513 — Horizontal (20° Tilted Face), Vertical and Parallel

FEATURES

- Specially designed for easy viewing of measurements.



- The dial face points upward, allowing users to read the graduations from the user's side. It is convenient when measuring on the side of a large workpiece and the workbench is high.



- Using the universal holder allows easy hole centering. The dial face always faces upward when the indicator is rotated for easy reading.



513-444-10E



513-445-10E



513-454-10E
513-484-10E



513-455-10E



513-452-10E



513-482-10A



513-444-10E



513-455-10E



513-484-10E



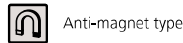
513-442-10A



513-446-10A

Optional Accessories

- : Swivel clamp
- : Holding bar
- : Stem
- : Contact points



Anti-magnet type



With revolution counter type



Jeweled bearing type



Long contact point type

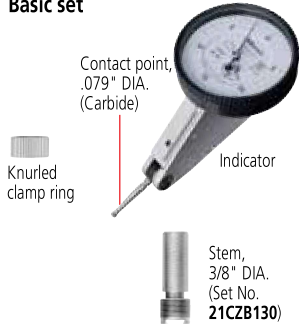
Set Configuration: Test Indicators

Inch

Full set



Basic set



Metric

Full set



Plus set



Basic set



SPECIFICATIONS

Metric Horizontal (20° tilted face) type

Graduation	Order No.		Range	Accuracy	Dial reading	Measuring force	Mass (g)	L (mm)			
	Basic set	Full set									
0.01mm	513-444-10E	513-444-10T	1.6mm	10µm	0-40-0	0.3N or less	48	20.9	✓	✓	✓
0.002mm	513-445-10E	513-445-10T	0.4mm	5µm	0-100-0	0.3N or less	48	14.7	✓	✓	✓

Inch Horizontal (20° tilted face) type

Graduation	Order No.		Range	Accuracy	Dial reading	Measuring force	Mass (g)	L (mm)					Remarks
	Basic set	Full set											
.0005"	513-442-10A	513-442-10T	.06"	±.0005"	0-15-0	0.3N or less	48	19.9	✓	✓	✓	—	—
.0005"	513-442-16A	513-442-16T	.06"	±.0005"	0-15-0	0.3N or less	48	19.9	✓	✓	✓	—	Black dial
.0005"	513-446-10A	513-446-10T	.06"	±.0005"	0-15-0	0.2N or less	48	33.9	✓	✓	✓	✓	—
.0005"	513-446-16A	513-446-16T	.06"	±.0005"	0-15-0	0.2N or less	48	33.9	✓	✓	✓	✓	Black dial
.0001"	513-443-10A	513-443-10T	.016"	±.0002"	0-4-0	0.3N or less	48	15	✓	✓	✓	—	—
.0001"	513-443-16A	513-443-16T	.016"	±.0002"	0-4-0	0.3N or less	48	15	✓	✓	✓	—	Black dial

Metric Vertical type

Graduation	Order No.		Range	Accuracy	Dial reading	Measuring force	Mass (g)	L (mm)		
	Basic set	Full set								
0.01mm	513-454-10E	513-454-10T	0.8mm	8µm	0-40-0	0.3N or less	50	20.9	✓	✓
0.002mm	513-455-10E	513-455-10T	0.2mm	3µm	0-100-0	0.3N or less	50	14.7	✓	✓

Inch Vertical type

Graduation	Order No.		Range	Accuracy	Dial reading	Measuring force	Mass (g)	L (mm)		
	Basic set	Full set								
.0005"	513-452-10E	513-452-10T	.03"	±.0005"	0-15-0	0.3N or less	50	19.9	✓	✓
.0001"	513-453-10E	513-453-10T	.008"	±.0001"	0-4-0	0.3N or less	50	19	✓	✓

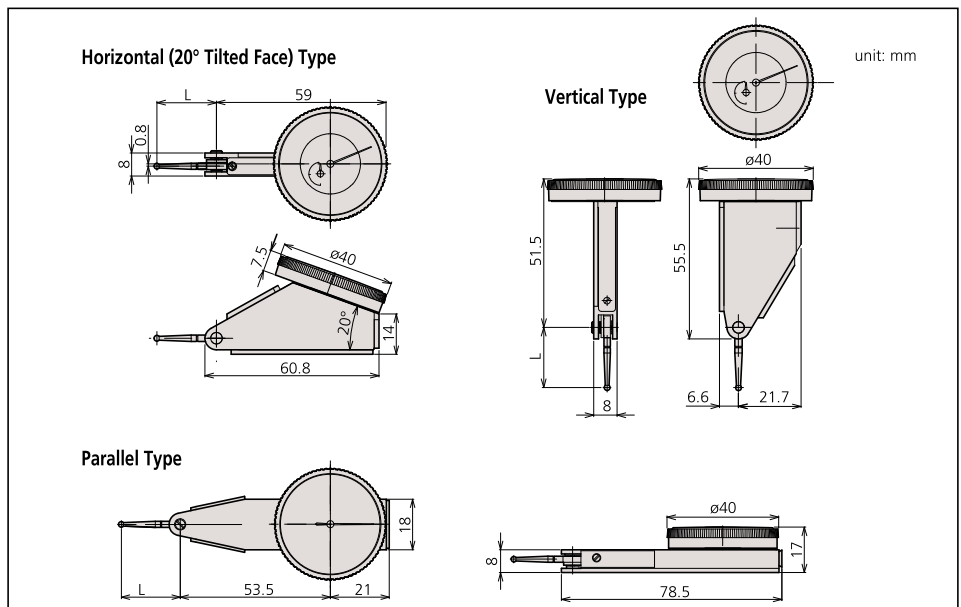
Metric Parallel type

Graduation	Order No.		Range	Accuracy	Dial reading	Measuring force	Mass (g)	L (mm)	
	Basic set	Full set							
0.01mm	513-484-10E	513-484-10T	0.8mm	8µm	0-40-0	0.3N or less	68	20.9	✓

Inch Parallel type

Graduation	Order No.		Range	Accuracy	Dial reading	Measuring force	Mass (g)	L (mm)	
	Basic set	Full set							
.0005"	513-482-10A	513-482-10T	.03"	±.0005"	0-15-0	0.3N or less	68	20	✓

DIMENSIONS

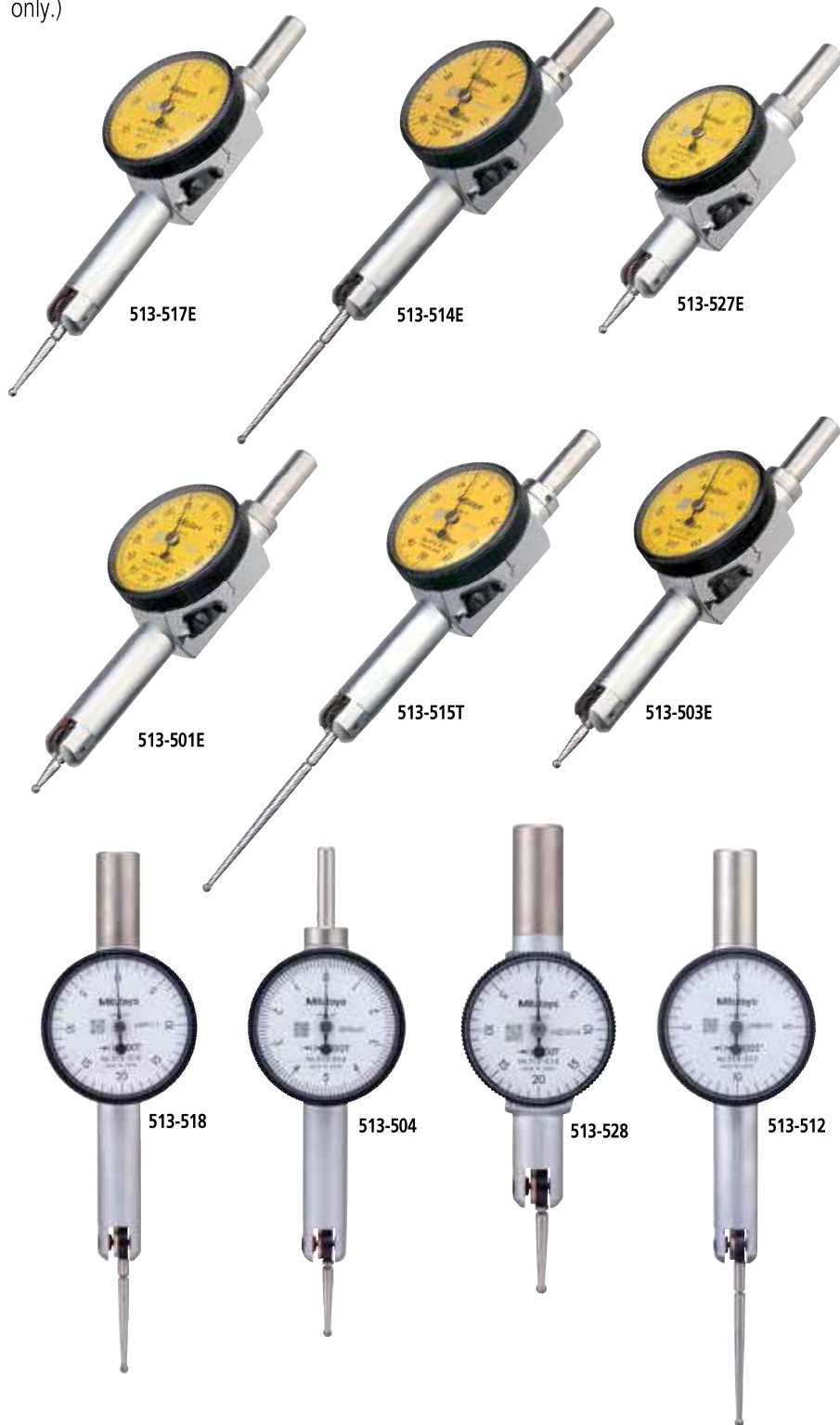


Pocket Dial Test Indicators

SERIES 513

FEATURES

- Jeweled bearings ensure high sensitivity and accuracy.
- Reversible measuring direction.
- Two holding bars are supplied. (Full sets only.)
- Fully adjustable bezel/dial face.
- Contact point is adjustable within 220°.
- Bezel is sealed with an O-ring to keep out water / oil.



513-514E



513-517E
513-527E



513-515T



513-503E



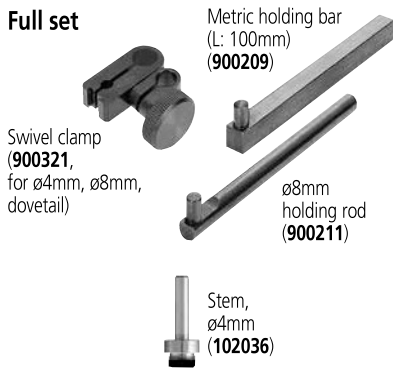
513-501E

Optional Accessories

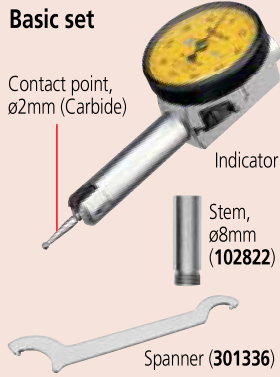
- : Swivel clamp
- : Holding bar
- : Stem
- : Contact points

Set Configuration: Metric

Full set

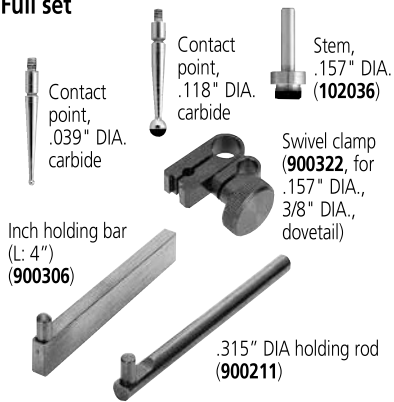


Basic set

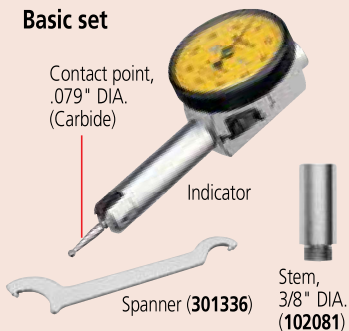


Set Configuration: Inch

Full set



Basic set



Long contact point type



Jeweled bearing type



Compact type

SPECIFICATIONS

Metric

Graduation	Order No.		Range	Accuracy	Dial reading	Measuring force	L (mm)			
	Basic set	Full set								
0.01mm	513-514E	513-514T	0.5mm	10 μm	0-25-0	0.3N or less	36.8	✓	✓	—
0.01mm	513-517E	513-517T	0.8mm	8 μm	0-40-0	0.3N or less	20.9	—	—	✓
0.01mm	513-527E	513-527T	0.8mm	8 μm	0-40-0	0.3N or less	14.7	—	✓	✓
0.01mm	—	513-515T	1mm	10 μm	0-50-0	0.3N or less	44.5	✓	✓	—
0.002mm	513-503E	513-503T	0.2mm	3 μm	0-100-0	0.3N or less	14.7	—	✓	—
0.001mm	513-501E	513-501T	0.14mm	3 μm	0-70-0	0.4N or less	12	—	✓	—

Inch

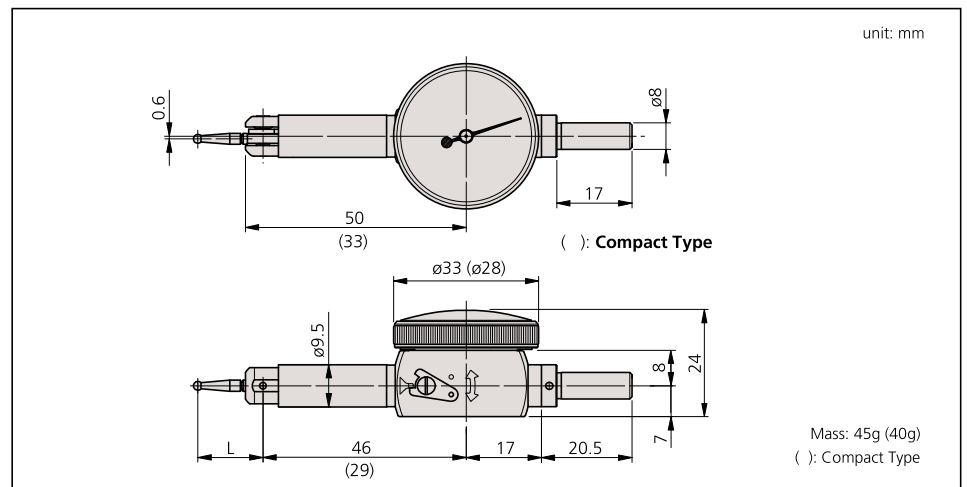
Graduation	Order No.		Range	Accuracy	Dial reading	Measuring force	L (mm)			
	Basic set	Full set								
.001"	513-518	513-518T	.04"	± 0.01 "	0-20-0	0.3N or less	26.5	—	✓	—
.001"	513-528	513-528T	.04"	± 0.01 "	0-20-0	0.3N or less	18.7	—	✓	✓
.0005"	513-512	513-512T	.02"	± 0.0005 "	0-10-0	0.3N or less	37.4	✓	✓	—
.0001"	513-504	513-504T	.01"	± 0.0002 "	0-5-0	0.3N or less	18.7	—	✓	—

Optional Contact Points

Pocket Type

Order No.	1mm	2mm	3mm	0.5mm	0.7mm
513-501E	136756	136104	136758	—	—
513-503E 513-527E	103017	103010	103018	190547	190548
513-504 513-528	131314	103011	131315	—	—
513-512	131316	131324	131317	—	—
513-514E	137746	129949	137747	—	—
513-515T	136235	136013	136236	190656	190655
513-517E	103013	103006	103014	190549	190550
513-518	103008	103007	103009	—	—

DIMENSIONS AND MASS

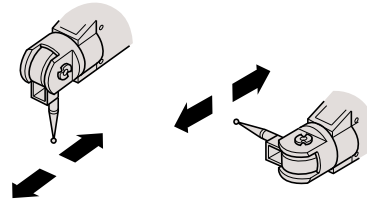


Dial Test Indicators

SERIES 513 — Universal Type

FEATURES

- Universal application for all directions. Not only the direction of the measuring point, but also the direction of measurement itself can be adjusted 360 degrees without moving the indicator.



513-304GE

SPECIFICATIONS



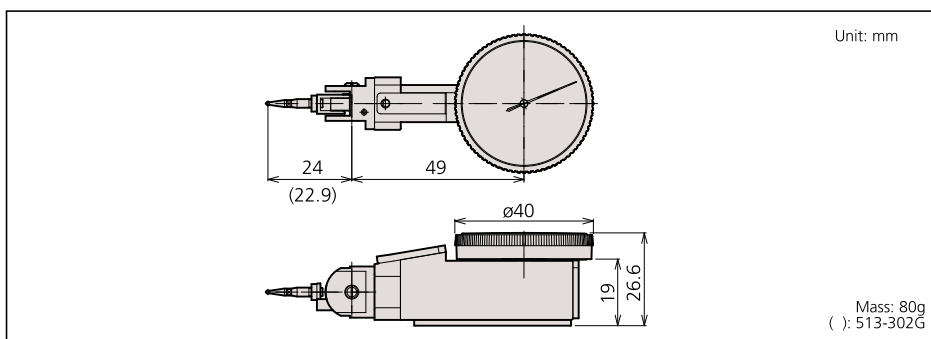
Metric

Graduation	Order No.		Range	Accuracy	Dial reading	Measuring force	
	Basic set	Full set					
0.01mm	513-304GE	513-304GT	0.8mm	8µm	0-40-0	0.3N or less	✓

Inch

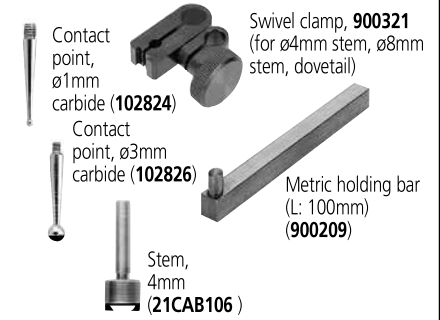
Graduation	Order No.		Range	Accuracy	Dial reading	Measuring force	
	Basic set	Full set					
.0005"	513-302G	513-302GT	.03"	±.0005"	0-15-0	0.3N or less	✓

DIMENSIONS AND MASS

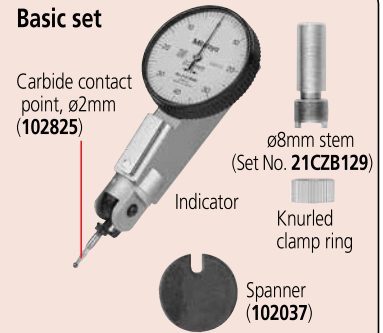


Set Configuration: Metric

Full set

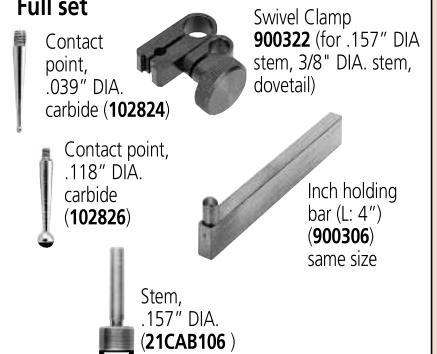


Basic set

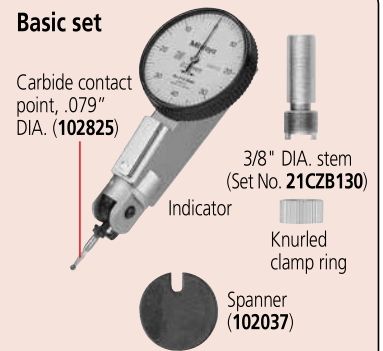


Set Configuration: Inch

Full set



Basic set



Optional Accessories

- : Swivel clamp
- : Holding bar
- : Stem