

# Mitutoyo



## MEASURING INSTRUMENTS CATALOG



# Dial Test Indicators

Comparison measuring instruments which ensure high quality, high accuracy and reliability.

## SERIES 513 — Dial Test Indicator Features

- Designed to probe surfaces that cannot be reached with a normal dial gage. Useful both for alignment and for measurement purposes.
- Mitutoyo's proprietary new design permits smooth pointer operation.
- Strong frame provides excellent rigidity and durability.
- The pointer and carbide contact point are only slightly magnetizable\*, and so they are hardly affected by a magnetic environment. In addition, models with a ruby contact point are available. The ruby contact point also has several times the abrasion resistance of carbide contact point and is safely usable with an electric discharge machine thanks to its being a non-conductor.
- Clear and concise wide dial face allows excellent visibility.
- The surface of the crystal is hard-coated for excellent scratch resistance.
- Flat crystal makes graduations easy to read. Moreover, the O-ring sealing method used for the bezel prevents water or oil penetration. (Note that this type is NOT waterproof.)
- The main unit is equipped with three dovetails to which the stem with dovetail groove  $\varnothing 6$  (standard accessory) can be attached. This greatly improves convenience as the attachment location can be adjusted as needed.
- Five types are available: horizontal, horizontal (20° tilted face), vertical, parallel, and universal, allowing users to select according to their needs.
- Completed products are inspected according to JIS B 7533:2015. Horizontal, horizontal (20° tilted face), and vertical types are inspected with the dial face in the upward orientation, while the parallel type is inspected with the dial face in the vertical orientation to guarantee their accuracy.

\* Magnetic material is used for some internal parts.

### Feature icons

| Icon | Feature description                                        |
|------|------------------------------------------------------------|
|      | High accuracy                                              |
|      | With revolution counter                                    |
|      | Long contact point                                         |
|      | Standard                                                   |
|      | Double scale spacing                                       |
|      | Compact                                                    |
|      | Carbide contact point (Slightly magnetic)                  |
|      | Ruby contact point (Non-conductive and abrasion resistant) |



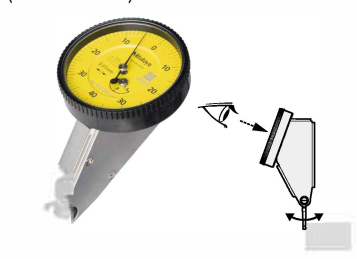
Horizontal



Vertical



Horizontal  
(20° Tilted face)



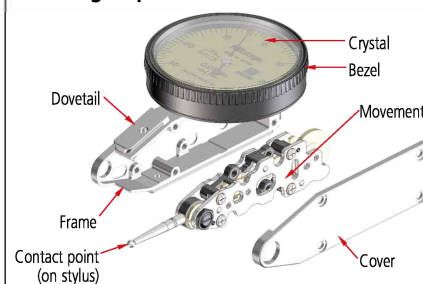
Parallel



Universal



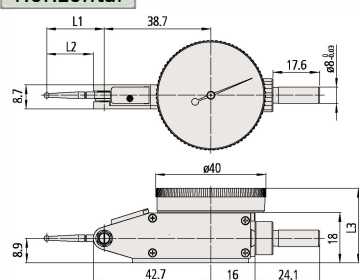
### Naming of parts



## DIMENSIONS

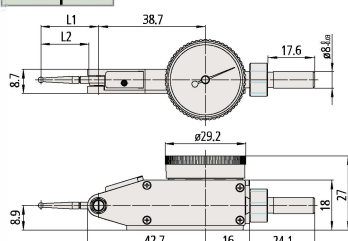
### Horizontal

unit: mm



| Order No.       | L1   | L2   | L3 |
|-----------------|------|------|----|
| 513-401-10E     | 14.7 | 11.2 | 27 |
| 513-471-10E     |      |      |    |
| 513-405-10E/A/T |      |      |    |
| 513-475-10E     | 18.7 | 15.2 | 28 |
| 513-425-10E/A   |      |      |    |
| 513-404-10E/A/T | 20.9 | 17.4 | 27 |
| 513-474-10E     |      |      |    |
| 513-424-10E/A/T | 22.2 | 18.7 | 28 |
| 513-426-10E/A   |      |      |    |
| 513-478-10E     |      |      |    |
| 513-414-10E/A/T | 37.4 | 33.9 | 27 |
| 513-415-10E/A/T |      |      |    |
| 513-477-10E     | 44.5 | 41.0 |    |

### Compact



| Type    | Order No.   | L1   | L2   |
|---------|-------------|------|------|
| Compact | 513-465-10E | 18.7 | 15.2 |
|         | 513-464-10E | 20.9 | 17.4 |
|         | 513-466-10E | 22.2 | 18.7 |

Note: A slight difference may occur depending on the center of the contact point, graduation plate, and stem fixing position, etc.

### Special Set: 513-908-10E (Metric)

513-404-10E: Dial test indicator

7014-10: Mini magnetic stand

### 513-907-10E (inch)

513-402-10E: Dial test indicator

7014E-10: Mini magnetic stand



## Dial Test Indicator SERIES 513 — Horizontal Type



513-404-10E  
Contact point No. 103006



513-415-10E  
Contact point No. 136013

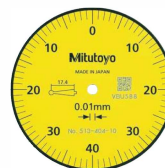


513-465-10E  
Contact point No. 103011



513-402-10E  
Contact point No. 133195

Note: 513-4XX-10 is indicated on the dial face. But the Order No. for the Special Set provided with the stem etc. has a suffix (E or T) at the end.

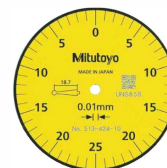


Graduation: 0.01 mm  
Range: 0.8 mm

513-404-10E / 10A / 10T

Standard

Carbide contact point  
(Slightly magnetic)

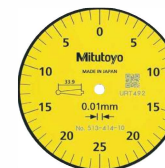


Graduation: 0.01 mm  
Range: 0.5 mm

513-424-10E / 10A / 10T

Standard

Double scale spacing  
Carbide contact point  
(Slightly magnetic)



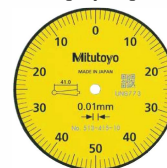
Graduation: 0.01 mm  
Range: 0.5 mm

513-414-10E / 10A / 10T

Long stylus

Carbide contact point  
(Slightly magnetic)

Double scale spacing

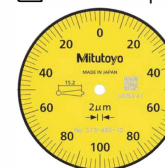


Graduation: 0.01 mm  
Range: 1.0 mm

513-415-10E / 10A / 10T

Long stylus

Carbide contact point  
(Slightly magnetic)

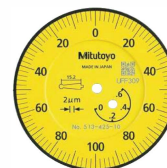


Graduation: 0.002 mm  
Range: 0.2 mm

513-405-10E / 10A / 10T

Standard

Carbide contact point  
(Slightly magnetic)

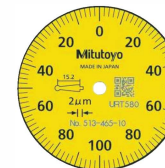


Graduation: 0.002 mm  
Range: 0.6 mm

513-425-10E / 10A

With revolution counter

Carbide contact point  
(Slightly magnetic)

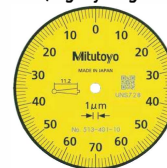


Graduation: 0.002 mm  
Range: 0.2 mm

513-465-10E

Compact

Carbide contact point  
(Slightly magnetic)



Graduation: 0.001 mm  
Range: 0.14 mm

513-401-10E

High accuracy

Carbide contact point  
(Slightly magnetic)



Graduation: 0.0005 in  
Range: 0.03 in

513-402-10E / 10T

Standard

Carbide contact point  
(Slightly magnetic)



Graduation: 0.0001 in  
Range: 0.008 in

513-403-10E / 10T

Standard

Carbide contact point  
(Slightly magnetic)

# Dial Test Indicators

Comparison measuring instruments which ensure high quality, high accuracy and reliability.

## SPECIFICATIONS

| Metric      |             |             |                 |            |              |                                       |          |                    |            |          |                     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                   |                                                                                    |
|-------------|-------------|-------------|-----------------|------------|--------------|---------------------------------------|----------|--------------------|------------|----------|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Order No.   |             |             | Graduation (mm) | Range (mm) | Dial reading | Maximum permissible error (MPE)* (μm) |          |                    |            | Mass (g) | Measuring force (N) |  |  |  |  |  |  |  |  |                                                                                   |                                                                                    |
| Basic set   | Plus set    | Full set    |                 |            |              | Measuring range                       | One rev. | 10 scale divisions | Hysteresis |          |                     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | Repeatability                                                                     |                                                                                    |
| 513-424-10E | 513-424-10A | 513-424-10T | 0.01            | 0.5        | 0-25-0       | 6                                     | -        | 5                  | 4          | 45       | 0.3 or less         |  |  |  |  |  |  |  |  |                                                                                   |                                                                                    |
| 513-478-10E | -           | -           |                 |            |              |                                       |          |                    |            |          |                     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                   |                                                                                    |
| 513-466-10E | -           | -           |                 |            |              | 10                                    | 10       | 5                  | 4          | 41       | 0.2 or less         |  |  |  |  |  |  |  |  |                                                                                   |                                                                                    |
| 513-414-10E | 513-414-10A | 513-414-10T |                 |            |              |                                       |          |                    |            |          |                     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                   |                                                                                    |
| 513-426-10E | 513-426-10A | -           |                 | 1.5        | 0-40-0       | 9                                     | -        | 5                  | 4          | 45       | 0.4 or less         |  |  |  |  |  |  |  |  |                                                                                   |                                                                                    |
| 513-404-10E | 513-404-10A | 513-404-10T |                 |            |              |                                       |          |                    |            |          |                     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                   |                                                                                    |
| 513-474-10E | -           | -           |                 | 0.8        | 0-40-0       | 9                                     | -        | 5                  | 4          | 41       | 0.3 or less         |  |  |  |  |  |  |  |  |                                                                                   |                                                                                    |
| 513-464-10E | -           | -           |                 |            |              |                                       |          |                    |            |          |                     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                   |                                                                                    |
| 513-415-10E | 513-415-10A | 513-415-10T |                 | 1.0        | 0-50-0       | 10                                    | -        | 5                  | 5          | 45       | 0.2 or less         |  |  |  |  |  |  |  |  |                                                                                   |                                                                                    |
| 513-477-10E | -           | -           |                 |            |              |                                       |          |                    |            |          |                     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                   |                                                                                    |
| 513-405-10E | 513-405-10A | 513-405-10T | 0.002           | 0.2        | 0-100-0      | 4                                     | -        | 2                  | 3          | 45       | 0.3 or less         |  |  |  |  |  |  |  |  |                                                                                   |                                                                                    |
| 513-475-10E | -           | -           |                 |            |              |                                       |          |                    |            |          |                     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                   |                                                                                    |
| 513-455-10E | 513-455-10A | 513-455-10T |                 |            |              | 0.6                                   | 0-70-0   | 7                  | 5          | 4        | 1                   | 41                                                                                | 0.4 or less                                                                       |  |  |  |  |  |   |  |  |
| 513-425-10E | 513-425-10A | -           |                 |            |              |                                       |          |                    |            |          |                     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                   |                                                                                    |
| 513-401-10E | -           | -           |                 |            |              | 0.001                                 | 0.14     | 0-70-0             | 4          | -        | 3                   | 3                                                                                 | 45                                                                                | 0.3 or less                                                                       |  |  |  |  |   |  |   |
| 513-471-10E | -           | -           |                 |            |              |                                       |          |                    |            |          |                     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                   |                                                                                    |

| Inch        |          |             |                 |            |              |                                       |            |               |          |                     |               |                         |                    |          |                      |         |                                           |                    |  |
|-------------|----------|-------------|-----------------|------------|--------------|---------------------------------------|------------|---------------|----------|---------------------|---------------|-------------------------|--------------------|----------|----------------------|---------|-------------------------------------------|--------------------|--|
| Order No.   |          |             | Graduation (in) | Range (in) | Dial reading | Maximum permissible error (MPE)* (in) |            |               | Mass (g) | Measuring force (N) | High accuracy | With revolution counter | Long contact point | Standard | Double scale spacing | Compact | Carbide contact point (Slightly magnetic) | Ruby contact point |  |
| Basic set   | Plus set | Full set    |                 |            |              | One rev.                              | Hysteresis | Repeatability |          |                     |               |                         |                    |          |                      |         |                                           |                    |  |
| 513-402-10E | —        | 513-402-10T | 0.0005          | 0.03       | 0-15-0       | ±0.0005                               | 0.0002     | ±0.0002       | 45       | 0.3 or less         |               |                         |                    |          |                      |         |                                           |                    |  |
| 513-472-10E | —        | —           |                 |            |              |                                       |            |               |          |                     |               |                         |                    |          |                      |         |                                           |                    |  |
| 513-412-10E | —        | 513-412-10T |                 |            |              |                                       |            |               |          |                     |               |                         |                    |          |                      |         |                                           |                    |  |
| 513-479-10E | —        | —           |                 |            |              |                                       |            |               |          |                     |               |                         |                    |          |                      |         |                                           |                    |  |
| 513-462-10E | —        | —           | 0.00005         | 0.008      | 0-4-0        | ±0.0001                               | 0.0001     | ±0.00004      | 45       | 0.3 or less         |               |                         |                    |          |                      |         |                                           |                    |  |
| 513-407-10E | —        | 513-407-10T |                 |            |              |                                       |            |               |          |                     |               |                         |                    |          |                      |         |                                           |                    |  |
| 513-403-10E | —        | 513-403-10T |                 |            |              |                                       |            |               |          |                     |               |                         |                    |          |                      |         |                                           |                    |  |
| 513-473-10E | —        | —           |                 |            |              |                                       |            |               |          |                     |               |                         |                    |          |                      |         |                                           |                    |  |
| 513-463-10E | —        | —           | 0.0001          |            |              |                                       |            |               | 41       |                     |               |                         |                    |          |                      |         |                                           |                    |  |

| Metric/Inch |          |             |                      |                    |                 |                                       |                    |            |               |          |                     |               |                         |                    |          |                      |         |                                           |                    |
|-------------|----------|-------------|----------------------|--------------------|-----------------|---------------------------------------|--------------------|------------|---------------|----------|---------------------|---------------|-------------------------|--------------------|----------|----------------------|---------|-------------------------------------------|--------------------|
| Order No.   |          |             | Graduation           | Range              | Dial reading    | Maximum permissible error (MPE)* (μm) |                    |            |               | Mass (g) | Measuring force (N) | High accuracy | With revolution counter | Long contact point | Standard | Double scale spacing | Compact | Carbide contact point (Slightly magnetic) | Ruby contact point |
| Basic set   | Plus set | Full set    |                      |                    |                 | Measuring range                       | 10 scale divisions | Hysteresis | Repeatability |          |                     |               |                         |                    |          |                      |         |                                           |                    |
| 513-409-10E | –        | 513-409-10T | 0.002 mm / 0.0001 in | 0.2 mm / 0.0076 in | 0-10-0 / 0-38-0 | 4                                     | 2                  | 3          | 1             | 45       | 0.3 or less         |               |                         |                    |          |                      |         | ✓                                         |                    |

| Inch / Metric |          |             |                     |                  |                 |                                       |            |               |          |                     |                                                                                                   |                                                                                                             |                                                                                                        |                                                                                              |                                                                                                          |                                                                                             |                                                                                                                                                  |                                                                                                          |  |
|---------------|----------|-------------|---------------------|------------------|-----------------|---------------------------------------|------------|---------------|----------|---------------------|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|--|
| Order No.     |          |             | Graduation          | Range            | Dial reading    | Maximum permissible error (MPE)* (in) |            |               | Mass (g) | Measuring force (N) |  High accuracy |  With revolution counter |  Long contact point |  Standard |  Double scale spacing |  Compact |  Carbide contact point<br><small>(Slightly magnetic)</small> |  Ruby contact point |  |
| Basic set     | Plus set | Full set    |                     |                  |                 | One rev.                              | Hysteresis | Repeatability |          |                     |                                                                                                   |                                                                                                             |                                                                                                        |                                                                                              |                                                                                                          |                                                                                             |                                                                                                                                                  |                                                                                                          |  |
| 513-406-10E   | –        | 513-406-10T | 0.0005 in / 0.01 mm | 0.03 in / 0.7 mm | 0-15-0 / 0-35-0 | ±0.0005                               | 0.0002     | ±0.0002       | 45       | 0.3 or less         |                |                          |                     |           |                       |          |                                                              |                     |  |

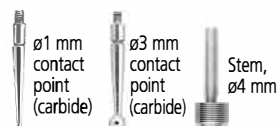
\* We guarantee the accuracy of completed products by inspecting them with the dial face facing upward.  
Note: Stem with dovetail groove is not included in the mass.

## Set Configuration: Metric and Metric/Inch

### Full set



### Plus set

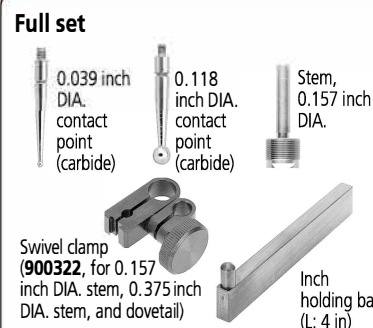


### Basic set

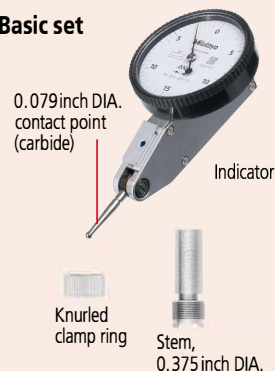


## Set Configuration: Inch and Inch/Metric

### Full set



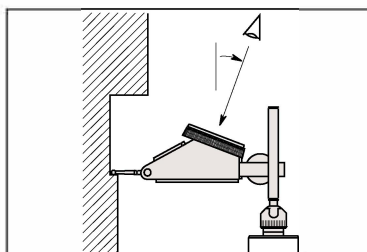
### Basic set



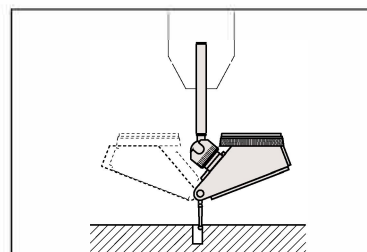


## Dial Test Indicator SERIES 513 — Horizontal (20° Tilted Face), Vertical, and Parallel Types

- Specially designed for easy viewing of dial.



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

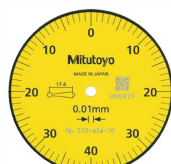


- Using the universal holder allows easy hole centering. The dial face always faces upward when the indicator is rotated, which makes reading easy.



513-454-10E/10A/10T

Contact point No. 103006



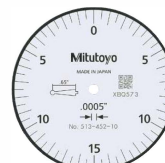
Graduation: 0.01 mm  
Range: 0.8 mm

- ☒ Carbide contact point (Slightly magnetic)



513-452-10E/10T

Contact point No. 133195



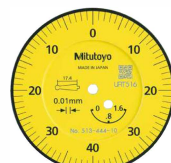
Graduation: 0.0005 in  
Range: 0.03 in

- ☒ Carbide contact point (Slightly magnetic)



513-444-10E/10A/10T

Contact point No. 103006



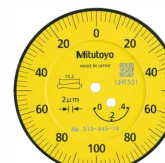
Graduation: 0.01 mm  
Range: 1.6 mm

- ☒ With revolution counter
- ☒ Carbide contact point (Slightly magnetic)



513-445-10E/10A/10T

Contact point No. 103011



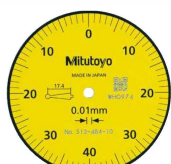
Graduation: 0.002 mm  
Range: 0.4 mm

- ☒ With revolution counter
- ☒ Carbide contact point (Slightly magnetic)



513-484-10E/10A/10T

Contact point No. 103006



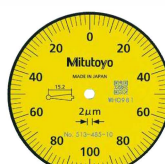
Graduation: 0.01 mm  
Range: 0.8 mm

- ☒ Carbide contact point (Slightly magnetic)



513-485-10E

Contact point No. 103011



Graduation: 0.002 mm  
Range: 0.2 mm

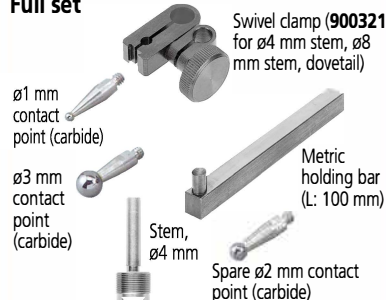
- ☒ Carbide contact point (Slightly magnetic)

Note: 513-4XX-10 is indicated on the dial face. But the Order No. for the set provided with the stem etc. has a suffix (E or T) at the end.

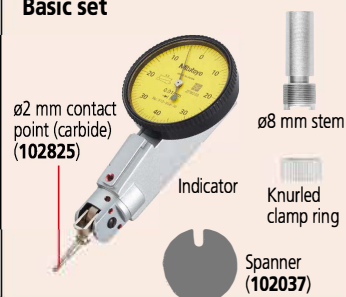


## Set Configuration: Metric

### Full set

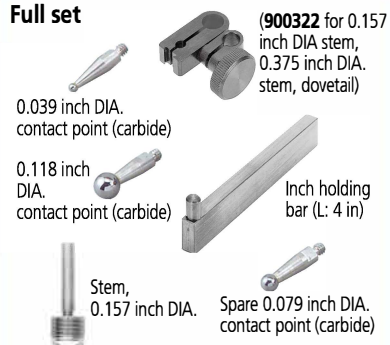


### Basic set

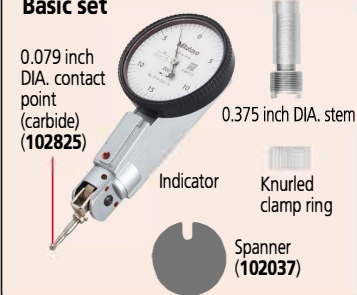


## Set Configuration: Inch

### Full set



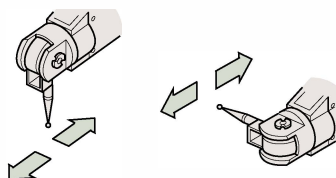
### Basic set



## Optional Accessories

- Swivel clamps (See page F-75)
- Holding bars (See page F-75)
- Stems (See page F-75)
- 102824:** ø1 mm contact point (carbide)
- 102825:** ø2 mm contact point (carbide)
- 102826:** ø3 mm contact point (carbide)

## Dial Test Indicator SERIES 513 — Universal Type



- The direction of the probe movement can be freely changed by rotating the contact point section of the indicator.



513-304-10E

## SPECIFICATIONS

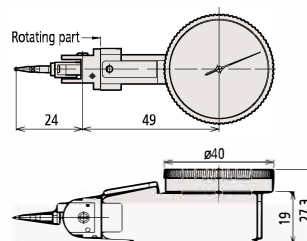
| Metric      |             |                 |            |              |                                       |          |                    |            |          |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------|-------------|-----------------|------------|--------------|---------------------------------------|----------|--------------------|------------|----------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Order No.   |             | Graduation (mm) | Range (mm) | Dial reading | Maximum permissible error (MPE)* (μm) |          |                    |            | Mass (g) | Measuring force (N) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Basic set   | Full set    |                 |            |              | Measuring range                       | One rev. | 10 scale divisions | Hysteresis |          |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 513-304-10E | 513-304-10T | 0.01            | 0.8        | 0-40-0       | 9                                     | —        | 5                  | 4          | 3        | 71                  | 0.3 or less                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|             |             |                 |            |              |                                       |          |                    |            |          |                     | <input checked="" type="checkbox"/> High accuracy<br><input checked="" type="checkbox"/> With revolution counter<br><input checked="" type="checkbox"/> Long contact point<br><input checked="" type="checkbox"/> Standard<br><input checked="" type="checkbox"/> Double scale spacing<br><input checked="" type="checkbox"/> Compact<br><input checked="" type="checkbox"/> Dustproof<br><input checked="" type="checkbox"/> Carbide contact point (Slightly magnetic)<br><input checked="" type="checkbox"/> Ruby contact point |

| Inch        |             |                 |            |              |                                       |            |               |          |                     |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------|-------------|-----------------|------------|--------------|---------------------------------------|------------|---------------|----------|---------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Order No.   |             | Graduation (in) | Range (in) | Dial reading | Maximum permissible error (MPE)* (in) |            |               | Mass (g) | Measuring force (N) |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Basic set   | Full set    |                 |            |              | One rev.                              | Hysteresis | Repeatability |          |                     |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 513-302-10E | 513-302-10T | 0.0005          | 0.03       | 0-15-0       | ±0.0005                               | 0.0003     | ±0.0003       | 71       | 0.3 or less         |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|             |             |                 |            |              |                                       |            |               |          |                     |  | <input checked="" type="checkbox"/> High accuracy<br><input checked="" type="checkbox"/> With revolution counter<br><input checked="" type="checkbox"/> Long contact point<br><input checked="" type="checkbox"/> Standard<br><input checked="" type="checkbox"/> Double scale spacing<br><input checked="" type="checkbox"/> Compact<br><input checked="" type="checkbox"/> Dustproof<br><input checked="" type="checkbox"/> Carbide contact point (Slightly magnetic)<br><input checked="" type="checkbox"/> Ruby contact point |

\* We guarantee the accuracy of completed products by inspecting them with the dial face facing upward.

Note: 513-3XX-10 is indicated on the dial face. But the Order No. for the set provided with the stem etc. has a suffix (E or T) at the end.

## DIMENSIONS



513-304-10E

Note: A slight difference may occur depending on the center of the contact point, graduation plate, and stem fixing position, etc.

Unit: mm

# Dial Test Indicators

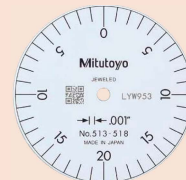
Comparison measuring instruments which ensure high quality, high accuracy and reliability.

## Pocket Type Dial Test Indicator SERIES 513

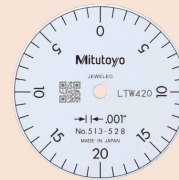
- Slim design is suited for measurement in deep holes.
- Jeweled bearings assure higher sensitivity and accuracy.

Indicator can be mounted by clamping the stem or the body (except for **513-517WE** and **513-517WT**).

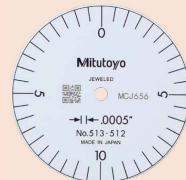
- Bezel is sealed with an O-ring to keep out water and oil. (Note that this type is NOT waterproof.)
- Clutch type (with a clutch lever)
- With  $\varnothing 2$  mm Carbide contact point
- Jeweled bearing
- Completed products are inspected according to JIS B 7533:1990.



513-518



513-528



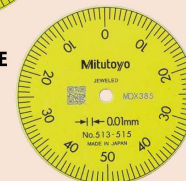
513-512



513-504



513-517E  
513-517WE



513-515T



513-514E



513-503E



513-501E

### Optional Accessories

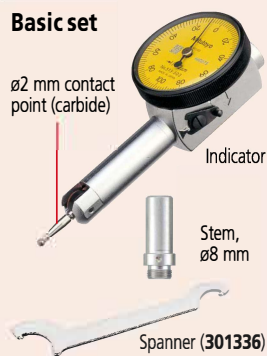
- Swivel clamps (See page F-75)
- Holding bars (See page F-75)
- Stems (See page F-75)
- Contact point (See page F-75)

## Set Configuration: Metric

### Full set

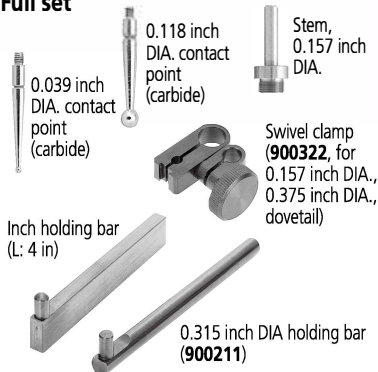


### Basic set

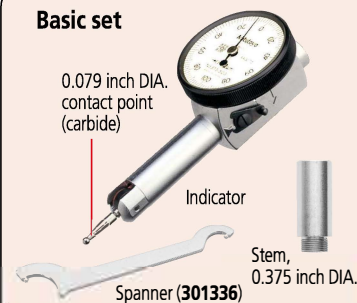


## Set Configuration: Inch

### Full set



### Basic set



Long contact point



Jeweled bearing



Dustproof



Compact

## SPECIFICATIONS

### Metric

| Order No. |           | Graduation (mm) | Range (mm) | Accuracy (μm) | Dial reading | Measuring force (N) | Long contact point | Jeweled bearing | Dustproof | Compact | — | — |
|-----------|-----------|-----------------|------------|---------------|--------------|---------------------|--------------------|-----------------|-----------|---------|---|---|
| Basic set | Full set  |                 |            |               |              |                     |                    |                 |           |         |   |   |
| 513-514E  | 513-514T  | 0.01            | 0.5        | 10            | 0-25-0       | 0.3 or less         | ✓                  | ✓               |           |         |   |   |
| 513-517E  | 513-517T  | 0.01            | 0.8        | 8             | 0-40-0       | 0.3 or less         |                    | ✓               |           |         |   |   |
| 513-517WE | 513-517WT | 0.01            | 0.8        | 8             | 0-40-0       | 0.3 or less         |                    | ✓               |           | ✓       |   |   |
| 513-527E  | 513-527T  | 0.01            | 0.8        | 8             | 0-40-0       | 0.3 or less         | ✓                  | ✓               |           |         |   |   |
| —         | 513-515T  | 0.01            | 1          | 10            | 0-50-0       | 0.3 or less         | ✓                  | ✓               |           |         |   |   |
| 513-503E  | 513-503T  | 0.002           | 0.2        | 3             | 0-100-0      | 0.3 or less         |                    | ✓               |           |         |   |   |
| 513-501E  | 513-501T  | 0.001           | 0.14       | 3             | 0-70-0       | 0.4 or less         |                    | ✓               |           |         |   |   |

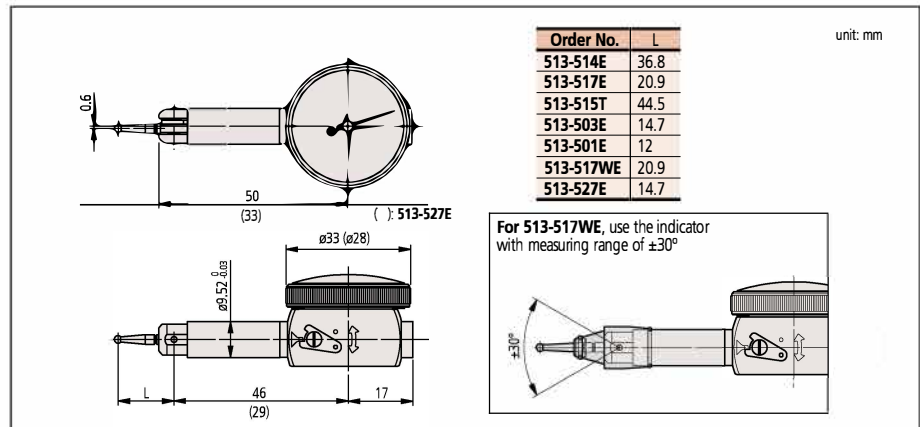
Note: We guarantee the accuracy of completed products by inspecting them with the dial face facing upward.

### Inch

| Order No. |          | Graduation (in) | Range (in) | Accuracy (in) | Dial reading | Measuring force (N) | Long contact point | Jeweled bearing | Dustproof | Compact | — | — |
|-----------|----------|-----------------|------------|---------------|--------------|---------------------|--------------------|-----------------|-----------|---------|---|---|
| Basic set | Full set |                 |            |               |              |                     |                    |                 |           |         |   |   |
| 513-518   | 513-518T | 0.001           | 0.04       | ±0.001        | 0-20-0       | 0.3 or less         |                    | ✓               |           |         |   |   |
| 513-528   | 513-528T | 0.001           | 0.04       | ±0.001        | 0-20-0       | 0.3 or less         |                    | ✓               | ✓         |         |   |   |
| 513-512   | 513-512T | 0.0005          | 0.02       | ±0.0005       | 0-10-0       | 0.3 or less         | ✓                  | ✓               |           |         |   |   |
| 513-504   | 513-504T | 0.0001          | 0.01       | ±0.0002       | 0-5-0        | 0.3 or less         |                    | ✓               |           |         |   |   |

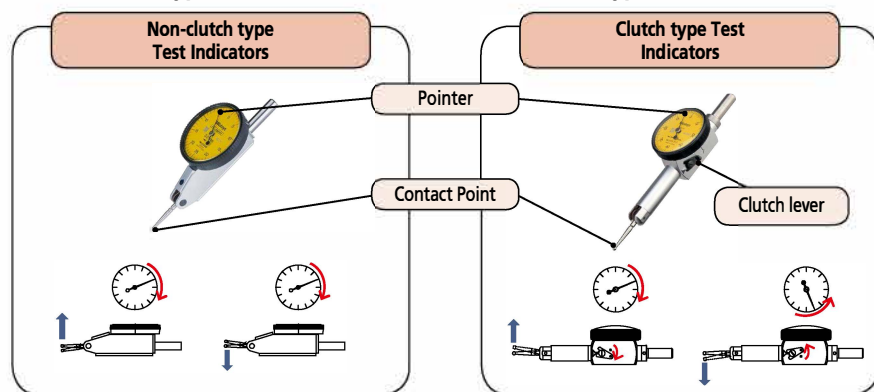
Note: We guarantee the accuracy of completed products by inspecting them with the dial face facing upward.

## DIMENSIONS



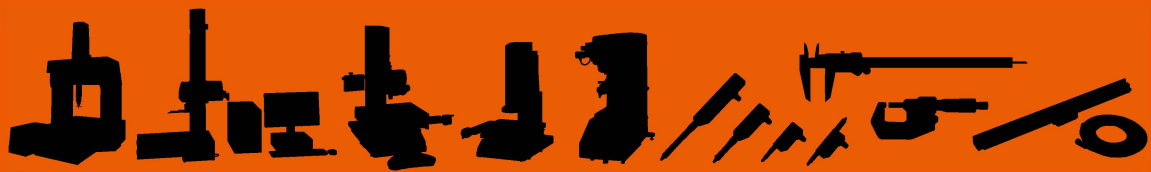
## There are two types of Mitutoyo Dial Test Indicator:

The non-clutch type (without a clutch lever) and the clutch type (with a clutch lever)



In the non-clutch type, although the contact point may move either in the upward or downward direction, the pointer always rotates clockwise.

In the clutch type, if the clutch lever is set in one position the contact point moves in the upward direction and the pointer rotates clockwise. Conversely, if the lever is set in the other position the contact point moves in the downward direction and the pointer rotates counterclockwise.



**FOR MORE INFORMATION PLEASE CONTACT:**



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