

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

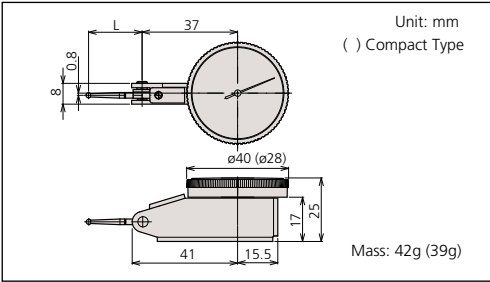


513-404-10E



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

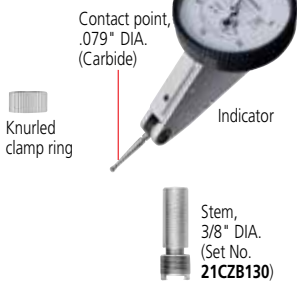
Set Configuration: Test Indicators

Inch

Full set



Basic set



Metric

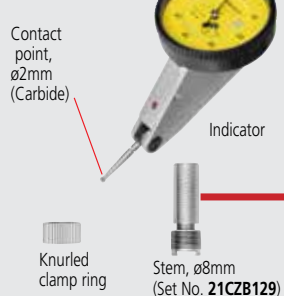
Full set



Plus set



Basic set



Anti-magnet type



Double scale spacing type



Long contact point type



Jeweled bearing type



Compact type



With revolution counter type



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	0.2N 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	✓	✓	—	—	—	—

Mitutoyo

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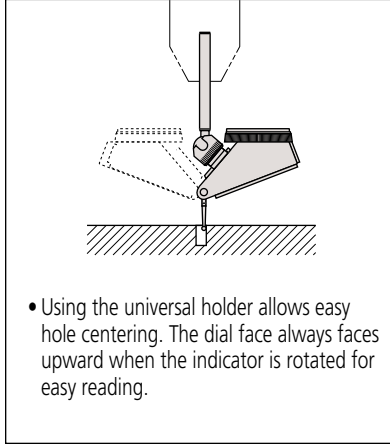
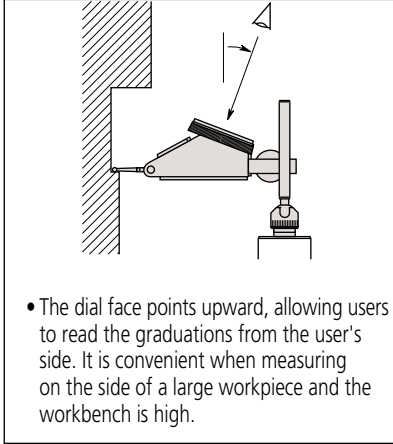
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Dial Test Indicators

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

FEATURES

- Specially designed for easy viewing of measurements.



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

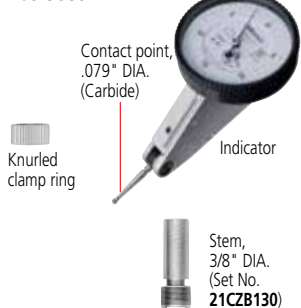
Set Configuration: Test Indicators

Inch

Full set



Basic set



Metric

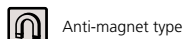
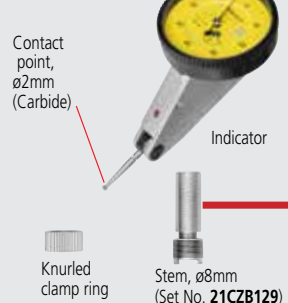
Full set



Plus set



Basic set



Anti-magnet type



With revolution counter type



Jeweled bearing type



Long contact point type

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	✓	✓

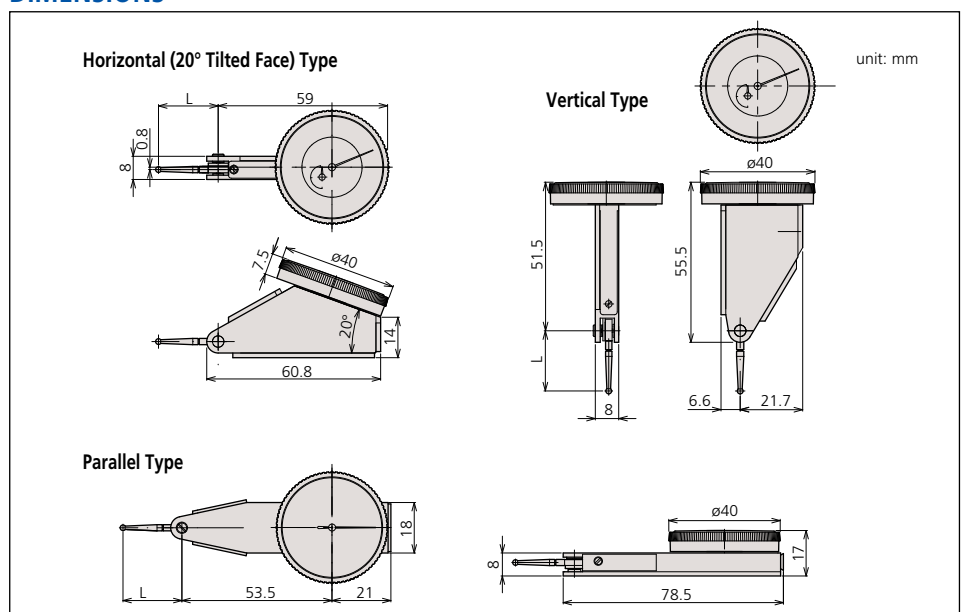
Metric Parallel type

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



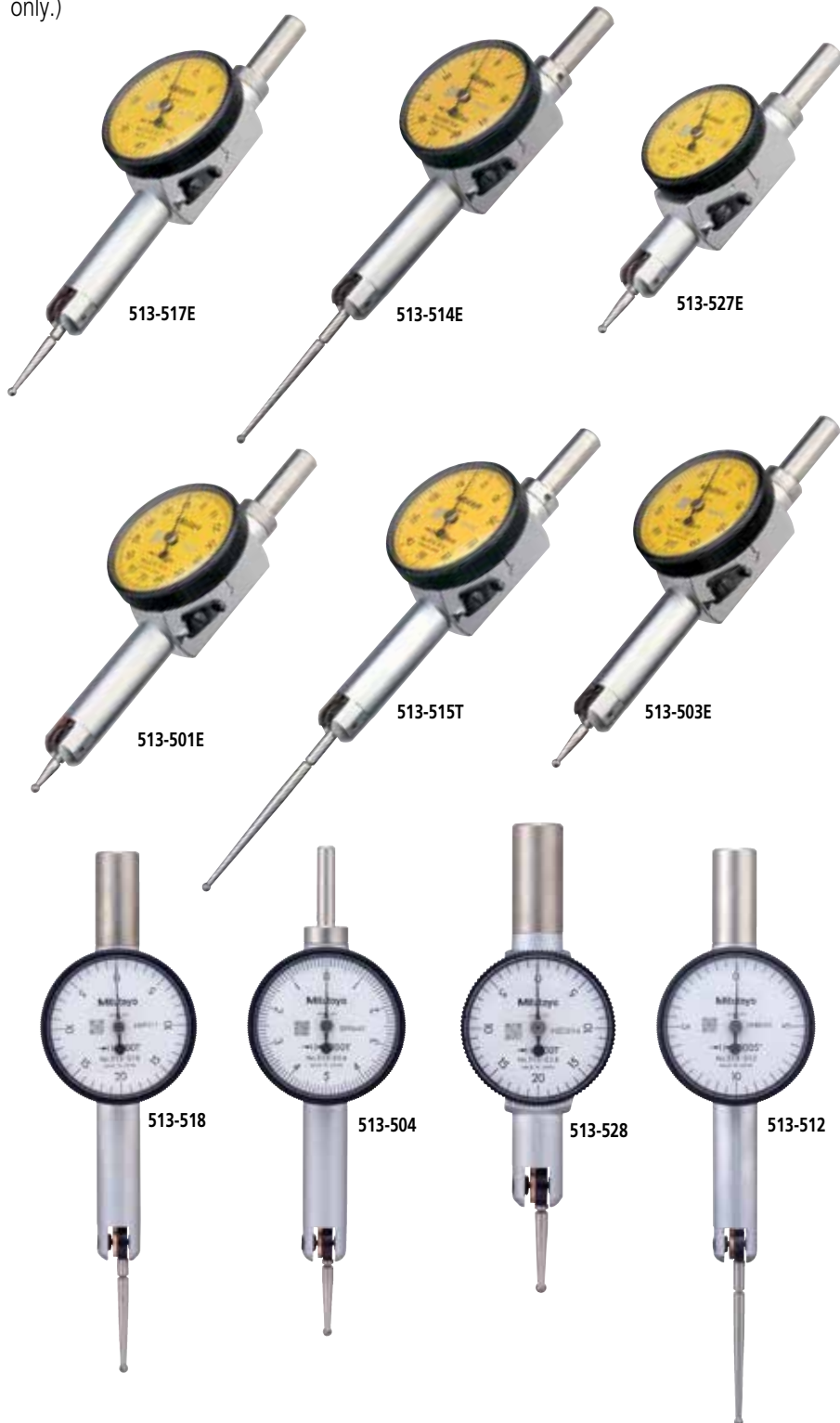
Mitutoyo

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: Inch

Swivel clamp
(**900321**,
for $\varnothing 4\text{mm}$, $\varnothing 8\text{mm}$,
dovetail)

ø8mm
holding rod
(900211)

Stem,
ø4mm
(102036)

Contact point,
ø2mm (Carbide)

Indicator

Stem,
ø8mm
(102822)

Spanner (301336)

Contact
point,
.039" DIA.
carbide

Contact
point,
.118" DIA.



Stem,
.157" DIA.
(102036)

Swivel clamp
(**900322**, for
.157" DIA.,
3/8" DIA.,
dovetail)

Inch holding bar
(L: 4")
(900306)

.315" DIA holding rod
(900211)

Contact point,
.079" DIA.
(Carbide)

Indicator

Stem,
3/8" DIA.
(102081)



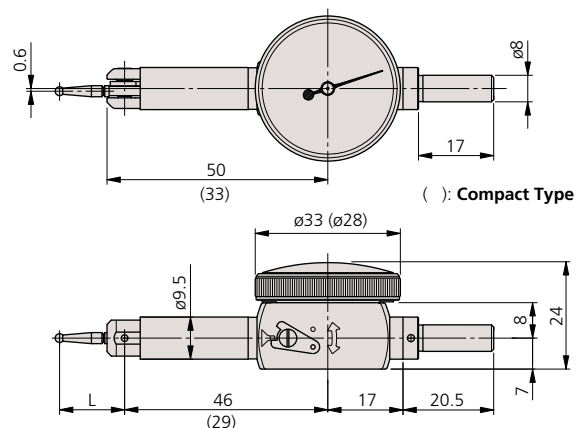
Metric

Inch

Optional Contact Points

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	—	—

unit: mm



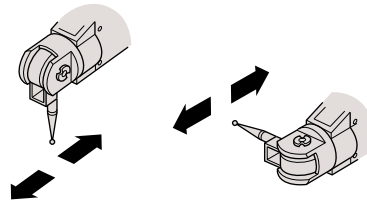
Mass: 45g (40g)
(): Compact Type

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



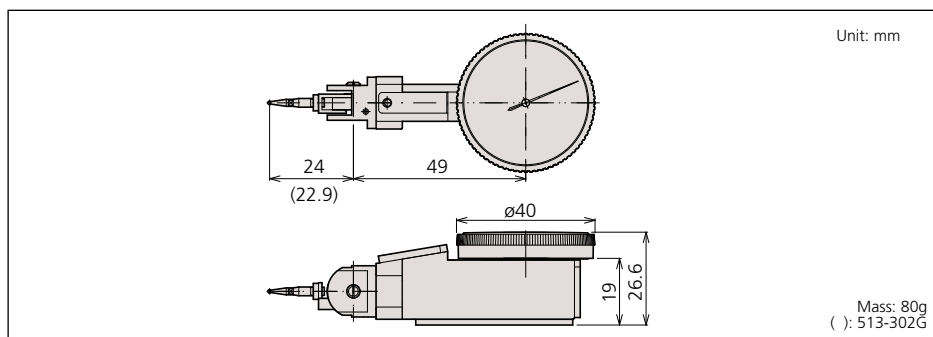
Jeweled bearing type

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

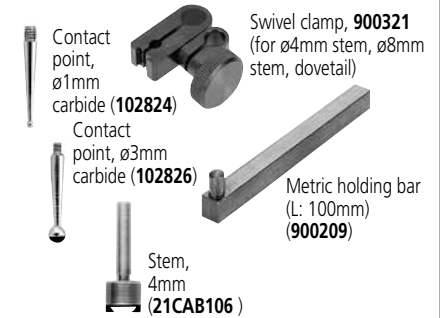
Graduation	Order No.		Range	Accuracy	Dial reading	Measuring force	
	Basic set	Full set					
.0005"	513-302G	513-302GT	.03"	±.0005"	0-15-0	0.3N or less	✓

DIMENSIONS AND MASS

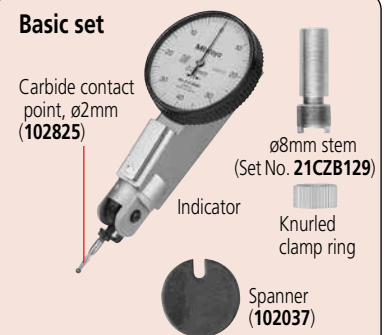


Set Configuration: Metric

Full set

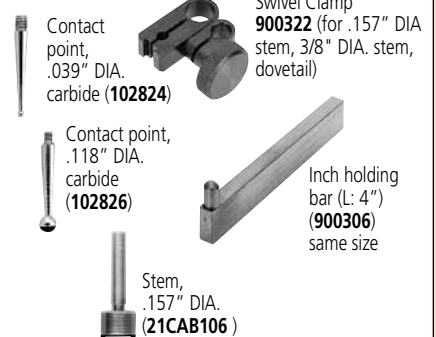


Basic set

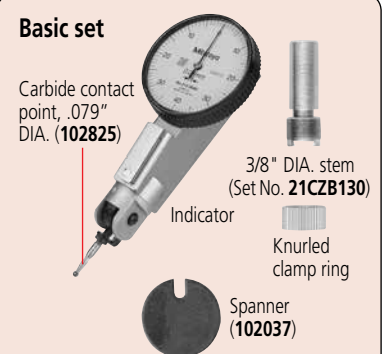


Set Configuration: Inch

Full set



Basic set

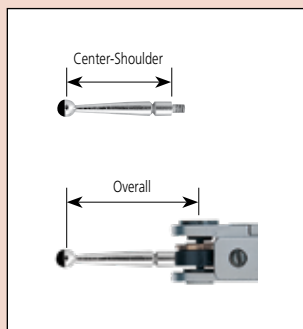


Optional Accessories

- Swivel clamp
- Holding bar
- Stem

Contact Points and Clamp Holders

Optional Accessories for Dial Test Indicator



Inch		Part No.						Test Indicator Code No.		
Length (mm)		Center-Shoulder	Overall	ø0.5	ø0.7	ø1	ø2	ø3	Ruby Ø2mm	
11.5	15.0	—	—	136076	136075	136077	21CZA213	513-403-10E 513-453-10E	513-443-10A 513-463-10E	513-473-10E ³ 513-443-16A
16.4	19.9	—	—	133196	133195	133197	21CZA204	513-401-10E 513-406-10E 513-452-10E	513-442-10A 513-462-10E	513-472-10E ³ 513-442-16A 513-482-10A
30.4	33.9	—	—	136291	136290	136292	21CZA214	513-412-10E 513-446-16A	513-446-10A	
15.2	18.7	—	—	131314	103011	131315	—	513-504 ¹	513-528 ¹	
23.0	26.5	—	—	103008	103007	103009	—	513-518 ¹		
33.9	37.4	—	—	131316	131324	131317	—	513-512 ¹		

Metric		Part No.						Test Indicator Code No.		
Length (mm)		Center-Shoulder	Overall	ø0.5	ø0.7	ø1	ø2	ø3	Ruby Ø2mm	
9.4	12.9	—	—	21CZA044	21CZA036	21CZA045	21CZA212	513-401-10E 513-405-10E 513-503E 513-527E	513-471-10E 513-425-10E 513-455-10E 513-455-10E	513-445-10E
11.2	14.7	190547	190548	103017	103010	103018	21CZA209	513-404-10E 513-464-10E 513-484-10E	513-444-10E 513-517E ¹	513-454-10E 513-474-10E ³
17.4	20.9	190549	190550	103013	103006	103014	21CZA201	513-424-10E 513-478-10H ³	513-426-10E	513-466-10E
18.7	22.2	190654	190653	137558	137557	137559	21CZA210	513-415-10E	513-515T ¹	
41.0	44.5	190656	190655	136235	136013	136236	21CZA211	513-414-10E	513-514E ¹	
33.3	36.8	—	—	137746	129949	137747	—	513-501E ¹		
8.6	12.0	—	—	136756	136104	136758	—	513-304GE ²	513-302G ²	
6.5	24.0	—	—	102824	102825	102826	—			

*1 Denotes Pocket Indicators

*2 Denotes Universal Indicator

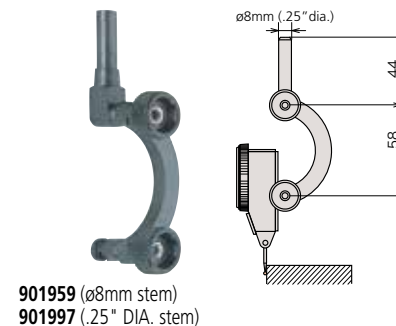
*3 Indicator Ships with Ruby Contact

Holding Bars (with 6mm mounting pin)



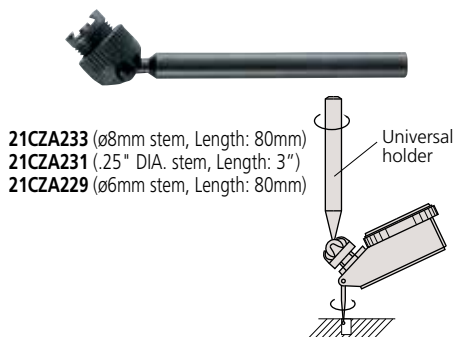
Centering Holder

- Allows large diameter cylinders or holes to be centered.



Universal Holder

- Allows the indicator to be set at a desired position.



Universal Holder (pocket type)

- Since the Dial Test Indicator can be swiveled to a desired angle, the holder is useful for centering workpieces and installing workpieces on a milling machine.



Mitutoyo