

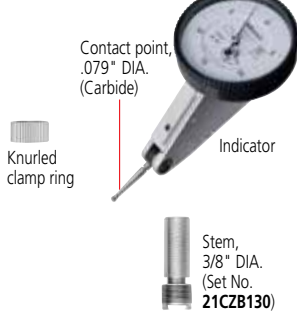
## Set Configuration: Test Indicators

### Inch

#### Full set



#### Basic set



### Metric

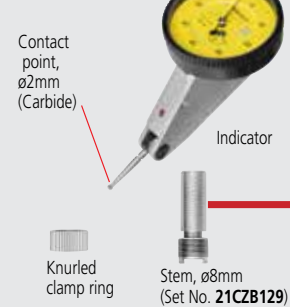
#### Full set



#### 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

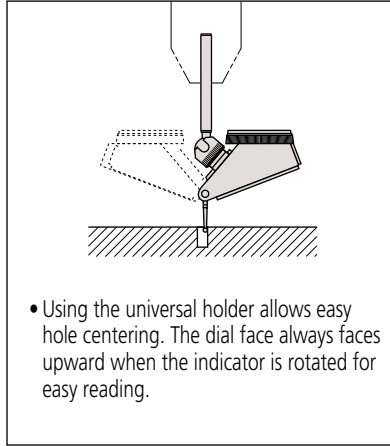
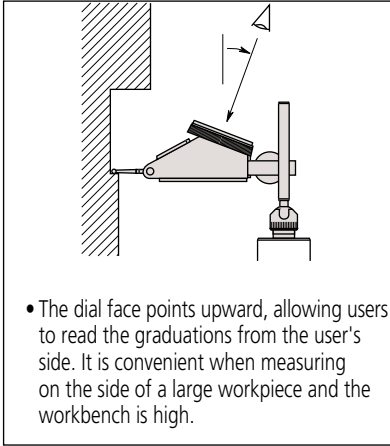
| Graduation     | Order No.   |             | Range       | Accuracy | Dial reading   | Measuring force | L (mm) |   |   | — | — | — | — |
|----------------|-------------|-------------|-------------|----------|----------------|-----------------|--------|---|---|---|---|---|---|
|                | Basic 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   | ✓ | ✓ | — | — | — | — |

# 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



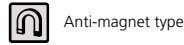
513-454-10E  
513-484-10E



513-455-10E

## Optional Accessories

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



Anti-magnet type



With revolution counter type



Jeweled bearing type

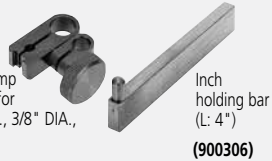


Long contact point type

## Set Configuration: Test Indicators

## Inch

## Full set

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

## Basic set



## Metric

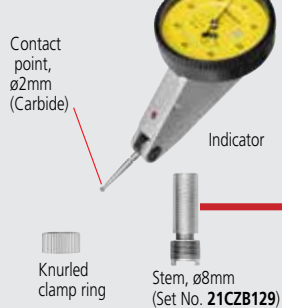
## Full set



## 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

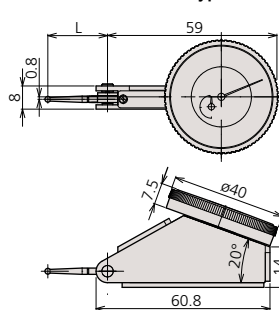
| Graduation | Order No.   |             | Range | Accuracy | Dial reading | Measuring force | Mass (g) | L (mm) |   |
|------------|-------------|-------------|-------|----------|--------------|-----------------|----------|--------|---|
|            | Basic set   | Full set    |       |          | 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

## Inch Parallel type

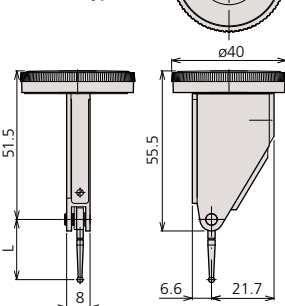
| Graduation | Order No.   |             | Range | Accuracy | Dial reading | Measuring force | Mass (g) | L (mm) |   |
|------------|-------------|-------------|-------|----------|--------------|-----------------|----------|--------|---|
|            | Basic set   | Full set    |       |          | 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

## DIMENSIONS

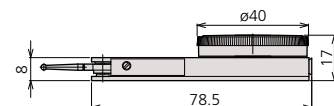
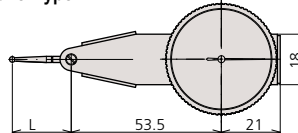
## Horizontal (20° Tilted Face) Type



## Vertical Type



## Parallel Type



unit: mm