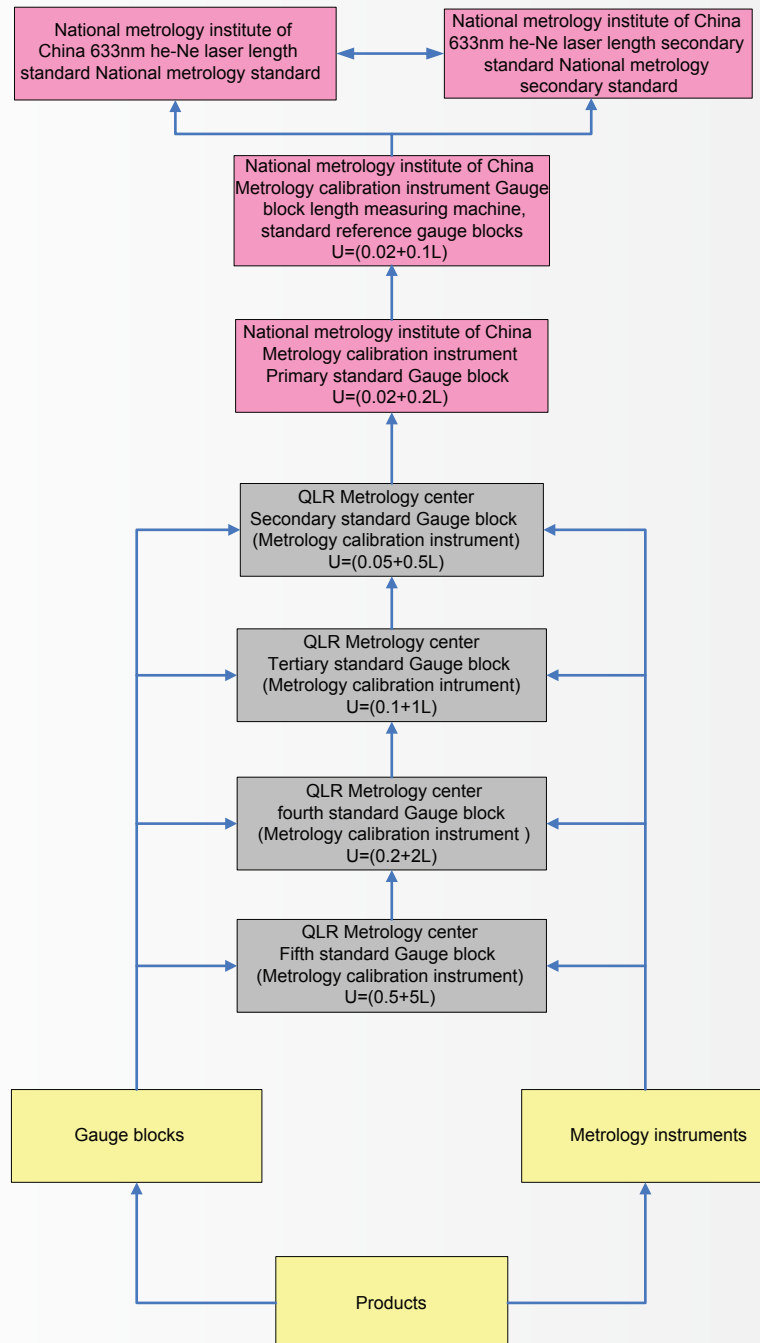


Offering National Standard Metrology System

The metrology testing center of Qianhai Measuring & Cutting Tools Co.,Ltd has thirty-years old, is the center of length measuring. Founded all levels of metrology standard and standard metrology devices (secondary is summit), the capability for transmitting and testing data of less than secondary gauge blocks.



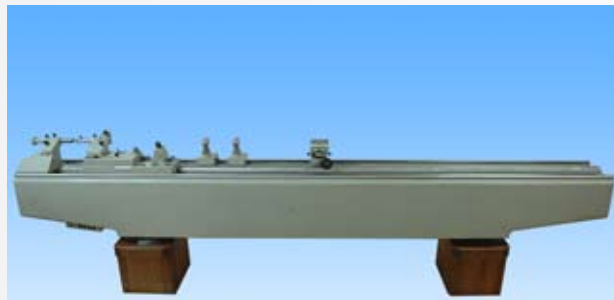
Uncertainty of standard
Metrology instrument
 $\leq (0.1+1 \times L) \mu\text{m}$
L: m (meter).

Length measurement



Swiss TRIMOS, ABC-P500 high precision Universal Measuring length Machines

- For setting, calibrating measuring instruments, gages and measuring inside and outside dimensions minutely. Whole travels use absolutely measuring.
- Range: 0-550mm.
- Uncertainty of measurement: $\leq 0.15 + L/2000$ μm . L: mm (Millimeter).
- Repeat precision: 0.05 μm .



German CARL ZEISS JENA Product 0-3000mm Measuring Length Machine

- For precisely measuring inside and outside dimensions of length $L \leq 3000\text{mm}$ minutely.
- Uncertainty of outside dimension measurement: $\leq \pm (1.2 + 3L/1000)$ μm .
- Uncertainty of inside dimension measurement: $\leq \pm (1.5 + 3L/1000)$ μm . L: mm (Millimeter).

Roundness measurement



Roundness measuring machine

- For minutely measuring roundness, waviness, concentricity, perpendicularity, parallelism, and planeness.
- Spectrometric analyzing for surface state of parts.
- Labeling eccentricity and phase calibration of part.
- Range: bore $\Phi 3 - \Phi 300\text{mm}$.
- Cylindrical diameter: 0- $\Phi 300\text{mm}$.
- Uncertainty of measuring: $\leq 0.03\mu\text{m}$.
- The max weight of part: 10kg.

Angle measurement



Goniometer

- For measuring angle minutely.
- Range: 360° .
- Precision: $\leq 2''$.
- Resolution: 0.5''.

Pitch measurement



High precision small pitch measuring machine

- Range: 0.3-1mm.
- Length: $\leq 140\text{mm}$.
- Pitch diameter: $\leq 40\text{mm}$.
- Uncertainty of measurement: $(0.15 + L/240)$ μm . L: mm (Millimeter).

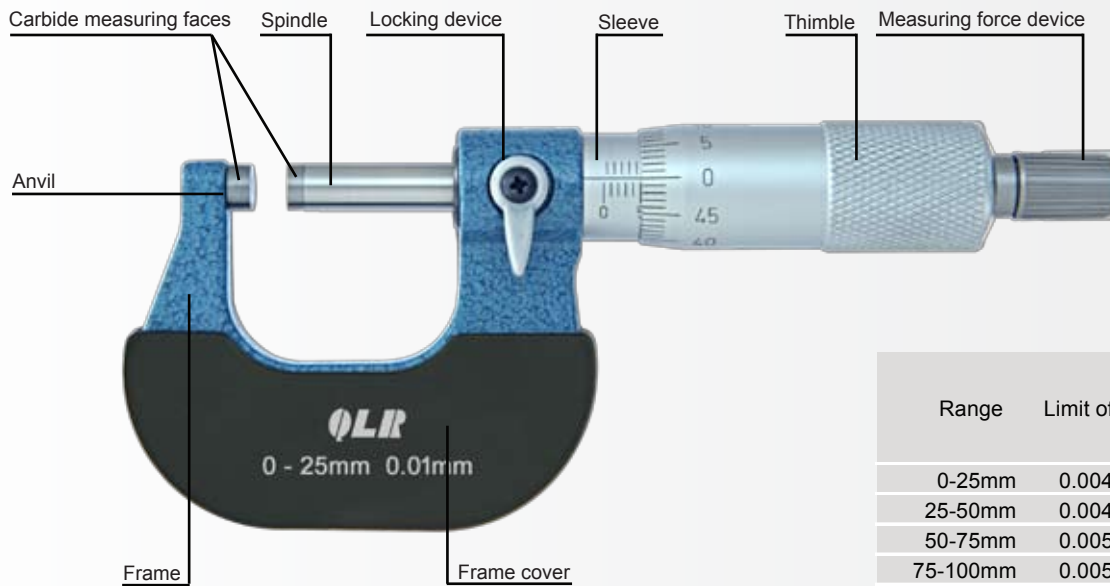
Indicator check



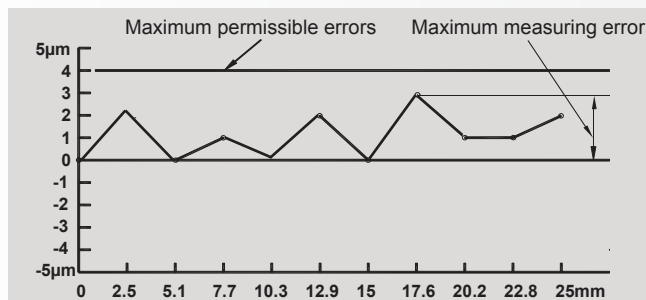
Indicator check machine

- For testing various of electronic indicators, mechanical indicator and dial indicator automatically and quickly.
- Range: 0-13mm.
- Resolution: 0.2 μm .
- 0-13mm measuring error $\leq 1\mu\text{m}$, Arbitrary 2mm measuring error $\leq 2\mu\text{m}$.

Standard Design Micrometers



Fasten micrometer in a clamp, then test by putting a set of gauge blocks between two measuring faces. They are the first-class gauge blocks as following: 2.5; 5.1; 7.7; 10.3; 12.9; 15.0; 17.6; 20.2; 22.8 and 25mm. In above ten positions, get ten error data between micrometer reading and actual distance between two measuring faces. The absolute data of the largest one is reading error of the micrometer.



Range	Limit of error	Parallelism tolerance under measuring force is 10N
0-25mm	0.004mm	0.002mm
25-50mm	0.004mm	0.002mm
50-75mm	0.005mm	0.003mm
75-100mm	0.005mm	0.003mm
100-125mm	0.006mm	0.004mm
125-150mm	0.006mm	0.004mm
150-175mm	0.007mm	0.005mm
175-200mm	0.007mm	0.005mm
200-225mm	0.008mm	0.006mm
225-250mm	0.008mm	0.006mm
250-275mm	0.009mm	0.007mm
275-300mm	0.009mm	0.007mm
300-325mm	0.010mm	0.009mm
325-350mm	0.010mm	0.009mm
350-375mm	0.011mm	0.009mm
375-400mm	0.011mm	0.009mm
400-425mm	0.012mm	0.011mm
425-450mm	0.012mm	0.011mm
450-475mm	0.013mm	0.011mm
475-500mm	0.013mm	0.011mm

Measuring faces



Interference fringes number of spindle measuring faces: $M=2$



Interference fringes number of anvil measuring faces: $N=2$
Interference fringes number of two measuring faces:
 $K=M+N=2+2=4$
Parallelism of two measuring faces: $4 \times 0.3 = 1.2\mu\text{m}$



Interference fringes number of anvil measuring faces: $N=1$
Parallelism of anvil measuring faces: $1 \times 0.3 = 0.3\mu\text{m}$

The flatness and parallelism of measuring faces are tested by optical flat.

Because of roughness of measuring faces, after optical flat contact with measuring face of spindle or anvil, there are gaps between faces, thereby interference fringes and rings appear. At vertical direction to measuring faces, each interference fringe or ring represents $0.3\mu\text{m}$ of flatness error.

Parallelism error of measuring face:

To test parallelism of two measuring faces of micrometers with upper range under 100mm, by optical flat specified with $1/3$ or $1/4$ of screw pitch of micrometer spindle. In turns, put optical flat between two measuring faces, turn measuring force by 5-10, to make optical flat and measuring faces touched. Then rotate optical flat slowly to make interference fringes or rings reduced to the least. For micrometers with range over 100mm, autocollimator can be used to test parallelism of measuring faces. Parallelism error near edge zone within 0.4mm of measuring face shall be disregarded.

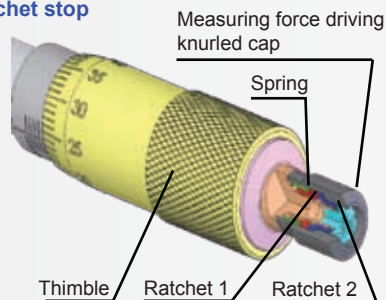
Flatness error of measuring face:

To testing flatness and parallelism of measuring faces by second-class optical flat, adjust the flat to make interference band or ring to the least, or to make to be closed interference ring. Interference bands or rings with same color should not appeared over two stripes. (Flatness of measuring faces: $<0.6\mu\text{m}$). Flatness error near edge zone within 0.4mm of measuring face shall be disregarded.

Micrometers



Ratchet stop



Measuring force device:

Measuring force device is used to drive spindle and ensure measuring force of the measure face invariable, acquire precise measuring results.

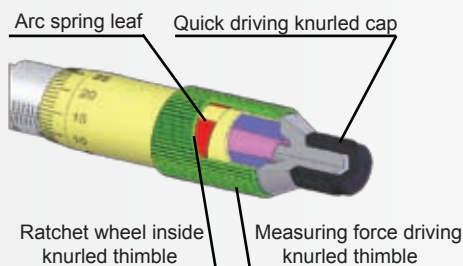
Ratchet stop:

Normal micrometers have ratchet stop.

Notices when measuring workpiece by ratchet stop:

- (1) Make measuring faces of anvils, workpiece and spindle touched each other by rotating spindle.
- (2) Rotate the driving cap two or three rounds by two or three fingers.
- (3) Read measuring value.

Ratchet friction thimble (patent)

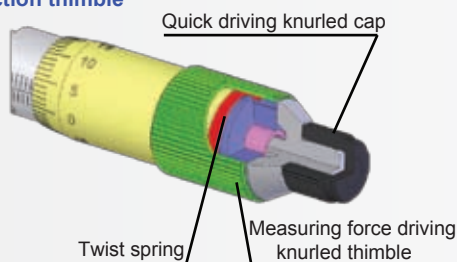


Ratchet friction thimble or Friction thimble:

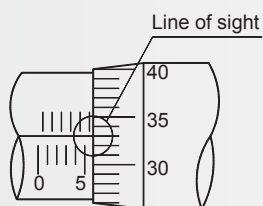
Ratchet friction thimble or friction thimble supply measuring force by improved inner structure of the thimble.

Comparing with ratchet stop, ratchet friction thimble and friction thimble have no axial impact, their measuring forces are more stable and their large thimble are easy for handing. So measurement are seldom interfered by man-induced factor when using ratchet friction thimble or friction thimble. And they are easy to be used by one hand and recommended to be used to get precise measuring result.

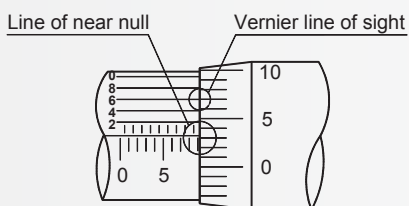
Friction thimble



Resolution: 0.01mm (Without vernier scale) Resolution: 0.002mm (With vernier scale)



Sleeve: 5.50mm
+ Thimble: 0.33mm (Line of sight)
Reading: 5.83mm



Sleeve: 9.000mm
Thimble: 0.030mm (Line of near null)
+ Vernier: 0.006mm (Vernier line of sight)
Reading: 9.036mm

Sleeve、Thimble:

Read measuring result by scale line in sleeve and graduation line in thimble.



- 1) Adjust the sleeve with a spanner until zero position.

- 2). ①Loose the ratchet stop by a spanner.



- 2). ②Loose the thimble, in line with zero position.
- 2). ③Fasten ratchet stop by a spanner.



Zero Setting

Before using, clean measuring faces of the anvil and the spindle with soft cloth or soft paper, then bring them together carefully by turning the ratchet stop. If the line marked "0" on the thimble does not coincide with the reference line on the sleeve, adjust zero position in the following manners:

- 1) Deviation within $\pm 0.02\text{mm}$

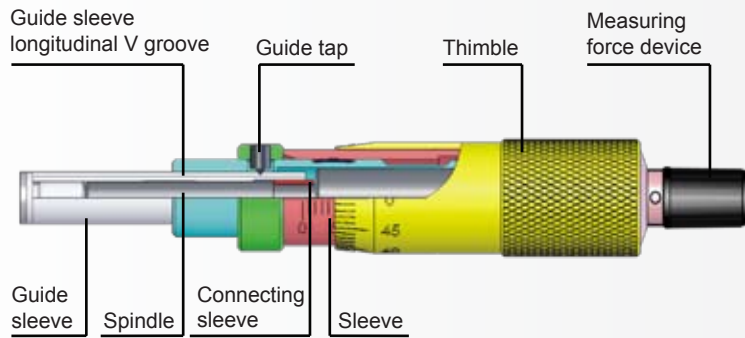
Lock the spindle by the locking device then adjust the sleeve with a spanner until the reference line comes exactly in line with "0" line on the thimble.

- 2) Deviation over $\pm 0.02\text{mm}$

Lock the spindle by the locking device and loose the ratchet stop by a spanner. Pressing the thimble to the ratchet stop bring it so that "0" line coincides with the reference line on the sleeve. Fasten ratchet stop and make the final adjustment.

If necessary, in the former way.

Technology Information (Non-rotating Spindle)



- Patented products.
- Longitudinal V groove of guide sleeve is driven by guide tap, translating screwing feed of spindle to straight feed of guide sleeve.

Typical examples of non-rotating spindle structure



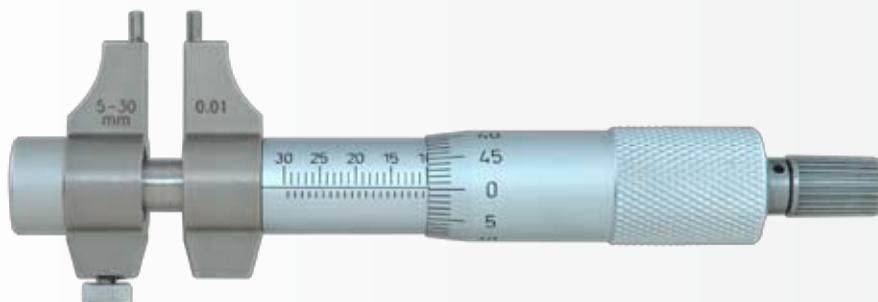
Disk micrometers:

Non-rotating spindle of disk micrometers smooths rotating infection of measuring faces off measuring result.



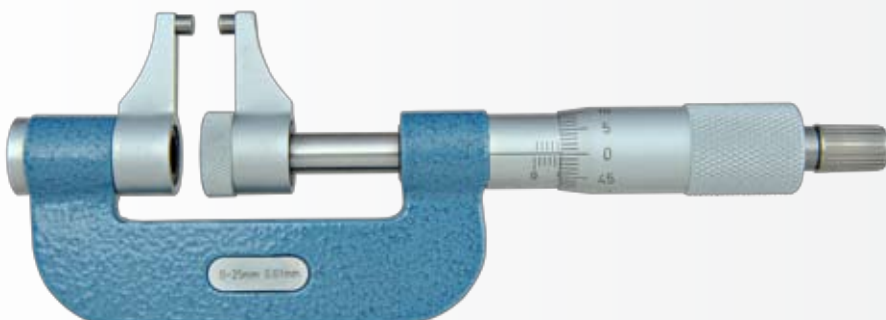
Blade micrometers:

Non-rotating spindle of blade micrometers ensures two blade measuring faces centrosymmetric, for measuring grooves.



Inside micrometers:

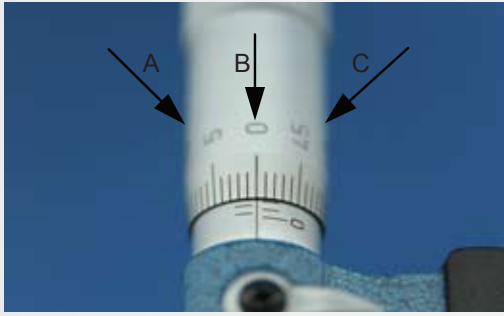
Non-rotating spindle of inside micrometers ensures two measuring faces centrosymmetric, for measuring inside dimensions.



Caliper type micrometers:

Non-rotating spindle of caliper type micrometers ensures two measuring faces centrosymmetric, for measuring parts that hard-to-reach for outside micrometer.

Measuring Technology Information

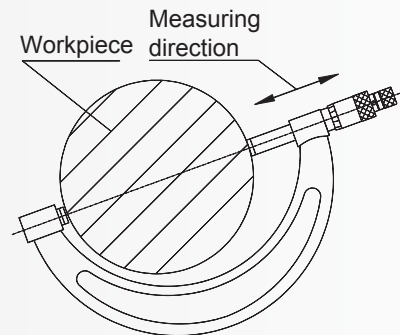
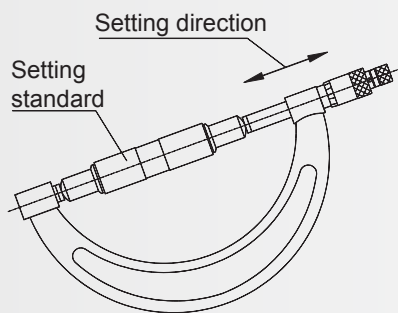


Visual error

For reticles on sleeve and thimble are not in a same plane, there appears visual error when reading on thimble from different points A, B and C. Therefore, line of sight perpendicular to reticles on the sleeve (Point B as shown in picture). If read from point A or C, there is reading error about $2\text{ }\mu\text{m}$. So, line of sight must be attended when reading.

Position error

Distortion of frame should be taken into account when using large micrometers. During measuring, ensure direction of measuring coincident with that of setting.

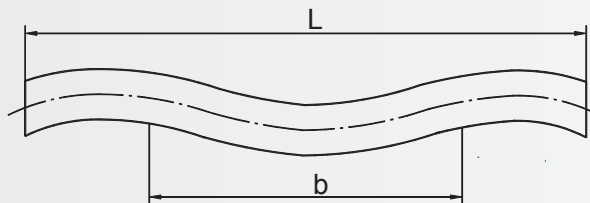


Temperature error

Infection of temperature should be taken into account when using large micrometers. For 1 meter long workpiece made of steel (as gauge block), there is error about $11\text{ }\mu\text{m}$ as temperature changing one degree. Because of different material of gauge block and micrometers, when temperature change similarly, change of their length are different. Therefore, when calibrating, keep micrometers and workpiece in place with stable temperature for enough time (3 hours) and keep temperature within $[(20\pm 2)^{\circ}\text{C}]$.

Airy points

Airy points, supposition of optimal curving points to support body of setting standard or tubular inside micrometer in level.

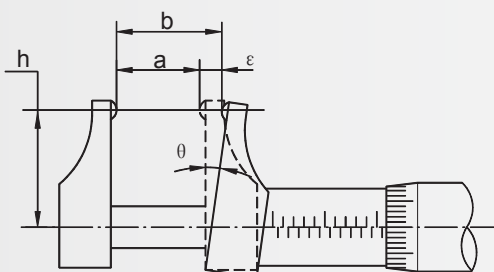


Airy points, supposition supporting two points, enable two sides surfaces parallel.

$$b=0.5577L$$

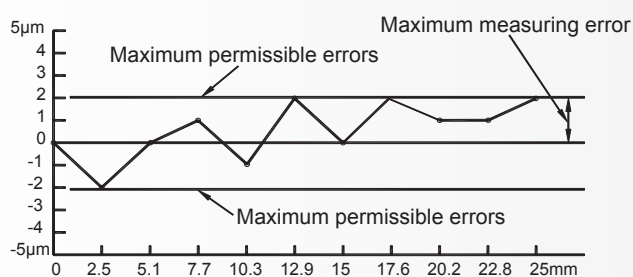
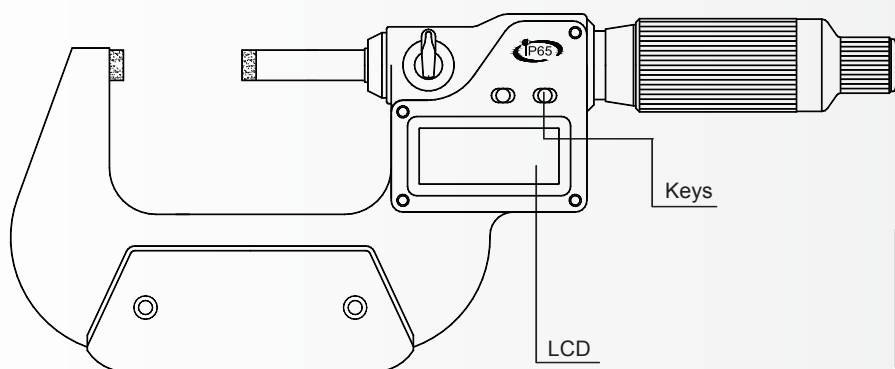
Abbe principium

Abbe principium says: "Only when datum lines of measuring system and measured workpiece are on a same line, measurement is most accuracy." As drawing shows, when there is distance (h) between measuring faces and reading axis line, there will be measuring error (ϵ). Therefore, measuring force must be taken into account during such measurement.



$$\epsilon = b - a = h \tan \theta$$

Standard For Electronic Micrometers



Defense DIN40050/IEC529



Communication

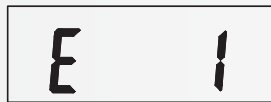


Range	Limit of error	Parallelism tolerance of measuring faces under measuring force of 10N
0-25mm	$\pm 0.002\text{mm}$	0.0015mm
25-50mm	$\pm 0.002\text{mm}$	0.0015mm
50-75mm	$\pm 0.003\text{mm}$	0.0020mm
75-100mm	$\pm 0.003\text{mm}$	0.0020mm
100-125mm	$\pm 0.003\text{mm}$	0.0025mm
125-150mm	$\pm 0.003\text{mm}$	0.0025mm
150-175mm	$\pm 0.004\text{mm}$	0.0030mm
175-200mm	$\pm 0.004\text{mm}$	0.0030mm
200-225mm	$\pm 0.004\text{mm}$	0.0035mm
225-250mm	$\pm 0.004\text{mm}$	0.0035mm
250-275mm	$\pm 0.005\text{mm}$	0.0040mm
275-300mm	$\pm 0.005\text{mm}$	0.0040mm
300-325mm	$\pm 0.006\text{mm}$	0.0050mm
325-350mm	$\pm 0.006\text{mm}$	0.0050mm
350-375mm	$\pm 0.006\text{mm}$	0.0050mm
375-400mm	$\pm 0.006\text{mm}$	0.0050mm
400-425mm	$\pm 0.007\text{mm}$	0.0060mm
425-450mm	$\pm 0.007\text{mm}$	0.0060mm
450-475mm	$\pm 0.007\text{mm}$	0.0060mm
475-500mm	$\pm 0.007\text{mm}$	0.0060mm

Initial	IP	
First digit number	X	Resist dust
Second digit number	X	Resist dampness
Resist dust		
IP1X	Resist	>50mm foreign
IP2X	Resist	>12.5mm foreign
IP3X	Resist	>2.5mm foreign
IP4X	Resist	>1.0mm foreign
IP5X	Resist	dust
IP6X	Pressurize	
Resist dampness		
IPX1	Resist	vertical drop of water
IPX2	Resist	oblique drop of water
IPX3	Resist	splash water
IPX4	Resist	spray water
IPX5	Resist	injecting water
IPX6	Resist	strong injecting water
IPX7	Allow	temporary immersed
IPX8	Allow	long-time immersed

Maintenance For Electronic Micrometers

Display “E 1” on LCD



Measuring value over display range.
Repairing: Reset the origin or convert to relative measuring mode.

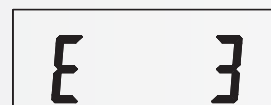
Display “E 2” on LCD



The origin is too great.
Repairing: Reset the origin.

Display “E 3” on LCD

Display “E 8” on LCD



1. The micrometer is disturbed.
2. Something wrong with sensor.
Repairing: 1. Reset the battery.
2. Return the micrometer for repair.

Measuring value is not correct:

1. Measuring surfaces are dirty.
2. The origin isn't correct.
Repairing: 1. Clean measuring surfaces.
2. Reset the origin.

Display is confusing or dead:

Suffer to strong disturb.
Repairing: Reset battery.

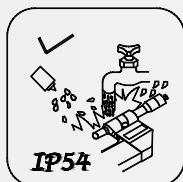
No display
Display is blurring
“∞” appears:

Battery voltage under 1.45V.
Repairing: Replace battery.

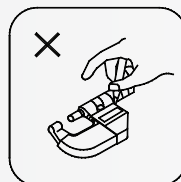
The output data is wrong:

Battery voltage under 1.45V.
Repairing: Replace battery.

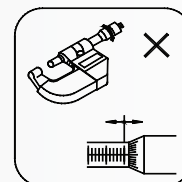
Precautions:



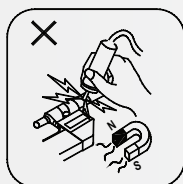
Resist water and resist dust.



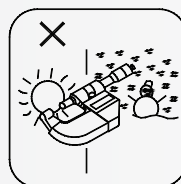
Do not disassemble the gauge.



Do not move spindle past the upper limit of the measuring range.



Do not subject the gauge in strong magnetic fields and high voltage environment.



Do not use or store the gauge under direct sunlight, or in an excessively hot or cold environment.



Do not subject the gauge to blows or knocks. Do not drop the gauge or apply excessive force to the gauge.

Electronic Outside Micrometers (2mmPitch)

142-XX-436/438 series



142-01-436

4 times measuring speed as normal micrometers thanks to its 2mm pitch spindle.



142-XX-436/438 series

SPECIFICATION:

- Feature:** 4 times measuring Speed as normal micrometers thanks to its 2mm spindle pitch. Liquid-tight structure provides excellent resistance against water and dust (IP65), ensures precision and reliable measuring, even in bad surroundings. Patented unitary ratchet friction thimble provides constant measuring force and easy to use by 1 hand or 2 hands. Large LCD display. Carbide measuring faces.
- Resolution:** 0.001mm/0.00005"
- Function:** Power on/off key and automatic power off. Absolute/incremental measurement conversion, metric/inch conversion. Origin set for absolute measurement.
- Data output:** RS232C (using P1505, P1502 cable).
- Battery:** One SR44 battery.
- Protection level:** IP65. Excellent resistance against water and dust.

Data output



Protection level: IP65

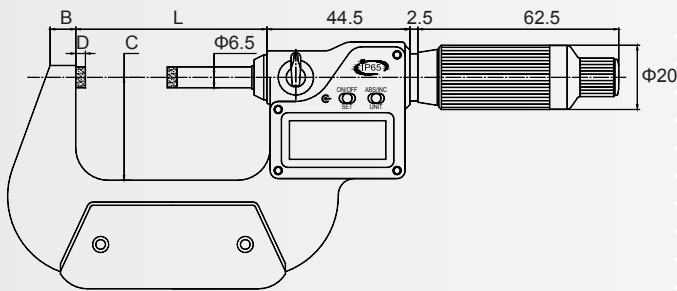


Electronic Outside Micrometers (2mmPitch)



142-01-436

 Order No. (Metric/Inch)		 Accuracy	 Range (Metric/Inch)
With output port	Without output port		
142-01-436/437	142-01-438/439	±0.002mm	0-25mm/0-1"
142-02-436/437	142-02-438/439	±0.002mm	25-50mm/1-2"
142-03-436/437	142-03-438/439	±0.003mm	50-75mm/2-3"
142-04-436/437	142-04-438/439	±0.003mm	75-100mm/3-4"
142-05-436/437	142-05-438/439	±0.003mm	100-125mm/4-5"
142-06-436/437	142-06-438/439	±0.003mm	125-150mm/5-6"
142-07-436/437	142-07-438/439	±0.004mm	150-175mm/6-7"
142-08-436/437	142-08-438/439	±0.004mm	175-200mm/7-8"
142-09-436/437	142-09-438/439	±0.004mm	200-225mm/8-9"
142-10-436/437	142-10-438/439	±0.004mm	225-250mm/9-10"
142-11-436/437	142-11-438/439	±0.005mm	250-275mm/10-11"
142-12-436/437	142-12-438/439	±0.005mm	275-300mm/11-12"



Range(Metric/Inch)	C	L	B	D
0-25mm/0-1"	25mm	34.5mm	6mm	3.0mm
25-50mm/1-2"	32.0mm	59.5mm	8mm	3.0mm
50-75mm/2-3"	44.5mm	84.5mm	8mm	3.0mm
75-100mm/3-4"	57.0mm	109.5mm	8mm	3.0mm
100-125mm/4-5"	70.0mm	135.0mm	10mm	3.0mm
125-150mm/5-6"	82.0mm	160.5mm	10mm	3.0mm
150-175mm/6-7"	94.5mm	186.0mm	12mm	5.5mm
175-200mm/7-8"	107.0mm	211.5mm	12mm	5.5mm
200-225mm/8-9"	129.5mm	236.0mm	23mm	5.5mm
225-250mm/9-10"	142.5mm	261.5mm	23mm	5.5mm
250-275mm/10-11"	155.0mm	287.0mm	23mm	5.5mm
275-300mm/11-12"	167.5mm	312.5mm	23mm	5.5mm



Electronic Outside Micrometers

133-XX-416/418 Series



133-01-416



133-XX-416/418 series

SPECIFICATION:

- Feature:** Liquid-tight structure provides excellent resistance against water and dust (IP65), ensures precision and reliable measuring, even in very bad surroundings. Patented unitary ratchet friction thimble provides constant measuring force and easy to use by 1 hand or 2 hands. Large LCD display. Carbide measuring faces.
- Resolution:** 0.001mm/0.00005".
- Function:** Power on/off key and automatic power off. Absolute/incremental measurement conversion, metric/inch conversion. Origin set for absolute measurement.
- Data output:** RS232C (using P1505, P1502 cable).
- Battery:** One SR44 battery.
- Protection level:** IP65. Excellent resistance against water and dust.

Data output



Protection level: IP65

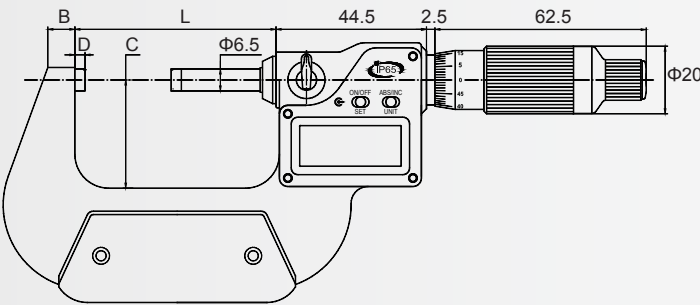


Electronic Outside Micrometers



133-01-416

No			
Order No. (Metric/Inch)		Accuracy	Range (Metric/Inch)
With output port			
133-01-416/417	133-01-418/419	±0.002mm	0-25mm/0-1"
133-02-416/417	133-02-418/419	±0.002mm	25-50mm/1-2"
133-03-416/417	133-03-418/419	±0.003mm	50-75mm/2-3"
133-04-416/417	133-04-418/419	±0.003mm	75-100mm/3-4"
133-05-416/417	133-05-418/419	±0.003mm	100-125mm/4-5"
133-06-416/417	133-06-418/419	±0.003mm	125-150mm/5-6"
133-07-416/417	133-07-418/419	±0.004mm	150-175mm/6-7"
133-08-416/417	133-08-418/419	±0.004mm	175-200mm/7-8"
133-09-416/417	133-09-418/419	±0.004mm	200-225mm/8-9"
133-10-416/417	133-10-418/419	±0.004mm	225-250mm/9-10"
133-11-416/417	133-11-418/419	±0.005mm	250-275mm/10-11"
133-12-416/417	133-12-418/419	±0.005mm	275-300mm/11-12"
Without output port			



Range(Metric/Inch)	C	L	B	D
0-25mm/0-1"	25mm	34.5mm	6mm	3.0mm
25-50mm/1-2"	32.0mm	59.5mm	8mm	3.0mm
50-75mm/2-3"	44.5mm	84.5mm	8mm	3.0mm
75-100mm/3-4"	57.0mm	109.5mm	8mm	3.0mm
100-125mm/4-5"	70.0mm	135.0mm	10mm	3.0mm
125-150mm/5-6"	82.0mm	160.5mm	10mm	3.0mm
150-175mm/6-7"	94.5mm	186.0mm	12mm	5.5mm
175-200mm/7-8"	107.0mm	211.5mm	12mm	5.5mm
200-225mm/8-9"	129.5mm	236.0mm	23mm	5.5mm
225-250mm/9-10"	142.5mm	261.5mm	23mm	5.5mm
250-275mm/10-11"	155.0mm	287.0mm	23mm	5.5mm
275-300mm/11-12"	167.5mm	312.5mm	23mm	5.5mm



Electronic Outside Micrometers

Feature:

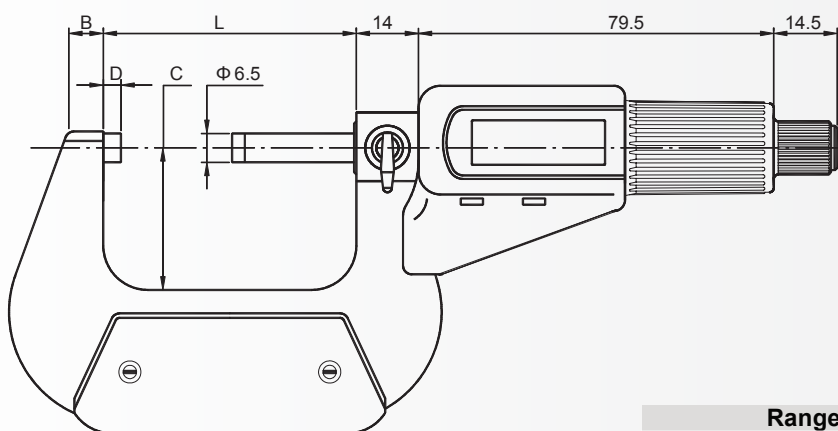
- Ratchet friction thimble easy to use by 1 hand.
- Display data is origin data of absolute measurement after changing battery.
- Carbide measuring faces.
- Resolution: 0.001mm(Metric); 0.00005"(Inch).



132-01-830

ON/OFF key, auto power off	√
ABS/INC measurement conversion	√
Metric/inch conversion	√
Origin data set	√
1 SR44 battery	√

Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
132-01-830	0-25mm	132-01-831	0-1"	±0.002mm
132-02-830	25-50mm	132-02-831	1-2"	±0.002mm
132-03-830	50-75mm	132-03-831	2-3"	±0.003mm
132-04-830	75-100mm	132-04-831	3-4"	±0.003mm
132-05-830	100-125mm	132-05-831	4-5"	±0.003mm
132-06-830	125-150mm	132-06-831	5-6"	±0.003mm
132-07-830	150-175mm	132-07-831	6-7"	±0.004mm
132-08-830	175-200mm	132-08-831	7-8"	±0.004mm



Range		C	L	B	D
Metric	Inch				
0-25mm	0-1"	24mm	32mm	6mm	3.0mm
25-50mm	1-2"	32mm	57mm	8mm	3.0mm
50-75mm	2-3"	45mm	82mm	8mm	3.0mm
75-100mm	3-4"	57mm	107mm	10mm	3.0mm
100-125mm	4-5"	70mm	133mm	10mm	3.0mm
125-150mm	5-6"	82mm	158mm	10mm	3.0mm
150-175mm	6-7"	95mm	183mm	12mm	5.5mm
175-200mm	7-8"	107mm	209mm	12mm	5.5mm

Electronic Outside Micrometers

Feature:

- Ratchet friction thimble easy to use by 1 hand.
- Display data is origin data of absolute measurement after changing battery.
- Carbide measuring faces.
- Resolution: 0.001mm(Metric); 0.00005"(Inch).

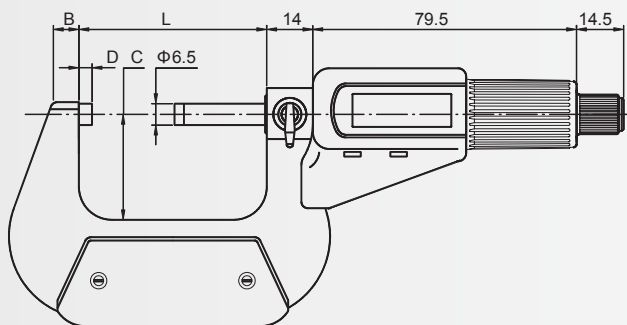


IP54

132-01-534

Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
132-01-534	0-25mm	132-01-535	0-1"	±0.002mm
132-02-534	25-50mm	132-02-535	1-2"	±0.002mm
132-03-534	50-75mm	132-03-535	2-3"	±0.003mm
132-04-534	75-100mm	132-04-535	3-4"	±0.003mm
132-05-534	100-125mm	132-05-535	4-5"	±0.003mm
132-06-534	125-150mm	132-06-535	5-6"	±0.003mm
132-07-534	150-175mm	132-07-535	6-7"	±0.004mm
132-08-534	175-200mm	132-08-535	7-8"	±0.004mm

ON/OFF key, auto power off	✓
ABS/INC measurement conversion	✓
Metric/inch conversion	✓
Origin data set	✓
1 SR44 battery	✓
Protection level IP54	✓
RS232C data output using P1503, P1501 cable	✓



Range		C	L	B	D
Metric	Inch				
0-25mm	0-1"	24mm	32mm	6mm	3.0mm
25-50mm	1-2"	32mm	57mm	8mm	3.0mm
50-75mm	2-3"	45mm	82mm	8mm	3.0mm
75-100mm	3-4"	57mm	107mm	10mm	3.0mm
100-125mm	4-5"	70mm	133mm	10mm	3.0mm
125-150mm	5-6"	82mm	158mm	10mm	3.0mm
150-175mm	6-7"	95mm	183mm	12mm	5.5mm
175-200mm	7-8"	107mm	209mm	12mm	5.5mm

132-XX-5X4 Series

High precision capacitance measuring system

Patent capacitance installation device

Patented transmission device

Key 2

Airtight oil-resistant key

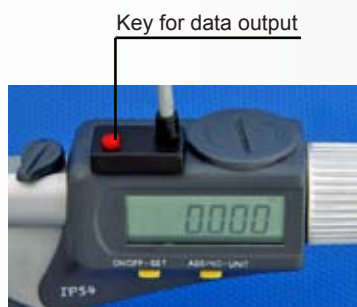
Key 1

Airtight structure

Feature:

- Adopt high precision capacitance measuring system.
- Airtight structure design, ensures micrometers exact and reliable measuring result, even under dreadful working surroundings.

Electronic Micrometers 193-XX-6X0 Series



Communication interface

SPECIFICATION:

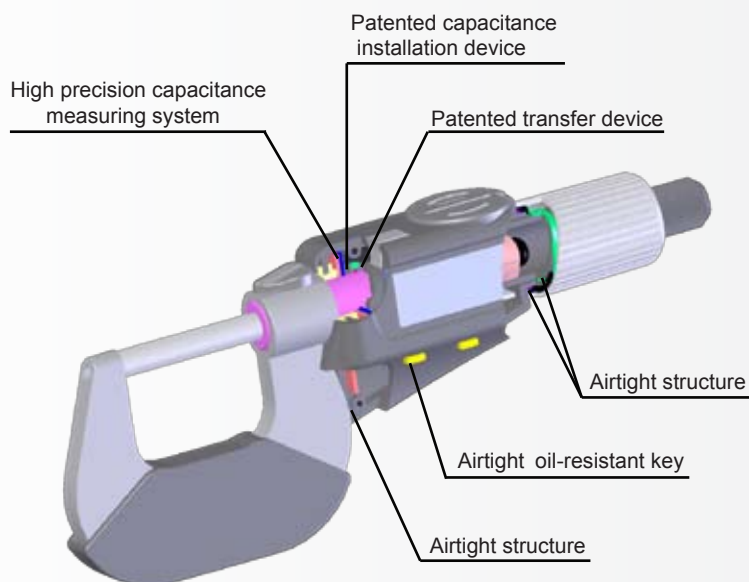
Display:	LCD display.
Function:	Power on/off, Absolute and incremental measurement conversion, Metric-inch conversion, SPC data output Origin data set for absolute measurement, Power off automatically.
Protecton level:	IP54.
Battery:	One CR2032 battery.



Friction thimble 193-XX-620 Series



Ratchet friction thimble 193-XX-630 Series



- Adopt high precision capacitance measuring system.
- Liquid-tight structure design, ensure exacts and reliable measuring result, even under dreadful working surroundings.



Double Display Digit Micrometers

Feature:

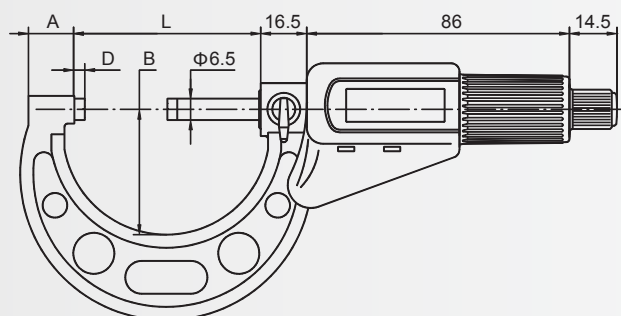
- Protection level **IP54**.
- Double displays. LCD direction can be changed by key for easy reading in all kinds of measuring conditions and left or right hand using.
- Display data is origin data of absolute measurement after changing battery.
- Carbide measuring faces.
- Travel of micrometer head: 30mm.
- Resolution: 0.001mm(Metric); 0.00005"(Inch).



193-01-630

Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
193-01-630	0-30mm	193-01-631	0-1.2"	±0.002mm
193-02-630	20-50mm	193-02-631	0.8-2"	±0.002mm
193-03-630	45-75mm	193-03-631	1.8-3"	±0.003mm
193-04-630	70-100mm	193-04-631	2.8-4"	±0.003mm
193-05-630	95-125mm	193-05-631	3.8-5"	±0.003mm
193-06-630	120-150mm	193-06-631	4.8-6"	±0.003mm
193-07-630	145-175mm	193-07-631	5.8-7"	±0.004mm
193-08-630	170-200mm	193-08-631	6.8-8"	±0.004mm
193-09-630	195-225mm	193-09-631	7.8-9"	±0.004mm
193-10-630	220-250mm	193-10-631	8.8-10"	±0.004mm
193-11-630	245-275mm	193-11-631	9.8-11"	±0.005mm
193-12-630	270-300mm	193-12-631	10.8-12"	±0.005mm

Power ON/OFF	√
Abs. and inc. conversion	√
Metric/inch conversion	√
Origin data set	√
LCD direction change key	√
Battery	CR2032
Auto power off	√
RS232 output port	√
Connecting cable(Optional)	P1101



Range		A	B	L	D
Metric	Inch				
0-30mm	0-1.2"	9mm	35mm	37mm	3.0mm
20-50mm	0.8-2"	14mm	38mm	57mm	3.0mm
45-75mm	1.8-3"	15mm	49mm	82mm	3.0mm
75-100mm	2.8-4"	15mm	60mm	107mm	3.0mm
95-125mm	3.8-5"	16mm	73mm	133mm	3.0mm
120-150mm	4.8-6"	16mm	85mm	158mm	3.0mm
145-175mm	5.8-7"	19mm	104mm	183mm	5.5mm
170-200mm	6.8-8"	19mm	117mm	209mm	5.5mm
195-225mm	7.8-9"	19mm	130mm	234mm	5.5mm
220-250mm	8.8-10"	19mm	142mm	260mm	5.5mm
245-275mm	9.8-11"	19mm	155mm	285mm	5.5mm
270-300mm	10.8-12"	19mm	168mm	310mm	5.5mm



Electronic Outside Micrometers

Feature:

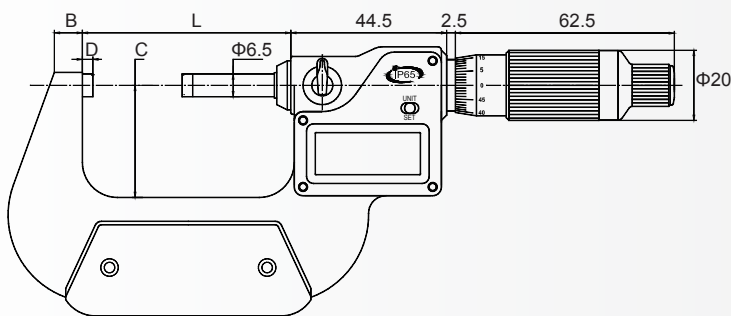
- Protection level **IP65**.
- Display data is origin data of absolute measurement after changing battery.
- Carbide measuring faces.
- Resolution of digit:
0.001mm(Metric); 0.00005"(Inch).
Resolution of micrometer heads:
0.01mm(Metric); 0.0001"(Inch).



133-01-618

				
Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Ratchet stop				
133-01-618	0-25mm	133-01-619	0-1"	±0.002mm
133-02-618	25-50mm	133-02-619	1-2"	±0.002mm
133-03-618	50-75mm	133-03-619	2-3"	±0.003mm
133-04-618	75-100mm	133-04-619	3-4"	±0.003mm
133-05-618	100-125mm	133-05-619	4-5"	±0.003mm
133-06-618	125-150mm	133-06-619	5-6"	±0.003mm
133-07-618	150-175mm	133-07-619	6-7"	±0.004mm
133-08-618	175-200mm	133-08-619	7-8"	±0.004mm
133-09-618	200-225mm	133-09-619	8-9"	±0.004mm
133-10-618	225-250mm	133-10-619	9-10"	±0.004mm
133-11-618	250-275mm	133-11-619	10-11"	±0.005mm
133-12-618	275-300mm	133-12-619	11-12"	±0.005mm

Origin data set	√
Battery	SR44
Auto power off	√



Dimensions

Range		C	L	B	D
Metric	Inch				
0-25mm	0-1"	24mm	32mm	6mm	3.0mm
25-50mm	1-2"	32mm	57mm	8mm	3.0mm
50-75mm	2-3"	45mm	82mm	8mm	3.0mm
75-100mm	3-4"	57mm	107mm	10mm	3.0mm
100-125mm	4-5"	70mm	133mm	10mm	3.0mm
125-150mm	5-6"	82mm	158mm	10mm	3.0mm
150-175mm	6-7"	95mm	183mm	12mm	5.5mm
175-200mm	7-8"	107mm	209mm	12mm	5.5mm
200-225mm	8-9"	129.5mm	234.0mm	23mm	5.5mm
225-250mm	9-10"	142.5mm	259.5mm	23mm	5.5mm
250-275mm	10-11"	155.0mm	285.0mm	23mm	5.5mm
275-300mm	11-12"	167.5mm	310.5mm	23mm	5.5mm

Electronic Outside Micrometers

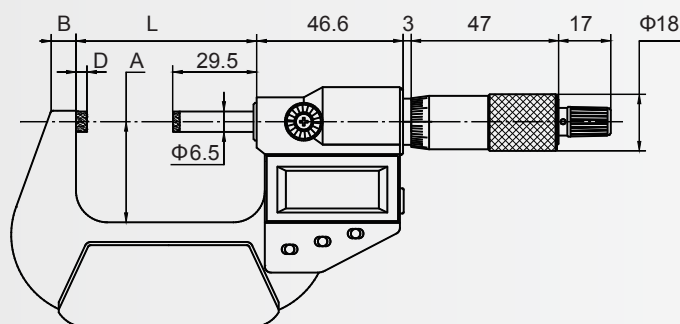
Feature:

- Protection level **IP54**.
- Display data is origin data of absolute measurement after changing battery.
- Carbide measuring faces. Painted frame.
- Resolution of digit:
0.001mm(Metric);0.00005"(Inch).
Resolution of micrometer heads:
0.01mm(Metric);0.0001"(Inch).



130-01-410

 Order No.		 Range	 Order No.		 Range	 Accuracy
Type A	Type B		Type A	Type B		
Metric			Inch			
Ratchet stop						
130-01-410	130-01-414	0-25mm	130-01-411	130-01-415	0-1"	±0.002mm
130-02-410	130-02-414	25-50mm	130-02-411	130-02-415	1-2"	±0.002mm
130-03-410	130-03-414	50-75mm	130-03-411	130-03-415	2-3"	±0.003mm
130-04-410	130-04-414	75-100mm	130-04-411	130-04-415	3-4"	±0.003mm
130-05-410	130-05-414	100-125mm	130-05-411	130-05-415	4-5"	±0.003mm
130-06-410	130-06-414	125-150mm	130-06-411	130-06-415	5-6"	±0.003mm
130-07-410	130-07-414	150-175mm	130-07-411	130-07-415	6-7"	±0.004mm
130-08-410	130-08-414	175-200mm	130-08-411	130-08-415	7-8"	±0.004mm
130-09-410	130-09-414	200-225mm	130-09-411	130-09-415	8-9"	±0.004mm
130-10-410	130-10-414	225-250mm	130-10-411	130-10-415	9-10"	±0.004mm
130-11-410	130-11-414	250-275mm	130-11-411	130-11-415	10-11"	±0.005mm
130-12-410	130-12-414	275-300mm	130-12-411	130-12-415	11-12"	±0.005mm



	Type A	Type B
RS232 output	√	×
Power ON/OFF	√	√
Abs. and inc. conversion	√	√
Metric/inch conversion	√	×
Data output	√	×
Origin data set	√	√
Battery	SR44	SR44
Auto power off	√	√
Connecting cable	P1501,P1503	×

Dimensions

Range		A	L	B	D
Metric	Inch				
0-25mm	0-1"	24mm	32.5mm	6mm	3.0mm
25-50mm	1-2"	32.0mm	57.5mm	8mm	3.0mm
50-75mm	2-3"	44.5mm	82.5mm	8mm	3.0mm
75-100mm	3-4"	57.0mm	107.5mm	8mm	3.0mm
100-125mm	4-5"	70.0mm	133.0mm	10mm	3.0mm
125-150mm	5-6"	82.0mm	158.5mm	10mm	3.0mm
150-175mm	6-7"	94.5mm	184.0mm	12mm	5.5mm
175-200mm	7-8"	107.0mm	209.5mm	12mm	5.5mm
200-225mm	8-9"	129.5mm	234.0mm	23mm	5.5mm
225-250mm	9-10"	142.5mm	259.5mm	23mm	5.5mm
250-275mm	10-11"	155.0mm	285.0mm	23mm	5.5mm
275-300mm	11-12"	167.5mm	310.5mm	23mm	5.5mm

Electronic Outside Micrometers

Feature:

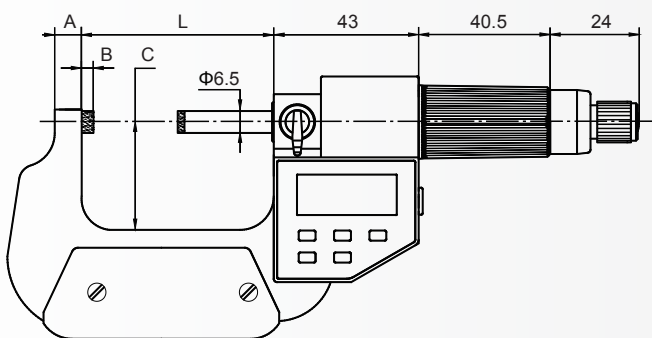
- Protection level **IP54**.
- Display data is origin data of absolute measurement after changing battery.
- Carbide measuring faces.
- Resolution: 0.001mm(Metric); 0.00005"(Inch).



132-01-040

Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
132-01-040	0-25mm	132-01-041	0-1"	±0.002mm
132-02-040	25-50mm	132-02-041	1-2"	±0.002mm
132-03-040	50-75mm	132-03-041	2-3"	±0.003mm
132-04-040	75-100mm	132-04-041	3-4"	±0.003mm
132-05-040	100-125mm	132-05-041	4-5"	±0.003mm
132-06-040	125-150mm	132-06-041	5-6"	±0.003mm
132-07-040	150-175mm	132-07-041	6-7"	±0.004mm
132-08-040	175-200mm	132-08-041	7-8"	±0.004mm

Power ON/OFF	√
Abs. and inc. conversion	√
Metric/inch conversion	√
Data output	√
Data hold	√
Battery	SR44
Auto power off	√
RS232 output port	√
Connecting cable(Optional)	P1505, P1502



Range		A	B	C	L
Metric	Inch				
0-25mm	0-1"	6mm	3.0mm	24mm	32mm
25-50mm	1-2"	8mm	3.0mm	32mm	57mm
50-75mm	2-3"	8mm	3.0mm	45mm	82mm
75-100mm	3-4"	8mm	3.0mm	57mm	107mm
100-125mm	4-5"	8mm	3.0mm	70mm	133mm
125-150mm	5-6"	8mm	3.0mm	82mm	158mm
150-175mm	6-7"	8mm	5.5mm	95mm	183mm
175-200mm	7-8"	8mm	5.5mm	107mm	209mm



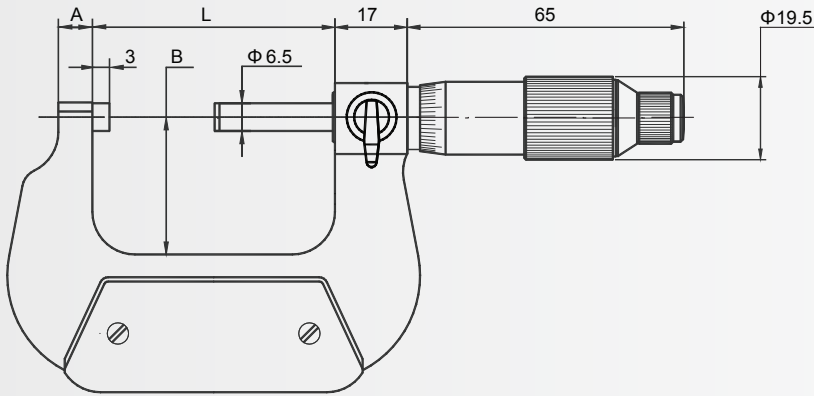
Antimagnetic Micrometers

- Feature:**
- Antimagnetic material for using in magnetic fields.
 - Carbide measuring faces.
 - Ratchet friction thimble.
 - Resolution: 0.01mm(Metric); 0.0001"(Inch).



108-01-030

Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
108-01-030	0-25mm	108-01-131	0-1"	0.004mm
108-02-030	25-50mm	108-02-131	1-2"	0.004mm
108-03-030	50-75mm	108-03-131	2-3"	0.005mm
108-04-030	75-100mm	108-04-131	3-4"	0.005mm



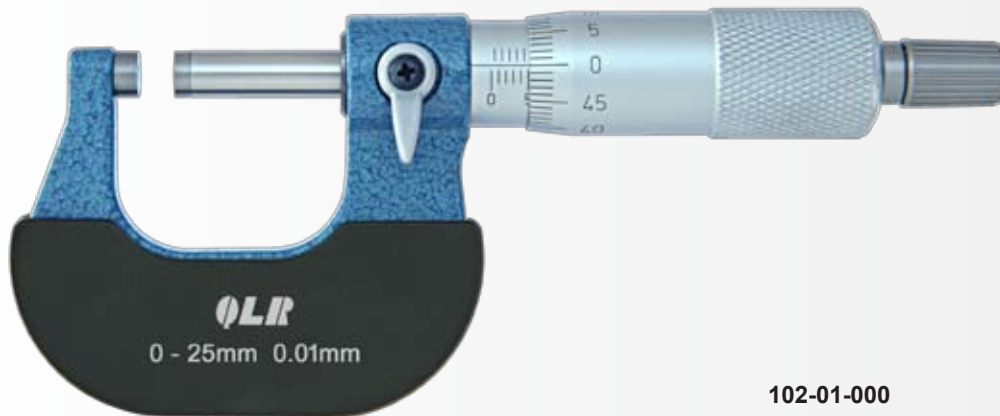
Range	B	A	L
0-25mm/0-1"	24mm	6mm	32mm
25-50mm/1-2"	32mm	8mm	57mm
50-75mm/2-3"	45mm	8mm	82mm
75-100mm/3-4"	57mm	8mm	107mm



Outside Micrometers

Feature:

- Carbide measuring faces.
- Painted frame.
- Resolution: 0.01mm(Metric);
0.0001"(Inch).

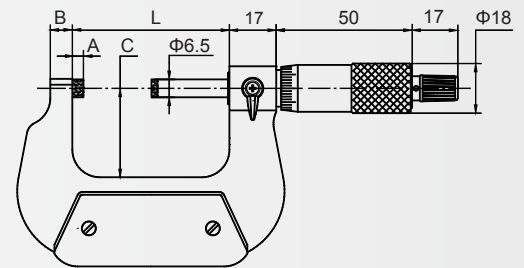


102-01-000

				
Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Ratchet stop				
102-01-000	0-25mm	102-01-101	0-1"	0.004mm
102-02-000	25-50mm	102-02-101	1-2"	0.004mm
102-03-000	50-75mm	102-03-101	2-3"	0.005mm
102-04-000	75-100mm	102-04-101	3-4"	0.005mm
102-05-000	100-125mm	102-05-101	4-5"	0.006mm
102-06-000	125-150mm	102-06-101	5-6"	0.006mm
102-07-000	150-175mm	102-07-101	6-7"	0.007mm
102-08-000	175-200mm	102-08-101	7-8"	0.007mm

Dimensions

Range		A	B	C	L
Metric	Inch				
0-25mm	0-1"	3.0mm	6mm	24mm	32mm
25-50mm	1-2"	3.0mm	8mm	32mm	57mm
50-75mm	2-3"	3.0mm	8mm	45mm	82mm
75-100mm	3-4"	3.0mm	8mm	57mm	107mm
100-125mm	4-5"	3.0mm	8mm	70mm	133mm
125-150mm	5-6"	3.0mm	8mm	82mm	158mm
150-175mm	6-7"	3.0mm	8mm	95mm	183mm
175-200mm	7-8"	3.0mm	8mm	107mm	209mm



Micrometers Sets



102-44-00

 Order No.	 Range	 Pieces
Ratchet stop		
Metric		
102-33-00	0-75mm	3
102-44-00	0-100mm	4
102-66-00	0-150mm	6
102-88-00	0-200mm	8
Inch		
102-33-01	0-3"	3
102-44-01	0-4"	4
102-66-01	0-6"	6
102-88-01	0-8"	8

Outside Micrometers

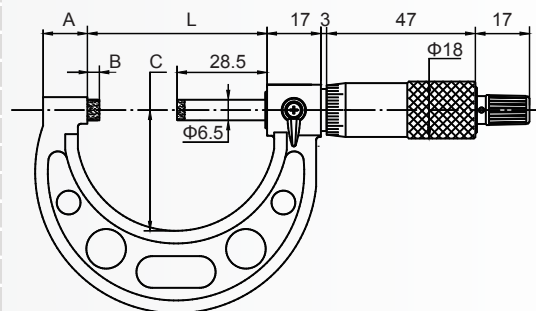
Feature:

- Carbide measuring faces.
- Ratchet stop.
- Resolution: 0.01mm(Metric); 0.0001"(Inch).



106-01-000

				
Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Ratchet stop				
106-01-000	0-25mm	106-01-101	0-1"	0.004mm
106-02-000	25-50mm	106-02-101	1-2"	0.004mm
106-03-000	50-75mm	106-03-101	2-3"	0.005mm
106-04-000	75-100mm	106-04-101	3-4"	0.005mm
106-05-000	100-125mm	106-05-101	4-5"	0.006mm
106-06-000	125-150mm	106-06-101	5-6"	0.006mm
106-07-000	150-175mm	106-07-101	6-7"	0.007mm
106-08-000	175-200mm	106-08-101	7-8"	0.007mm
106-09-000	200-225mm	106-09-101	8-9"	0.008mm
106-10-000	225-250mm	106-10-101	9-10"	0.008mm
106-11-000	250-275mm	106-11-101	10-11"	0.009mm
106-12-000	275-300mm	106-12-101	11-12"	0.009mm



Dimensions

Range		A	B	C	L
Metric	Inch				
0-25mm	0-1"	9mm	3.0mm	28mm	32mm
25-50mm	1-2"	14mm	3.0mm	38mm	57mm
50-75mm	2-3"	15mm	3.0mm	49mm	82mm
75-100mm	3-4"	15mm	3.0mm	60mm	107mm
100-125mm	4-5"	16.5mm	3.0mm	73mm	133mm
125-150mm	5-6"	16.5mm	3.0mm	85mm	158mm
150-175mm	6-7"	19.4mm	3.0mm	104mm	183mm
175-200mm	7-8"	19.4mm	3.0mm	117mm	209mm
200-225mm	8-9"	19.4mm	3.0mm	130mm	234mm
225-250mm	9-10"	19.4mm	3.0mm	142mm	260mm
250-275mm	10-11"	19.4mm	3.0mm	155mm	285mm
275-300mm	11-12"	19.4mm	3.0mm	168mm	310mm

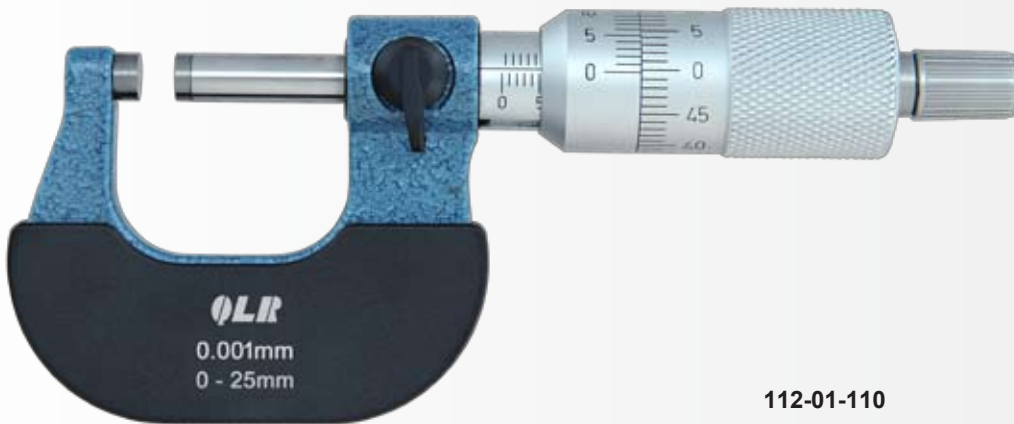
Micrometers Sets



106-44-00

Order No.	Range	Pieces
Ratchet stop		
Metric		
106-33-00	0-75mm	3
106-44-00	0-100mm	4
106-66-00	0-150mm	6
106-96-00	150-300mm	6
106-99-00	0-300mm	12
Inch		
106-33-01	0-3"	3
106-44-01	0-4"	4
106-66-01	0-6"	6
106-96-01	6-12"	6
106-99-01	0-12"	12

Outside Micrometers



112-01-110

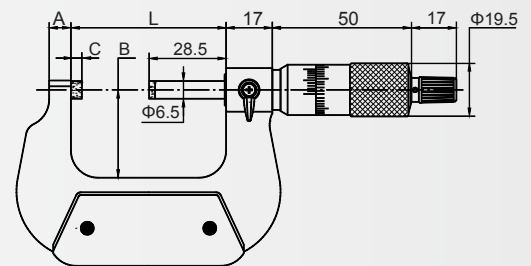
Feature:

- No-parallax vernier scale for high precision measuring.
- Carbide measuring faces.
- Resolution: 0.001mm(Metric); 0.0001"(Inch).

				
Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Ratchet stop				
112-01-110	0-25mm	112-01-111	0-1"	0.004mm
112-02-110	25-50mm	112-02-111	1-2"	0.004mm
112-03-110	50-75mm	112-03-111	2-3"	0.005mm
112-04-110	75-100mm	112-04-111	3-4"	0.005mm
112-05-110	100-125mm	112-05-111	4-5"	0.006mm
112-06-110	125-150mm	112-06-111	5-6"	0.006mm
112-07-110	150-175mm	112-07-111	6-7"	0.007mm
112-08-110	175-200mm	112-08-111	7-8"	0.007mm

Dimensions

Range		A	C	B	L
Metric	Inch				
0-25mm	0-1"	6mm	3.0mm	24mm	32mm
25-50mm	1-2"	8mm	3.0mm	32mm	57mm
50-75mm	2-3"	8mm	3.0mm	45mm	82mm
75-100mm	3-4"	8mm	3.0mm	57mm	107mm
100-125mm	4-5"	8mm	3.0mm	70mm	133mm
125-150mm	5-6"	8mm	3.0mm	82mm	158mm
150-175mm	6-7"	8mm	5.5mm	95mm	183mm
175-200mm	7-8"	8mm	5.5mm	107mm	209mm



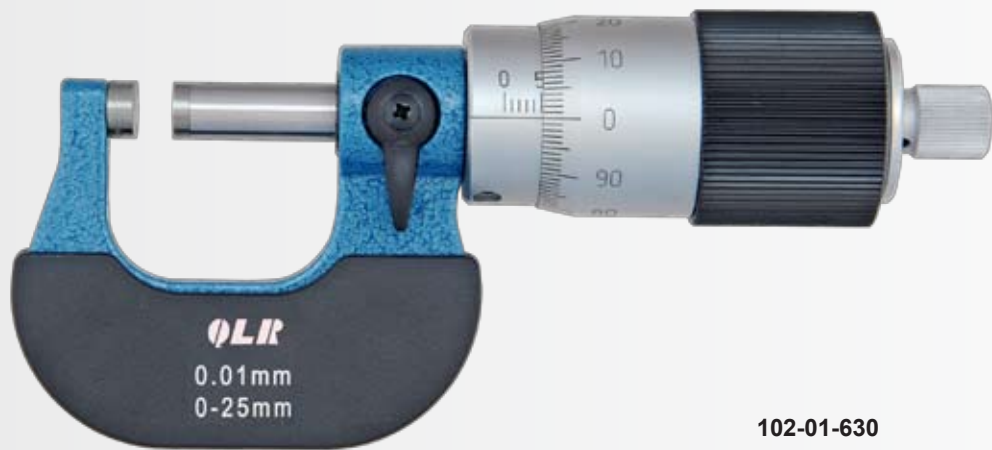
Micrometers Sets



112-44-10

 Order No.	 Range	 Pieces
Metric		
112-33-10	0-75mm	3
112-44-10	0-100mm	4
112-66-10	0-150mm	6
112-88-10	0-200mm	8
Inch		
112-33-11	0-3"	3
112-44-11	0-4"	4
112-66-11	0-6"	6
112-88-11	0-8"	8

Outside Micrometers



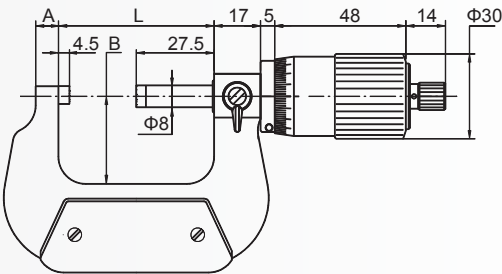
102-01-630

- Feature:**
- Spindle thread pitch: 1mm/0.05".
 - The measurement can be read directly on the 100 step graduation thimble.
 - Carbide measuring faces.
 - Resolution: 0.01mm(Metric); 0.0005"(Inch).

				
Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Ratchet friction thimble				
102-01-630	0-25mm	102-01-631	0-1"	0.004mm
102-02-630	25-50mm	102-02-631	1-2"	0.004mm
102-03-630	50-75mm	102-03-631	2-3"	0.005mm
102-04-630	75-100mm	102-04-631	3-4"	0.005mm
102-05-630	100-125mm	102-05-631	4-5"	0.006mm
102-06-630	125-150mm	102-06-631	5-6"	0.006mm
102-07-630	150-175mm	102-07-631	6-7"	0.007mm
102-08-630	175-200mm	102-08-631	7-8"	0.007mm

Dimensions

Range		A	B	L
Metric	Inch			
0-25mm	0-1"	6mm	24mm	32mm
25-50mm	1-2"	8mm	32mm	57mm
50-75mm	2-3"	8mm	45mm	82mm
75-100mm	3-4"	8mm	57mm	107mm
100-125mm	4-5"	8mm	70mm	133mm
125-150mm	5-6"	8mm	82mm	158mm
150-175mm	6-7"	8mm	95mm	183mm
175-200mm	7-8"	8mm	107mm	209mm



Micrometers Sets



102-24-30

		
Order No.	Range	Pieces
Ratchet friction thimble		
Metric		
102-23-30	0-75mm	3
102-24-30	0-100mm	4
102-26-30	0-150mm	6
102-28-30	0-200mm	8
Inch		
102-23-31	0-3"	3
102-24-31	0-4"	4
102-26-31	0-6"	6
102-28-31	0-8"	8

Digit Outside Micrometers



122-01-000

Feature:

- Mechanical digit counter for quick and error-free reading.
- Carbide measuring faces.
- Resolution: 0.01mm(Metric);0.0001"(Inch).
- Counter readout: 0.01mm(Metric); 0.001"(Inch).

				
Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Ratchet stop				
122-01-000	0-25mm	122-01-101	0-1"	0.004mm
122-02-000	25-50mm	122-02-101	1-2"	0.004mm
122-03-000	50-75mm	122-03-101	2-3"	0.005mm
122-04-000	75-100mm	122-04-101	3-4"	0.005mm
122-05-000	100-125mm	122-05-101	4-5"	0.006mm
122-06-000	125-150mm	122-06-101	5-6"	0.006mm
122-07-000	150-175mm	122-07-101	6-7"	0.007mm
122-08-000	175-200mm	122-08-101	7-8"	0.007mm
122-09-000	200-225mm	122-09-101	8-9"	0.008mm
122-10-000	225-250mm	122-10-101	9-10"	0.008mm
122-11-000	250-275mm	122-11-101	10-11"	0.009mm
122-12-000	275-300mm	122-12-101	11-12"	0.009mm

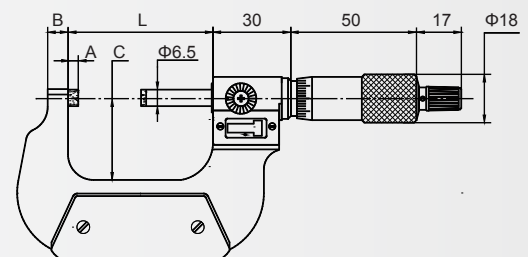
Dimensions

Range		A	B	C	L
Metric	Inch				
0-25mm	0-1"	3.0mm	6mm	26mm	32mm
25-50mm	1-2"	3.0mm	8mm	32mm	57mm
50-75mm	2-3"	3.0mm	8mm	44.5mm	82mm
75-100mm	3-4"	3.0mm	8mm	57mm	107mm
100-125mm	4-5"	3.0mm	17mm	71.8mm	132.4mm
125-150mm	5-6"	3.0mm	17mm	84mm	157.8mm
150-175mm	6-7"	3.0mm	20mm	98.5mm	185mm
175-200mm	7-8"	3.0mm	20mm	111mm	210.4mm
200-225mm	8-9"	5.5mm	20mm	124mm	236mm
225-250mm	9-10"	5.5mm	20mm	136.5mm	261mm
250-275mm	10-11"	5.5mm	20mm	149mm	287mm
275-300mm	11-12"	5.5mm	20mm	162mm	312mm

Micrometers Sets



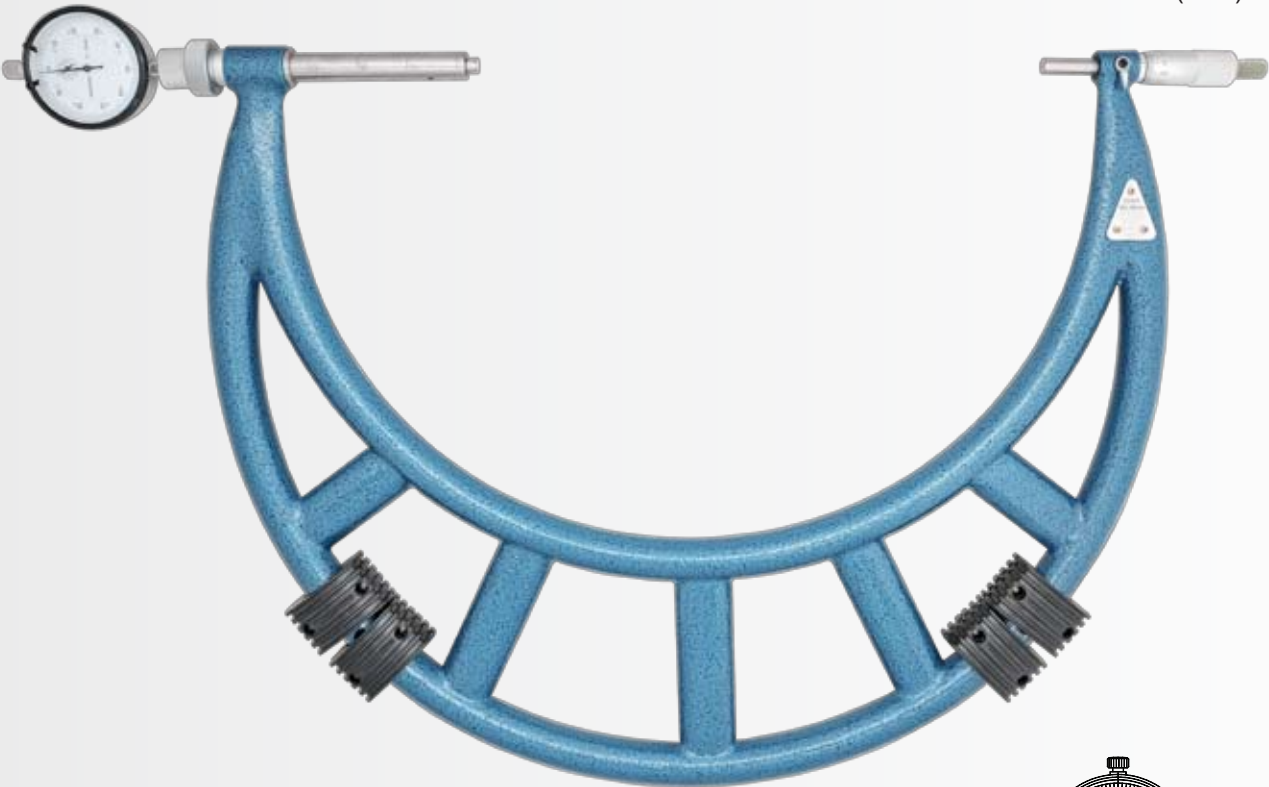
122-44-00



 Order No.	 Range	 Pieces
Ratchet stop		
Metric		
122-33-00	0-75mm	3
122-44-00	0-100mm	4
122-66-00	0-150mm	6
122-96-00	150-300mm	6
122-99-00	0-300mm	12
Inch		
122-33-01	0-3"	3
122-44-01	0-4"	4
122-66-01	0-6"	6
122-96-01	6-12"	6
122-99-01	0-12"	12

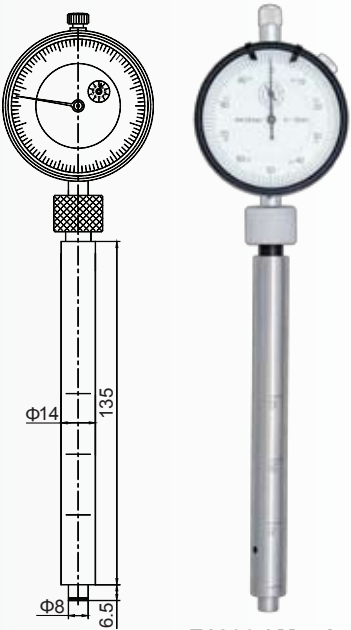
Slide Anvil Micrometers with Dial Indicator

- Feature:**
- Slide anvil with a dial indicator for wide measuring range and high measuring accuracy.
 - Anvil with dial indicator:
Resolution of dial indicator: 0.01mm(Metric); 0.0005"(Inch).
 - Max measuring-force: 10N;
Travel of dial indicator: 5mm.
 - Resolution: 0.01mm(Metric); 0.001"(Inch).



204-16-000

 Order No.	 Range	 Order No.	 Range	 Accuracy
Metric		Inch		
Ratchet stop				
204-10-000	0-100mm	204-10-001	0-4"	0.006mm
204-11-000	100-200mm	204-11-001	4-8"	0.007mm
204-12-000	200-300mm	204-12-001	8-12"	0.008mm
204-13-000	300-400mm	204-13-001	12-16"	0.009mm
204-14-000	400-500mm	204-14-001	16-20"	0.010mm
204-15-000	500-600mm	204-15-001	20-24"	0.011mm
204-16-000	600-700mm	204-16-001	24-28"	0.012mm
204-17-000	700-800mm	204-17-001	28-32"	0.013mm
204-18-000	800-900mm	204-18-001	32-36"	0.014mm
204-19-000	900-1000mm	204-19-001	36-40"	0.015mm



F1800 / Metric
F1801 / Inch

Electronic Micrometers with Interchangeable Anvils

- Protection level **IP65**.
- Electronic system same as 142-XX-436 electronic outside micrometers.

Feature:

- Wide measuring range with interchangeable anvils. High accuracy interchangeable anvils enable that reading does not have to be reset when changing anvils.
- Carbide measuring faces.



2mm

IP65

146-01-614

					
Order No. (Metric/Inch)	Range (Metric/Inch)	Accuracy	Order No. (Metric/Inch)	Range (Metric/Inch)	Accuracy
146-10-614/615	0-100mm/0-4"	±0.003mm	146-01-614/615	0-50mm/0-2"	±0.002mm
146-11-614/615	100-200mm/4-8"	±0.004mm	146-02-614/615	50-100mm/2-4"	±0.003mm
146-12-614/615	200-300mm/8-12"	±0.005mm			
146-13-614/615	300-400mm/12-16"	±0.006mm	146-61-614/615	0-150mm/0-6"	±0.003mm
146-14-614/615	400-500mm/16-20"	±0.007mm	146-62-614/615	150-300mm/6-12"	±0.005mm
146-15-614/615	500-600mm/20-24"	±0.007mm	146-63-614/615	300-450mm/12-18"	±0.006mm
146-16-614/615	600-700mm/24-28"	±0.008mm	146-64-614/615	450-600mm/18-24"	±0.007mm
146-17-614/615	700-800mm/28-32"	±0.009mm	146-65-614/615	600-750mm/24-30"	±0.009mm
146-18-614/615	800-900mm/32-36"	±0.010mm	146-66-614/615	750-900mm/30-36"	±0.010mm
146-19-614/615	900-1000mm/36-40"	±0.010mm	146-67-614/615	900-1050mm/36-42"	±0.010mm

- Protection level **IP65**.
- Electronic system same as 133-XX-416 electronic outside micrometers.



IP65

146-01-610

					
Order No. (Metric/Inch)	Range (Metric/Inch)	Accuracy	Order No. (Metric/Inch)	Range (Metric/Inch)	Accuracy
146-10-610/611	0-100mm/0-4"	±0.003mm	146-01-610/611	0-50mm/0-2"	±0.002mm
146-11-610/611	100-200mm/4-8"	±0.004mm	146-02-610/611	50-100mm/2-4"	±0.003mm
146-12-610/611	200-300mm/8-12"	±0.005mm			
146-13-610/611	300-400mm/12-16"	±0.006mm	146-61-610/611	0-150mm/0-6"	±0.003mm
146-14-610/611	400-500mm/16-20"	±0.007mm	146-62-610/611	150-300mm/6-12"	±0.005mm
146-15-610/611	500-600mm/20-24"	±0.007mm	146-63-610/611	300-450mm/12-18"	±0.006mm
146-16-610/611	600-700mm/24-28"	±0.008mm	146-64-610/611	450-600mm/18-24"	±0.007mm
146-17-610/611	700-800mm/28-32"	±0.009mm	146-65-610/611	600-750mm/24-30"	±0.009mm
146-18-610/611	800-900mm/32-36"	±0.010mm	146-66-610/611	750-900mm/30-36"	±0.010mm
146-19-610/611	900-1000mm/36-40"	±0.010mm	146-67-610/611	900-1050mm/36-42"	±0.010mm

Electronic Micrometers
with Interchangeable Anvils

- Feature:
- Wide measuring range with interchangeable anvils. High accuracy interchangeable anvils enable that reading does not have to be reset when changing anvils.
 - Carbide measuring faces.
 - Protection Level **IP54**.
 - Electronic system same as 130-XX-410 electronic outside micrometers.

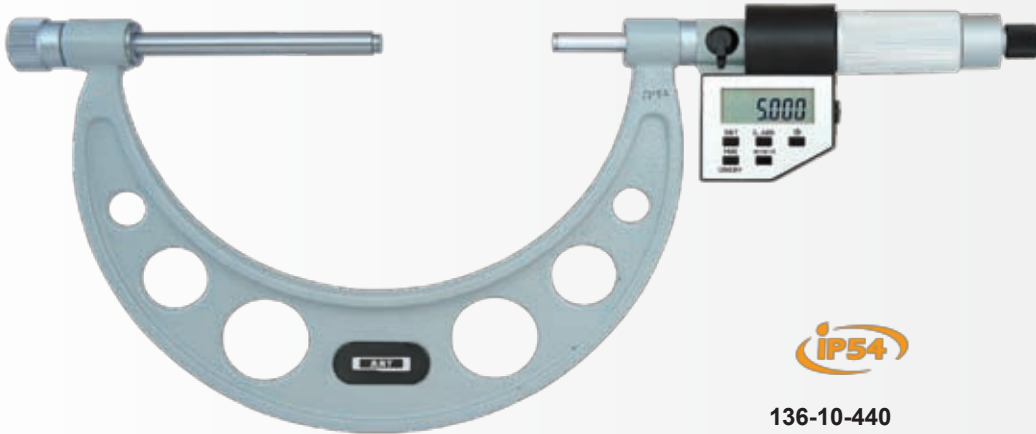


 Order No.	 Range	 Order No.	 Range	 Accuracy
Metric		Inch		
Ratchet stop				
136-01-610	0-50mm	136-01-611	0-2"	±0.002mm
136-02-610	50-100mm	136-02-611	2-4"	±0.003mm
136-10-610	0-100mm	136-10-611	0-4"	±0.003mm
136-11-610	100-200mm	136-11-611	4-8"	±0.004mm
136-12-610	200-300mm	136-12-611	8-12"	±0.005mm
135-13-610	300-400mm	135-13-611	12-16"	±0.006mm
135-14-610	400-500mm	135-14-611	16-20"	±0.007mm
135-15-610	500-600mm	135-15-611	20-24"	±0.007mm
135-16-610	600-700mm	135-16-611	24-28"	±0.008mm
135-17-610	700-800mm	135-17-611	28-32"	±0.009mm
135-18-610	800-900mm	135-18-611	32-36"	±0.010mm
135-19-610	900-1000mm	135-19-611	36-40"	±0.010mm
136-61-610	0-150mm	136-61-611	0-6"	±0.003mm
136-62-610	150-300mm	136-62-611	6-12"	±0.005mm
135-63-610	300-450mm	135-63-611	12-18"	±0.006mm
135-64-610	450-600mm	135-64-611	18-24"	±0.007mm
135-65-610	600-750mm	135-65-611	24-30"	±0.009mm
135-66-610	750-900mm	135-66-611	30-36"	±0.010mm
135-67-610	900-1050mm	135-67-611	36-42"	±0.010mm

Electronic Micrometers with Interchangeable Anvils

Feature:

- Wide measuring range with interchangeable anvils. High accuracy interchangeable anvils enable that reading does not have to be reset when changing anvils.
- Carbide measuring faces.
- Protection Level **IP54**.
- Electronic system same as 132-XX-030 electronic outside micrometers.



				
Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Ratchet stop				
136-01-440	0-50mm	136-01-441	0-2"	±0.002mm
136-02-440	50-100mm	136-02-441	2-4"	±0.003mm
136-10-440	0-100mm	136-10-441	0-4"	±0.003mm
136-11-440	100-200mm	136-11-441	4-8"	±0.004mm
136-12-440	200-300mm	136-12-441	8-12"	±0.005mm
134-13-440	300-400mm	134-13-441	12-16"	±0.006mm
134-14-440	400-500mm	134-14-441	16-20"	±0.007mm
134-15-440	500-600mm	134-15-441	20-24"	±0.007mm
134-16-440	600-700mm	134-16-441	24-28"	±0.008mm
134-17-440	700-800mm	134-17-441	28-32"	±0.009mm
134-18-440	800-900mm	134-18-441	32-36"	±0.010mm
134-19-440	900-1000mm	134-19-441	36-40"	±0.010mm
136-61-440	0-150mm	136-61-441	0-6"	±0.003mm
136-62-440	150-300mm	136-62-441	6-12"	±0.005mm
134-63-440	300-450mm	134-63-441	12-18"	±0.006mm
134-64-440	450-600mm	134-64-441	18-24"	±0.007mm
134-65-440	600-750mm	134-65-441	24-30"	±0.009mm
134-66-440	750-900mm	134-66-441	30-36"	±0.010mm
134-67-440	900-1050mm	134-67-441	36-42"	±0.010mm

Micrometers with Interchangeable Anvils

Feature:

- Resolution: 0.01mm(Metric);
0.0001"(Inch).
- Fine cast frame.



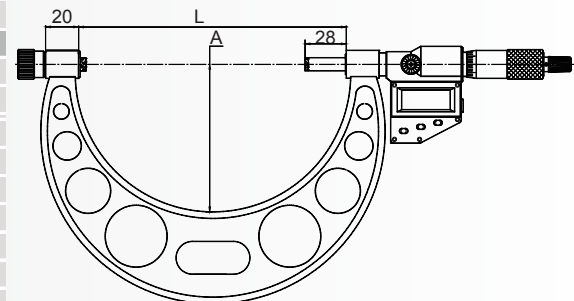
106-11-400



				
Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Ratchet stop				
106-01-400	0-50mm	106-01-401	0-2"	0.004mm
106-02-400	50-100mm	106-02-401	2-4"	0.005mm
106-10-400	0-100mm	106-10-401	0-4"	0.005mm
106-11-400	100-200mm	106-11-401	4-8"	0.007mm
106-12-400	200-300mm	106-12-401	8-12"	0.009mm
106-61-400	0-150mm	106-61-401	0-6"	0.006mm
106-62-400	150-300mm	106-62-401	6-12"	0.009mm

Dimensions

Range		A	L	Anvil	Standard
Metric	Inch				
0-50mm	0-2"	35mm	58mm	2	1
50-100mm	2-4"	57mm	108mm	2	2
0-100mm	0-4"	57mm	108mm	4	3
100-200mm	4-8"	114mm	208mm	4	4
200-300mm	8-12"	165mm	308mm	4	4
300-400mm	12-16"	224mm	409mm	4	2
400-500mm	16-20"	275mm	509mm	4	2
500-600mm	20-24"	321mm	609mm	4	2
600-700mm	24-28"	371mm	709mm	4	2
700-800mm	28-32"	426mm	809mm	4	2
800-900mm	32-36"	476mm	909mm	4	2
900-1000mm	36-40"	576mm	1009mm	4	2
0-150mm	0-6"	82mm	158mm	6	5
150-300mm	6-12"	165mm	308mm	6	6
300-450mm	12-18"	250.5mm	459mm	6	6
450-600mm	18-24"	321mm	609mm	6	6
600-750mm	24-30"	401mm	759mm	6	6
750-900mm	30-36"	476mm	909mm	6	6
900-1050mm	36-42"	551mm	1059mm	6	6



Micrometers with Interchangeable Anvils

Feature:

- Steel-plate frame(Within 300mm/12" range);
Pipe combined frame(Over 300mm/12" range).
- Resolution:
Within 300mm/12": Steel-plate frame
0.01mm(Metric); 0.0001"(Inch).
Over 300mm/12": Pipe combined frame
0.01mm(Metric); 0.001"(Inch).



104-13-400

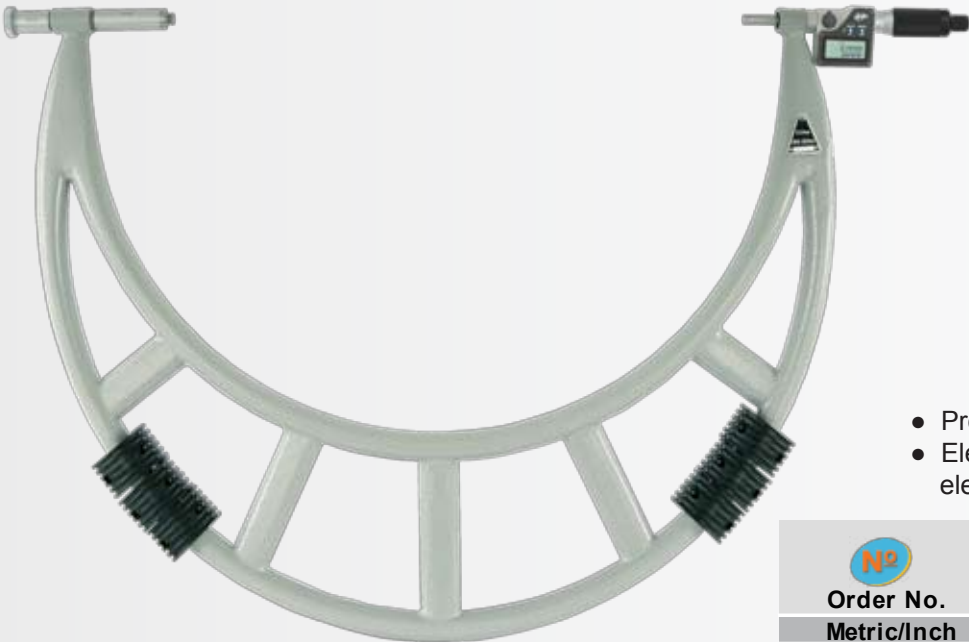
 Order No.	 Range	 Order No.	 Range	 Accuracy
Metric		Inch		
Ratchet stop				
104-13-400	300-400mm	104-13-401	12-16"	0.011mm
104-14-400	400-500mm	104-14-401	16-20"	0.013mm
104-15-400	500-600mm	104-15-401	20-24"	0.015mm
104-16-400	600-700mm	104-16-401	24-28"	0.016mm
104-17-400	700-800mm	104-17-401	28-32"	0.018mm
104-18-400	800-900mm	104-18-401	32-36"	0.020mm
104-19-400	900-1000mm	104-19-401	36-40"	0.020mm
104-63-400	300-450mm	104-63-401	12-18"	0.011mm
104-64-400	450-600mm	104-64-401	18-24"	0.015mm
104-65-400	600-750mm	104-65-401	24-30"	0.016mm
104-66-400	750-900mm	104-66-401	30-36"	0.020mm
104-67-400	900-1050mm	104-67-401	36-42"	0.021mm

Electronic Micrometers with Adjustable Anvils

- Feature:**
- Wide measuring range with adjustable anvil. High accuracy standard collars enable that reading does not have to be reset when changing collars.
 - Standard collars: Within 1000mm/40": 25mm/1", 50mm/2" .
 - Carbide measuring faces.
 - Pipe combined frame for light weight and high rigidity.

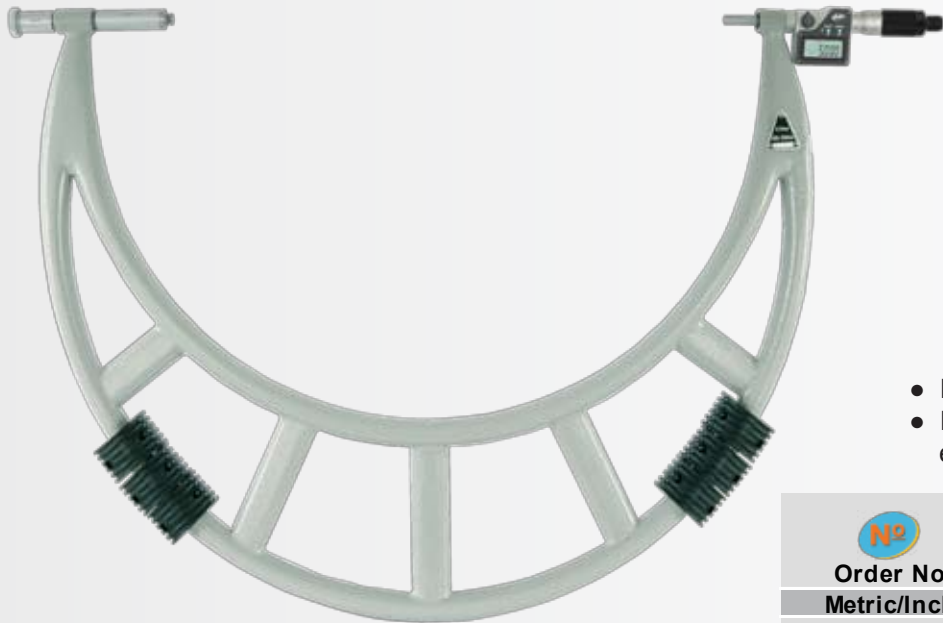


- Protection level **IP65**.
- Electronic system same as 142-XX-436 electronic outside micrometers.



144-14-510

 Order No.	 Range	 Accuracy
Metric/Inch	Metric/Inch	
144-13-510/511	300-400mm/12-16"	0.011mm
144-14-510/511	400-500mm/16-20"	0.013mm
144-15-510/511	500-600mm/20-24"	0.015mm
144-16-510/511	600-700mm/24-28"	0.016mm
144-17-510/511	700-800mm/28-32"	0.018mm
144-18-510/511	800-900mm/32-36"	0.020mm
144-19-510/511	900-1000mm/36-40"	0.020mm



104-14-510



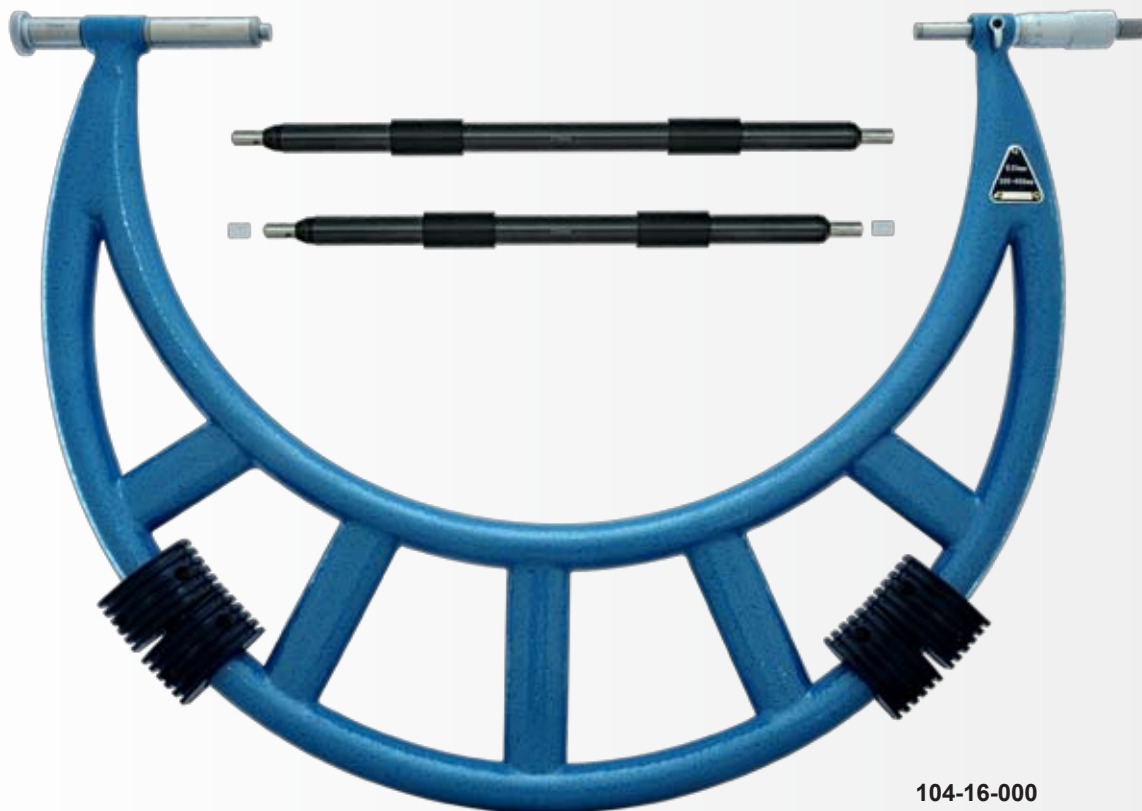
- Protection level **IP65**.
- Electronic system same as 133-XX-416 electronic outside micrometers.

 Order No.	 Range	 Accuracy
Metric/Inch	Metric/Inch	
104-13-510/511	300-400mm/12-16"	0.011mm
104-14-510/511	400-500mm/16-20"	0.013mm
104-15-510/511	500-600mm/20-24"	0.015mm
104-16-510/511	600-700mm/24-28"	0.016mm
104-17-510/511	700-800mm/28-32"	0.018mm
104-18-510/511	800-900mm/32-36"	0.020mm
104-19-510/511	900-1000mm/36-40"	0.020mm

Micrometers with Adjustable Anvils

Feature:

- Wide measuring range with adjustable anvil. High accuracy standard collars enable that reading does not have to be reset when changing collars.
- Standard collars:
Within 1000mm/40": 25mm/1", 50mm/2"
Over 1000mm/40": 50mm/2", 100mm/4".
- Carbide measuring faces. Painted frame.
- Pipe combined frame for light weight and high rigidity.
- Resolution: 0.01mm(Metric);0.001"(Inch).



104-16-000

 Order No.	 Range	 Order No.	 Range	 Accuracy
Metric		Inch		
Ratchet stop				
Travel of micrometer head: 25mm/1; Micrometer thread pitch: 0.5mm/0.025"				
104-13-000	300-400mm	104-13-001	12-16"	0.011mm
104-14-000	400-500mm	104-14-001	16-20"	0.013mm
104-15-000	500-600mm	104-15-001	20-24"	0.015mm
104-16-000	600-700mm	104-16-001	24-28"	0.016mm
104-17-000	700-800mm	104-17-001	28-32"	0.018mm
104-18-000	800-900mm	104-18-001	32-36"	0.020mm
104-19-000	900-1000mm	104-19-001	36-40"	0.020mm
Travel of micrometer head: 50mm/2";Micrometer thread pitch: 1mm/0.05"				
104-20-000	1000-1200mm	104-20-001	40-48"	0.020mm
104-21-000	1200-1400mm	104-21-001	48-56"	0.024mm
104-22-000	1400-1600mm	104-22-001	56-64"	0.028mm
104-23-000	1600-1800mm	104-23-001	64-72"	0.031mm
104-24-000	1800-2000mm	104-24-001	72-80"	0.034mm
104-25-000	2000-2200mm	104-25-001	80-88"	0.040mm
104-26-000	2200-2400mm	104-26-001	88-96"	0.044mm
104-27-000	2400-2600mm	104-27-001	96-104"	0.048mm
104-28-000	2600-2800mm	104-28-001	104-112"	0.052mm
104-29-000	2800-3000mm	104-29-001	112-120"	0.056mm



Micrometers with Anvil Attachment

Feature:

- Cap-type anvil attachment for a wide range.
- Carbide measuring faces.
- Resolution: 0.01mm(Metric); 0.0001"(Inch).



101-01-200

 Order No.	 Range	 Accuracy
Ratchet stop		
Metric		
101-01-200	0-50mm	0.004mm
Inch		
101-01-201	0-2"	0.004mm

Outside Micrometers (For left and right hand)

Feature:

- Two group graduations for right and left hand using.
- Carbide measuring faces.
- Resolution: 0.01mm(Metric); 0.001"(Inch).



For left hand

For right hand

101-01-003

				
Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Ratchet stop				
101-01-003	0-25mm	101-01-103	0-1"	0.004mm
101-02-003	25-50mm	101-02-103	1-2"	0.004mm
101-03-003	50-75mm	101-03-103	2-3"	0.005mm
101-04-003	75-100mm	101-04-103	3-4"	0.005mm
101-05-003	100-125mm	101-05-103	4-5"	0.006mm
101-06-003	125-150mm	101-06-103	5-6"	0.006mm
101-07-003	150-175mm	101-07-103	6-7"	0.007mm
101-08-003	175-200mm	101-08-103	7-8"	0.007mm

Micrometers with Dial Indicator



204-01-010

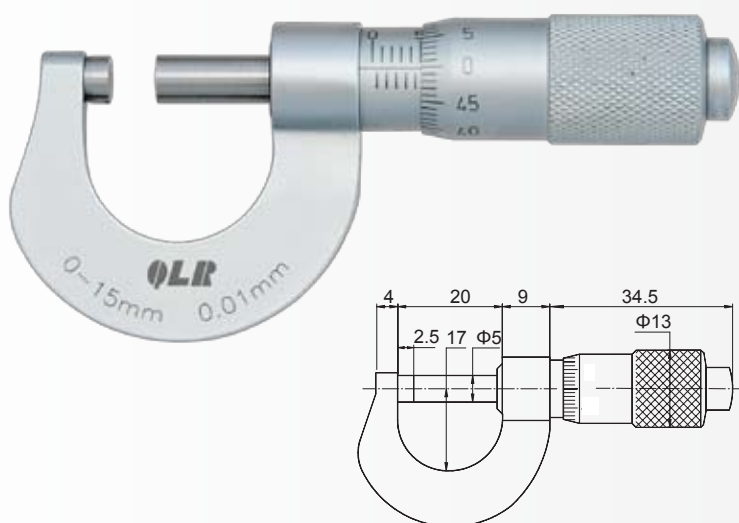
Feature:

- Direct GO/NG judgment for mass-produced parts.
- Anvil retracting range: 8mm.
- Carbide measuring faces.
- Resolution of micrometer head: 0.01mm(Metric);0.0001"(Inch).
- Resolution of dial indicator: 0.01mm(Metric);0.0005"(Inch).

 Order No.	 Range	 Order No.	 Range	 Accuracy
Metric		Inch		
204-01-010	0-25mm	204-01-011	0-1"	0.004mm
204-02-010	25-50mm	204-02-011	1-2"	0.004mm
204-03-010	50-75mm	204-03-011	2-3"	0.005mm
204-04-010	75-100mm	204-04-011	3-4"	0.005mm
204-05-010	100-125mm	204-05-011	4-5"	0.006mm
204-06-010	125-150mm	204-06-011	5-6"	0.006mm
204-07-010	150-175mm	204-07-011	6-7"	0.007mm



Mini-Micrometers



101-00-050

Feature:

- For measuring small dimensions.
- Portable with little size.

 Order No.	 Range	 Resolution
Metric		
101-00-050	0-15mm	0.01mm
Inch		
101-00-051	0-0.6"	0.001"



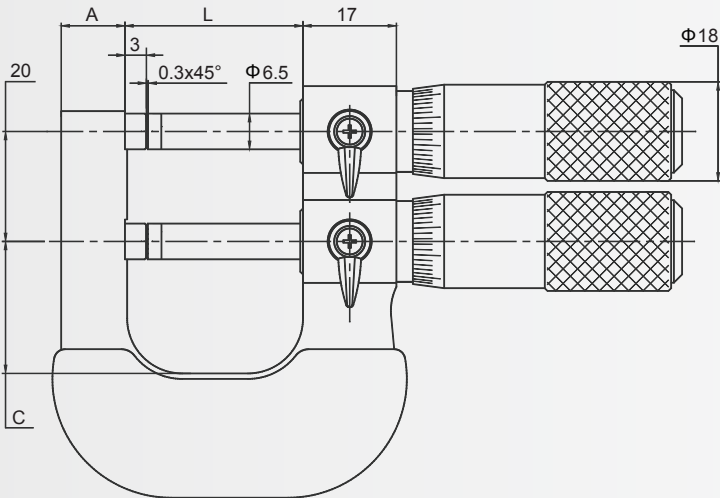
Limit Micrometers

- Feature:
- Can be used a GO/NG as gage by setting the upper and lower limits.
 - Carbide measuring faces.
 - Painted frame.
 - Resolution: 0.002mm(Metric); 0.0001"(Inch).



203-81-050

 Order No.	 Range	 Accuracy
Metric		
203-81-050	0-25mm	0.003mm
203-82-050	25-50mm	0.003mm
Inch		
203-81-051	0-1"	0.00012"
203-82-051	1-2"	0.00012"



Range	A	L	C
0-25mm	12mm	32mm	24mm
25-50mm	15mm	57mm	32mm

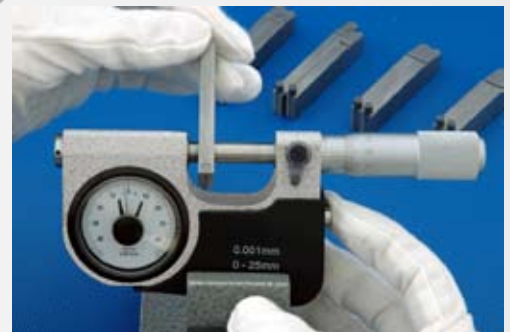
Indicator Snap Micrometers



274-81-000

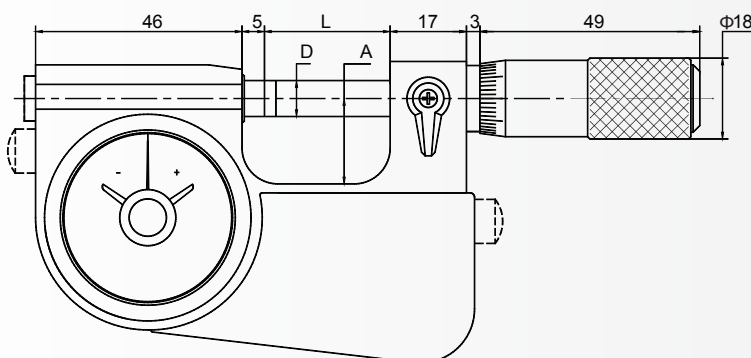


264-81-000



 Order No.	 Range	 Order No.	 Range
Metric		Inch	
Type A(Φ6.5)		Type A(Φ6.5)	
274-81-000	0-25mm	274-81-101	0-1"
274-82-000	25-50mm	274-82-101	1-2"
274-83-000	50-75mm	274-83-101	2-3"
274-84-000	75-100mm	274-84-101	3-4"
Type A(Φ8)		Type A(Φ8)	
274-81-500	0-25mm	274-81-501	0-1"
274-82-500	25-50mm	274-82-501	1-2"
274-83-500	50-75mm	274-83-501	2-3"
274-84-500	75-100mm	274-84-501	3-4"
Type B		Type B	
264-81-000	0- 25mm	264-81-101	0-1"

Resolution of micrometer head	Indicator range	Indicator resolution
Metric		
0.002mm	±0.04mm	0.001mm
Inch		
0.0001"	±0.0015"	0.00005"



Dimensions

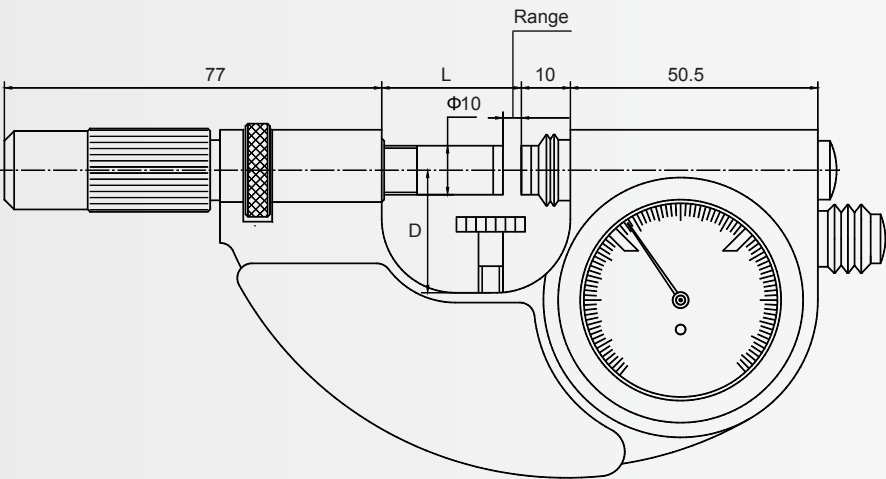
Range		L	A	D
Metric	Inch			
Type A				
0-25mm	0-1"	28.5mm	19mm	Φ6.5/Φ8mm
25-50mm	1-2"	53.5mm	30mm	Φ6.5/Φ8mm
50-75mm	2-3"	78.5mm	45mm	Φ6.5/Φ8mm
75-100mm	3-4"	103.5mm	57mm	Φ6.5/Φ8mm
Type B				
0-25mm	0-1"	28.5mm	19mm	Φ8mm

Indicator Snap Micrometers

- Feature:
- Protection level IP54.
 - Carbide measuring faces: $\Phi 10$.
 - Direct GO/NG judgment for mass-produced parts.
 - Measuring force: 5-10N.



283-81-000



				
Order No.	Range	Indicator Accuracy	L	D
Metric				
283-81-000	0-25mm	0.001mm	28.5mm	25mm
283-82-000	25-50mm	0.001mm	53.5mm	35mm
283-83-000	50-75mm	0.001mm	78.5mm	47.5mm
283-84-000	75-100mm	0.001mm	103.5mm	60mm
Inch				
283-81-101	0-1"	0.00005"	28.5mm	25mm
283-82-101	1-2"	0.00005"	53.5mm	35mm
283-83-101	2-3"	0.00005"	78.5mm	47.5mm
283-84-101	3-4"	0.00005"	103.5mm	60mm



Micrometers Heads

How to select micrometer heads?

Please base on following contents to select micrometer heads.

- | | |
|------------------------------|---|
| 1、Figure dimension. | 7、With or without spindle lock. |
| 2、Metric or Inch. | 8、With or without clamp nut. |
| 3、Electronic or normal. | 9、Flat or spherical measuring face. |
| 4、Install dimension. | 10、Normal or reverse reading. |
| 5、Travel of micrometer head. | 11、With or without measuring force device (Which type?) |
| 6、Resolution and accuracy. | 12、Rotating or non-rotating spindle. |

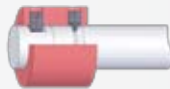
Measuring face



Type D:
Flat face type



Type E:
Spherical face type



Type F:
With non-rotating device

Spindle lock

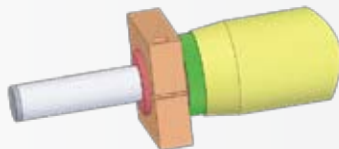
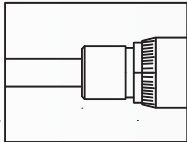


Reverse

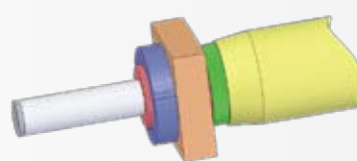
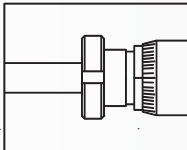


Installing

Normal



With clamp nut



Measuring force device



Type A: Ratchet stop



Type B: Ratchet friction thimble



Type C: Friction thimble

Selection manual of micrometer heads

Range	Type	Spindle		Face		Clamp nut		Spindle lock		Type of measuring force device					Reverse reading		Resolution	
		Rotating	Non-rotating	Type D	Type E	Type F	Yes	No	Yes	No	Type A	Type B	Type C	Type G	No	Reverse reading	Default	Optional
0-2.5mm 0-5mm 0-6.5mm	Differential		✓	✓			✓			✓					✓		0.001mm	0.0001mm
	Normal	✓		✓	✓			✓							✓	※	0.02mm	
	Normal	✓		✓	✓		✓	✓							✓	※	0.01mm	
	Large diameter thimble	✓		✓	✓		✓	✓							✓	※	0.01mm	0.005mm
	Fine reading	✓		✓	✓		※	✓							✓	※	0.005mm	0.01mm
0-13mm	Normal	✓		✓	✓		✓	✓							✓	※	0.01mm	
	Large diameter thimble	✓		✓	✓		✓	✓							✓	※	0.01mm	0.005mm
	Adjustable thimble	✓		✓	✓		✓	✓							✓	※	0.01mm	
	Fine reading	✓		✓	✓		※	✓							✓	※	0.005mm	0.01mm
	Differential	✓		✓	✓		✓	✓							✓	※	0.0005mm	
0-15mm	Normal	✓		✓	✓		✓	✓			※	※	※		✓	※	0.01mm	
	Large diameter thimble	✓		✓			✓	✓			※	※			✓	※	0.01mm	0.005mm
0-25mm	Normal	✓		✓	✓		✓	✓			✓	✓	✓		※	※	0.01mm	0.002mm
			✓	✓	✓			✓			✓	✓	✓		※	※	0.01mm	0.002mm
	Large diameter thimble	✓		✓	✓		※	✓			✓	✓			※	※	0.01mm	0.005mm
	Fine reading	✓		✓	✓			✓							✓	※	0.002mm	
	Electronic	✓		✓	※	✓	✓	✓	※		✓	✓	✓	✓	✓	※	0.001mm	
0-30mm 0-50mm	Digit	✓		✓	✓		※	✓	※		✓	✓	✓		※	※	0.01mm	
	μ-Digit	✓		✓	✓		※	✓	※			✓	✓		※	※	0.001mm	
	Differential	✓			✓		✓	✓							✓		0.0005mm	
	Electronic	✓		✓	※		※	✓	※		✓	✓	✓	※	※	※	0.001mm	
	Normal	✓		✓	※		※	✓	※		✓	✓	✓		※	※	0.01mm	0.005mm
0-50mm	Large diameter thimble	✓		✓	※		※	✓			✓	✓	✓		※	※	0.01mm	
	Fine reading	✓		✓		✓		✓			✓				✓	※	0.002mm	
			✓	✓				✓			✓				✓	※	0.005mm	
	Electronic	✓		✓	✓		✓	✓			✓	✓	✓	※	※	※	0.001mm	

✓ : Default ※ : Optional

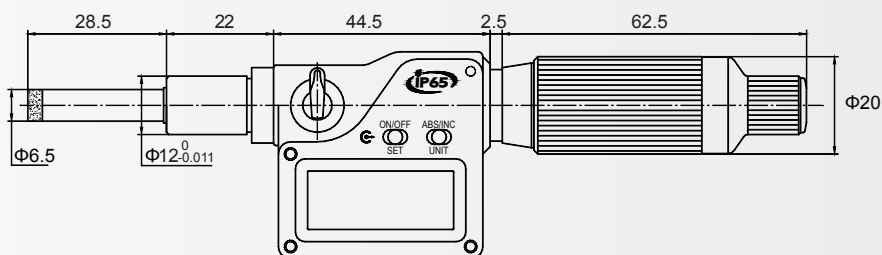
Electronic Micrometers Heads

Feature:

- Electronic system same as 142-XX-436 electronic outside micrometers.
- Protection level **IP65**.



0403-414



Order No.	Range	Order No.	Range	Accuracy	Type
Metric		Inch			
0403-414	0-25mm	0403-415	0-1"	0.003mm	Flat & Carbide measuring face
0413-414	0-25mm	0413-415	0-1"	0.003mm	Spherical measuring face
0403-614	0-25mm	0403-415	0-1"	0.003mm	Flat & Carbide measuring face
0413-614	0-25mm	0413-415	0-1"	0.003mm	Spherical measuring face

Plain



With clamp nut

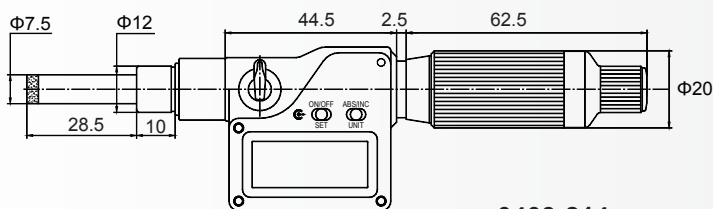


Electronic Micrometers Heads (Non-rotating spindle)

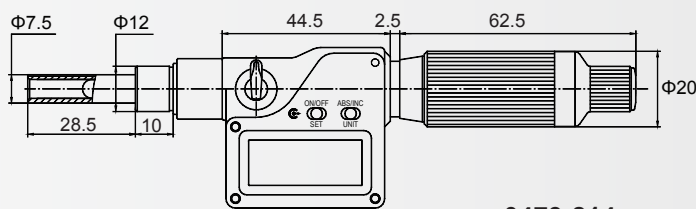


0403-814

Order No.	Range	Order No.	Range	Accuracy	Type
Metric		Inch			
0403-814	0-25mm	0403-815	0-1"	0.003mm	Flat & Carbide measuring face
0473-814	0-25mm	0473-815	0-1"	0.003mm	Interchangeable Anvils seeing page D35



0403-814



0473-814

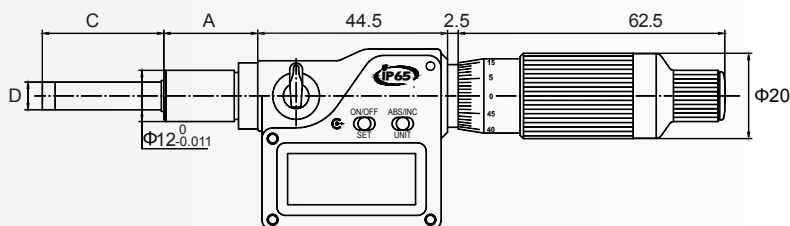
Electronic Micrometers Heads

Feature:

- Electronic system same as 133-XX-416 electronic outside micrometers.
- Protection level **IP65**.



0403-410



Range(Metric/Inch)	A	C	D
0-25mm/0-1"	17.5mm	28.5mm	Φ6.5mm
0-50mm/0-2"	35.5mm	53mm	Φ7.5mm

Order No	Range	Order No	Range	Accuracy	Type
Metric		Inch			
0403-410	0-25mm	0403-411	0-1"	0.003mm	Flat & Carbide measuring face
0413-410	0-25mm	0413-411	0-1"	0.003mm	Spherical measuring face
0403-610	0-25mm	0403-611	0-1"	0.003mm	Flat & Carbide measuring face
0413-610	0-25mm	0413-611	0-1"	0.003mm	Spherical measuring face
0493-410	0-50mm	0493-411	0-2"	0.005mm	Flat & Carbide measuring face
0483-410	0-50mm	0483-411	0-2"	0.005mm	Spherical measuring face

Plain

With clamp nut

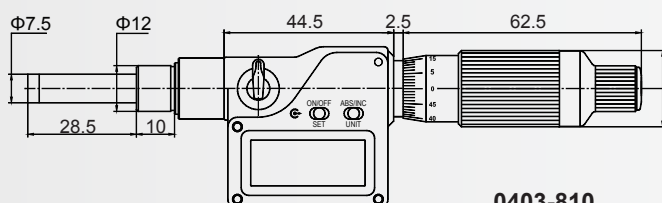
Plain

Electronic Micrometers Heads (Non-rotating spindle)

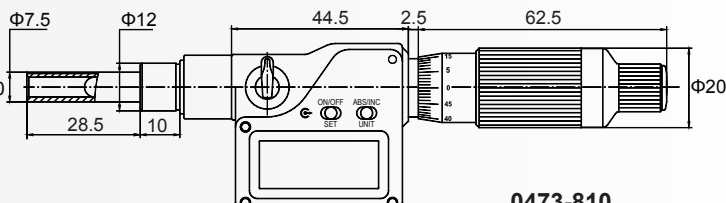


0403-810

Order No.	Range	Order No.	Range	Accuracy	Type
Metric		Inch			
0403-810	0-25mm	0403-811	0-1"	0.003mm	Flat & Carbide measuring face
0473-810	0-25mm	0473-811	0-1"	0.003mm	Interchangeable Anvils seeing page D35



0403-810



0473-810

Electronic Micrometers Heads

Feature:

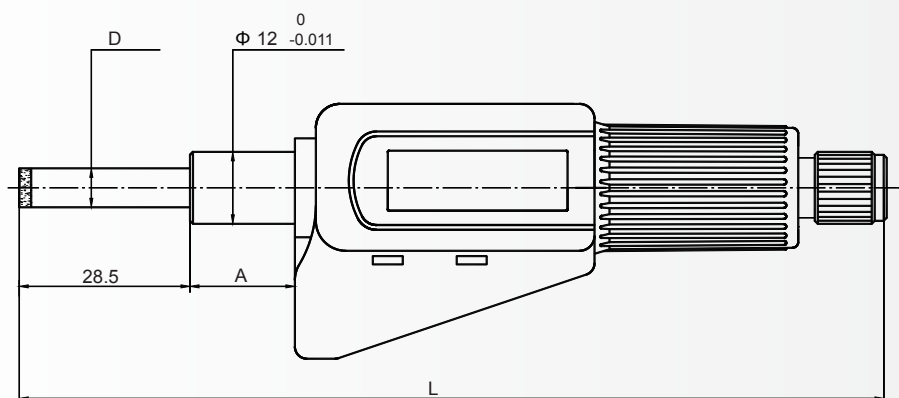
- Protection level IP54.



0903-534

Power ON/OFF	√
Abs. and Inc. conversion	√
Metric-inch conversion	√
Data output	√
Origin data set	√
Battery	SR44
Automatic power off	√
RS232 data output	√
Connecting cable (Optional)	P1501,P1503

Order No.		Range	Accuracy	Type
A=17.5mm	A=20.5mm			
0903-534	0903-634	0-25mm/0-1"	0.003mm	Flat & Carbide measuring face ☐
0913-534	0913-634	0-25mm/0-1"	0.003mm	Spherical measuring face ☐



Order No.		A	D	L
0903-534	0913-534	17.5mm	Φ6.5mm	144mm
0903-634	0913-634	20.5mm	Φ8.0mm	147mm

Double Display Digital Micrometers Heads

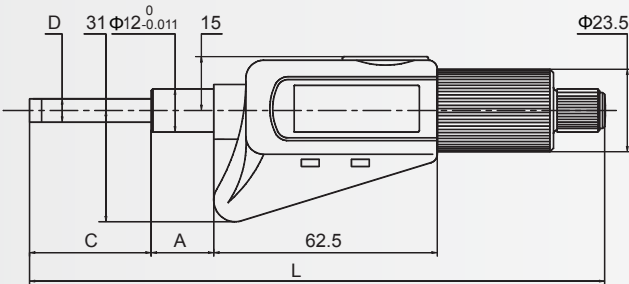


0900-632

- Feature:**
- Protection level **IP54**.
 - Double display, LCD direction can be changed by key.
 - Direction of display changing by key. Pressing this key to turn on back LCD, reverse display and normal display (turn off back LCD).

			
Order No.	Range	Accuracy	Type
0900-632	0-30mm/0-1.2"	0.003mm	Flat & Carbide measuring face 
0900-732	0-30mm/0-1.2"	0.003mm	
0910-632	0-30mm/0-1.2"	0.003mm	Spherical measuring face 
0910-732	0-30mm/0-1.2"	0.003mm	

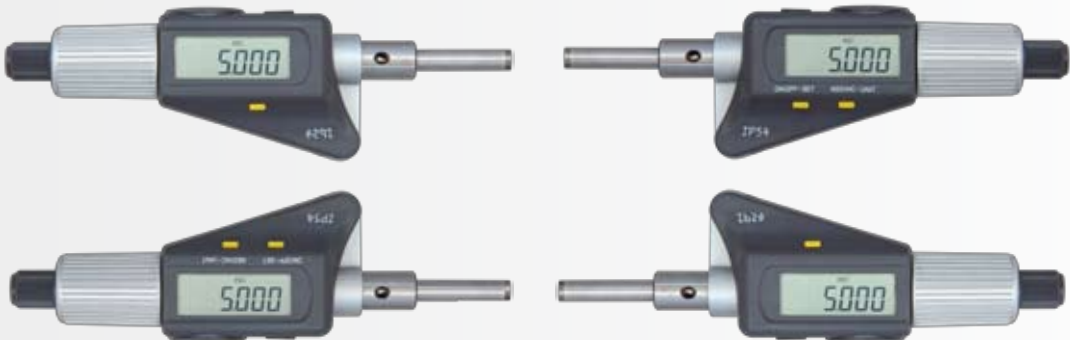
Power ON/OFF	√
Abs. and Inc. conversion	√
Metric-inch conversion	√
Data output	√
Origin data set	√
LCD direction changed	√
Battery	CR2032
Automatic power off	√
RS232 data output	√
Connecting cable (Optional)	P1101



Dimensions

Order No.	A	D	C	L
0900-632 0910-632	17.5mm	Φ6.5mm	34mm	159mm
0900-732 0910-732	20.5mm	Φ8.0mm	34mm	162mm

4 kinds of measuring conditions

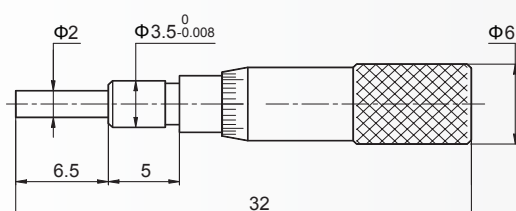


Micrometers Heads

0-5mm/0-0.2"



0000-050



Feature:

- Resolution: 0.02mm(Metric); 0.001"(Inch).



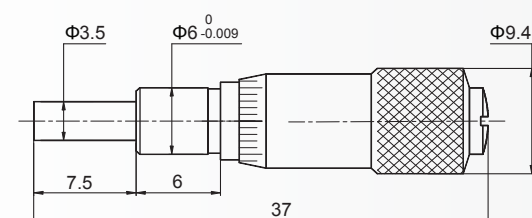
Order No.	Range Metric	Accuracy	Order No.	Range Inch	Accuracy	Type
0000-050	0-5mm	0.005mm	0000-051	0-0.2"	0.0002"	
0010-050	0-5mm	0.005mm	0010-051	0-0.2"	0.0002"	

- Flat measuring face
- Spherical measuring face

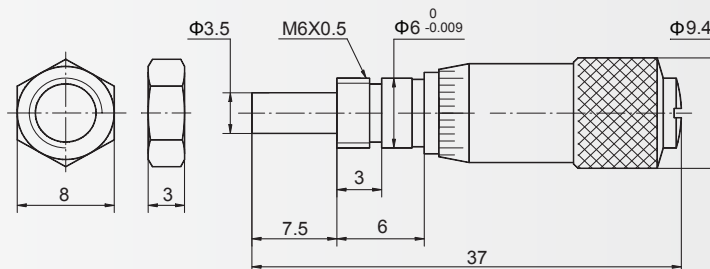
0-6.5mm/0-0.25"



0001-050



0001-050



0001-350

Order No.	Range Metric	Accuracy	Order No.	Range Inch	Accuracy	Type
0001-050	0-6.5mm	0.005mm	0001-051	0-0.25"	0.0002"	
0011-050	0-6.5mm	0.005mm	0011-051	0-0.25"	0.0002"	
0001-350	0-6.5mm	0.005mm	0001-351	0-0.25"	0.0002"	
0011-350	0-6.5mm	0.005mm	0011-351	0-0.25"	0.0002"	

- Flat measuring face
- Spherical measuring face
- Plain
- With clamp nut

Micrometers Heads

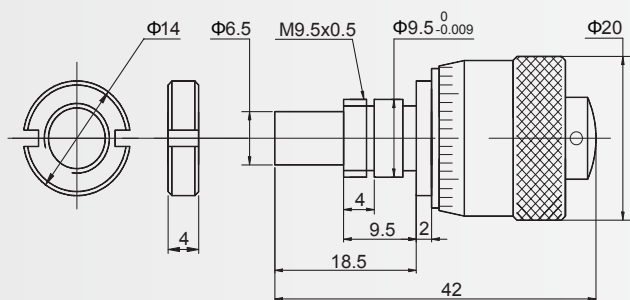
0-6.5mm/0-0.25" Large Diameter Thimble

Feature:

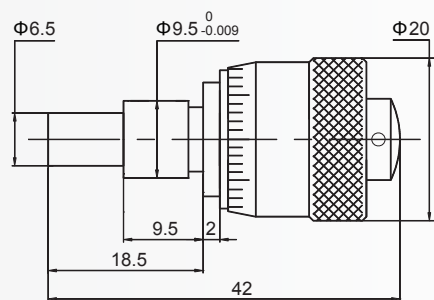
- Resolution: 0.01mm(Metric); 0.001"(Inch).



0801-350



0801-350



0801-050

Order No.	Range	Accuracy	Order No.	Range	Accuracy	Type
Metric			Inch			
0801-050	0-6.5mm	0.005mm	0801-051	0-0.25"	0.0002"	
0811-050	0-6.5mm	0.005mm	0811-051	0-0.25"	0.0002"	
0801-350	0-6.5mm	0.005mm	0801-351	0-0.25"	0.0002"	
0811-350	0-6.5mm	0.005mm	0811-351	0-0.25"	0.0002"	

- Flat measuring face
- Spherical measuring face
- Plain
- With clamp nut

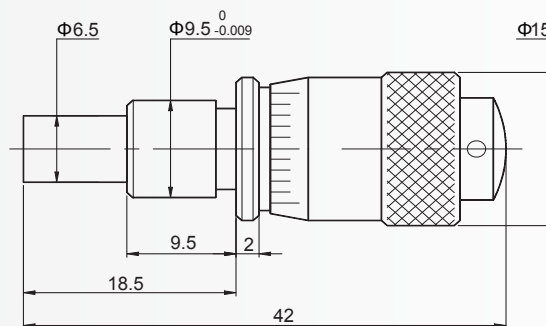
0-6.5mm/0-0.25" Fine Reading

Feature:

- Resolution: 0.005mm(Metric); 0.0002"(Inch).



0802-050



Order No.	Range	Accuracy	Order No.	Range	Accuracy	Type
Metric			Inch			
0802-050	0-6.5mm	0.005mm	0802-051	0-0.25"	0.0002"	
0812-050	0-6.5mm	0.005mm	0812-051	0-0.25"	0.0002"	

- Flat measuring face
- Spherical measuring face

Micrometers Heads

0-13mm/0-0.5"

Feature:

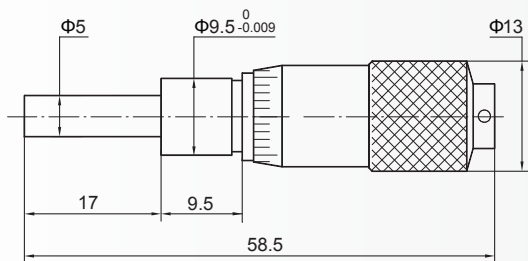
- Resolution: 0.01mm(Metric); 0.001"(Inch).



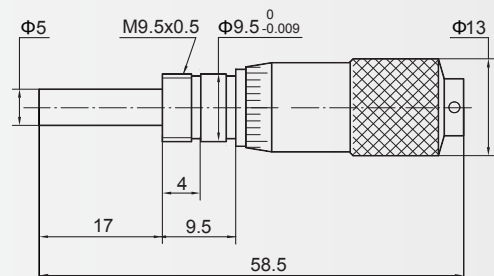
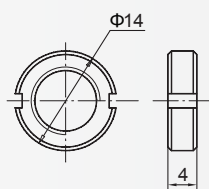
0002-050



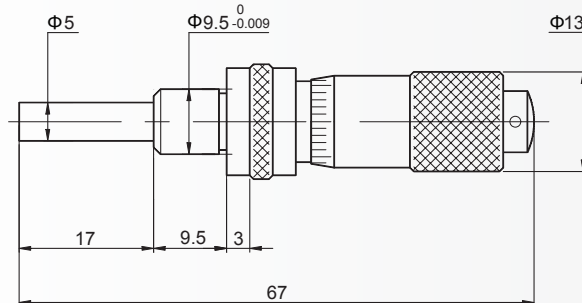
0702-350



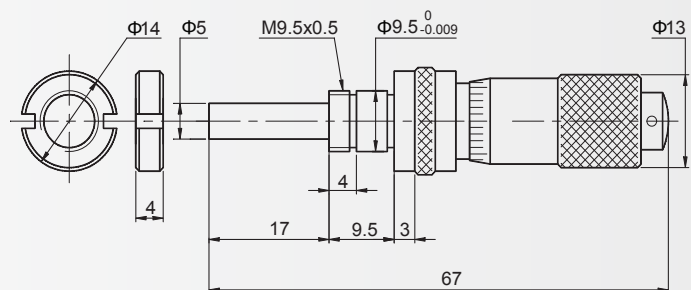
0002-050



0002-350



0702-050



0702-350

Plain

Order No.	Range	Accuracy	Order No.	Range	Accuracy	Type
Metric			Inch			
0002-050	0-13mm	0.004mm	0002-051	0-0.5"	0.00016"	
0702-050	0-13mm	0.004mm	0702-051	0-0.5"	0.00016"	
0012-050	0-13mm	0.004mm	0012-051	0-0.5"	0.00016"	
0712-050	0-13mm	0.004mm	0712-051	0-0.5"	0.00016"	

With clamp nut

Order No.	Range	Accuracy	Order No.	Range	Accuracy	Type
Metric			Inch			
0002-350	0-13mm	0.004mm	0002-351	0-0.5"	0.00016"	
0702-350	0-13mm	0.004mm	0702-351	0-0.5"	0.00016"	
0012-350	0-13mm	0.004mm	0012-351	0-0.5"	0.00016"	
0712-350	0-13mm	0.004mm	0712-351	0-0.5"	0.00016"	

- Without spindle lock
- With spindle lock
- Flat measuring face
- Spherical measuring face

Micrometers Heads

Feature:

- Resolution: 0.01mm(Metric); 0.001"(Inch).

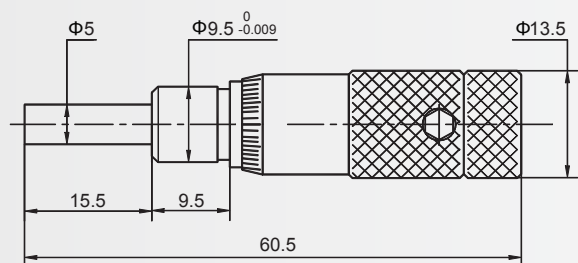
0-13mm/0-0.5" Micrometer Heads with Variable Zero-setting



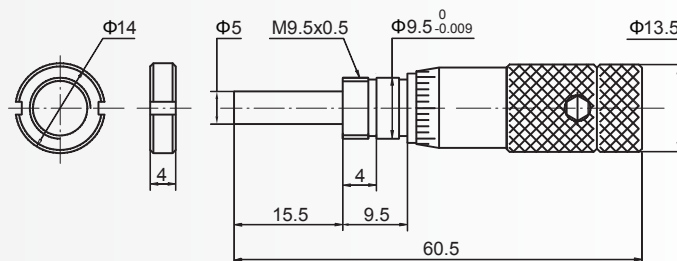
0002-070



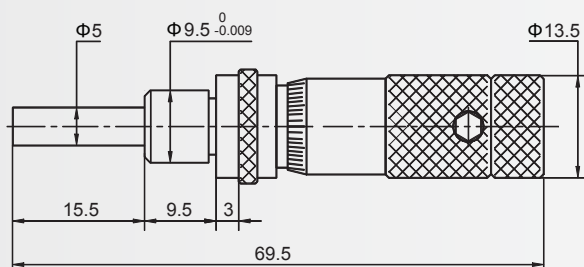
0702-370



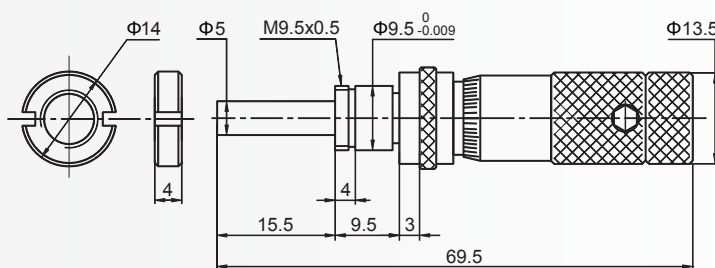
0002-070



0002-370



0702-070



0702-370

Plain

Order No.	Range Metric	Accuracy	Order No.	Range Inch	Accuracy	Type
0002-070	0-13mm	0.004mm	0002-071	0-0.5"	0.00016"	
0702-070	0-13mm	0.004mm	0702-071	0-0.5"	0.00016"	
0012-070	0-13mm	0.004mm	0012-071	0-0.5"	0.00016"	
0712-070	0-13mm	0.004mm	0712-071	0-0.5"	0.00016"	

With clamp nut

Order No.	Range Metric	Accuracy	Order No.	Range Inch	Accuracy	Type
0002-370	0-13mm	0.004mm	0002-371	0-0.5"	0.00016"	
0702-370	0-13mm	0.004mm	0702-371	0-0.5"	0.00016"	
0012-370	0-13mm	0.004mm	0012-371	0-0.5"	0.00016"	
0712-370	0-13mm	0.004mm	0712-371	0-0.5"	0.00016"	

- Without spindle lock
- With spindle lock
- Flat measuring face
- Spherical measuring face

Micrometers Heads

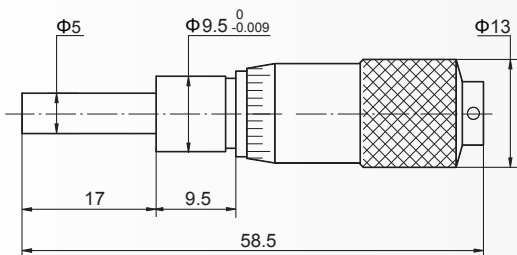
0-13mm/0-0.5" Fine Reading



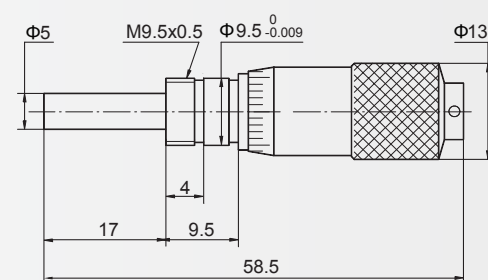
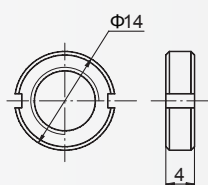
0712-550

Feature:

- Resolution: 0.005mm(Metric); 0.0002"(Inch).
- Micrometer thread pitch: 0.25mm.



0702-550



0702-650

Order No.	Range Metric	Accuracy	Order No.	Range Inch	Accuracy	Type
0702-550	0-13mm	0.004mm	0702-551	0-0.5"	0.00016"	Flat measuring face
0712-550	0-13mm	0.004mm	0712-551	0-0.5"	0.00016"	Spherical measuring face
0702-650	0-13mm	0.004mm	0702-651	0-0.5"	0.00016"	Plain
0712-650	0-13mm	0.004mm	0712-651	0-0.5"	0.00016"	With clamp nut

- Flat measuring face
- Spherical measuring face
- Plain
- With clamp nut

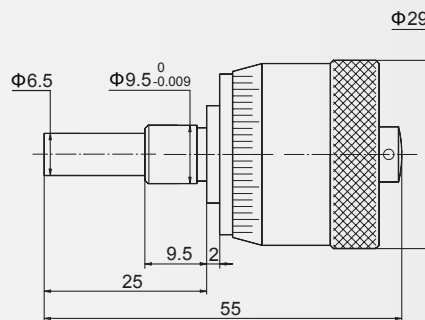
0-13/0-0.5" Large Diameter Thimble



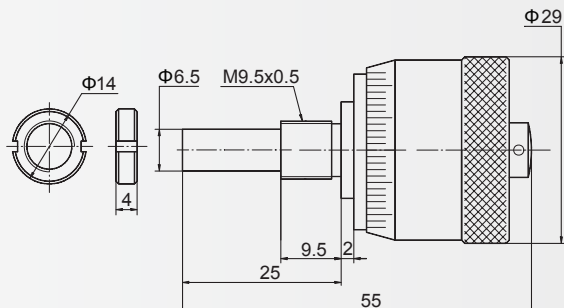
0022-350

Feature:

- Resolution: 0.01mm(Metric); 0.001"(Inch).



0022-050



0022-350

Order No.	Range Metric	Accuracy	Order No.	Range Inch	Accuracy	Type
0022-050	0-13mm	0.004mm	0022-051	0-0.5"	0.00016"	Flat measuring face
0032-050	0-13mm	0.004mm	0032-051	0-0.5"	0.00016"	Spherical measuring face
0022-350	0-13mm	0.004mm	0022-351	0-0.5"	0.00016"	Plain
0032-350	0-13mm	0.004mm	0032-351	0-0.5"	0.00016"	With clamp nut

- Flat measuring face
- Spherical measuring face
- Plain
- With clamp nut

Micrometers Heads

0-15mm/0-0.6"

Feature:

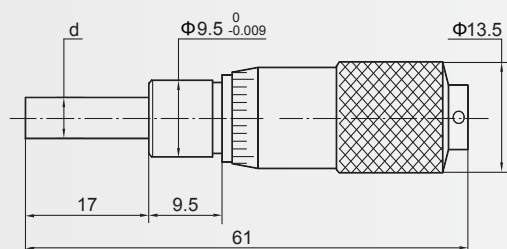
- Resolution: 0.01mm(Metric); 0.001"(Inch).



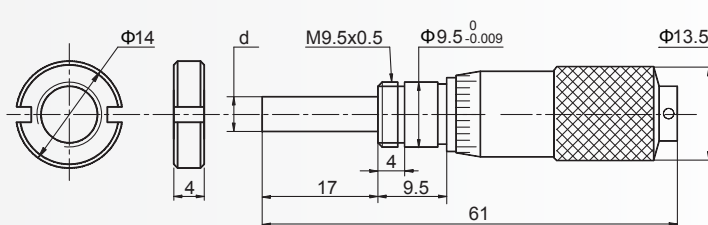
0019-250



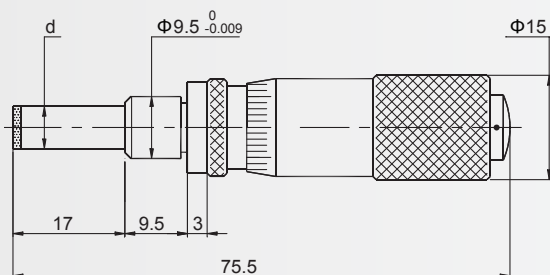
0709-050



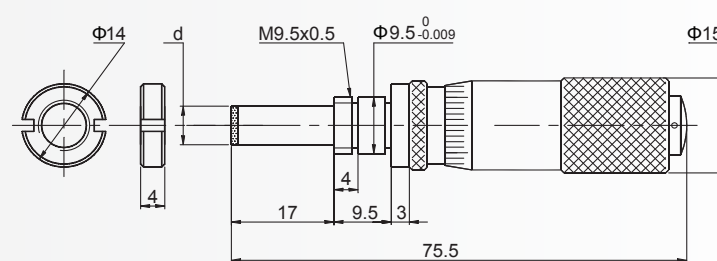
0009-250



0009-350



0709-050



0709-350

Without spindle lock  Spindle d=Φ5mm

						
Order No.	Range	Accuracy	Order No.	Range	Accuracy	Type
	Metric			Inch		
0009-250	0-15mm	0.004mm	0009-251	0-0.6"	0.00016"	
0019-250	0-15mm	0.004mm	0019-251	0-0.6"	0.00016"	
0009-350	0-15mm	0.004mm	0009-351	0-0.6"	0.00016"	
0019-350	0-15mm	0.004mm	0019-351	0-0.6"	0.00016"	

With spindle lock  Spindle d=Φ6.5mm

						
Order No.	Range	Accuracy	Order No.	Range	Accuracy	Type
	Metric			Inch		
0709-050	0-15mm	0.004mm	0709-051	0-0.6"	0.00016"	
0719-050	0-15mm	0.004mm	0719-051	0-0.6"	0.00016"	
0709-350	0-15mm	0.004mm	0709-351	0-0.6"	0.00016"	
0719-350	0-15mm	0.004mm	0719-351	0-0.6"	0.00016"	

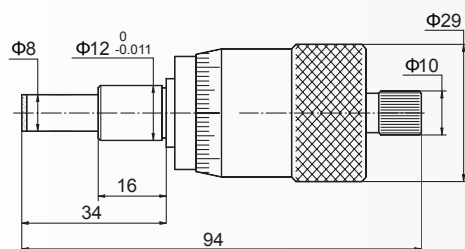
-  Flat measuring face
-  Spherical measuring face
-  Plain
-  With clamp nut

Micrometers Heads

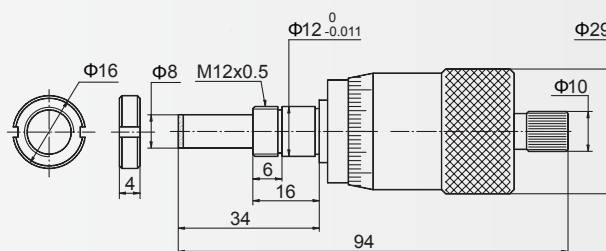
0-15mm/0-0.6" 100 Step Graduation



0008-010



0008-010



0008-350

Order No.	Range Metric	Accuracy	Order No.	Range Inch	Accuracy	Type
0008-010	0-15mm	0.004mm	0008-011	0-0.6"	0.00016"	
0018-010	0-15mm	0.004mm	0018-011	0-0.6"	0.00016"	
0008-350	0-15mm	0.004mm	0008-351	0-0.6"	0.00016"	
0018-350	0-15mm	0.004mm	0018-351	0-0.6"	0.00016"	

- Flat & Carbide measuring face
- Spherical measuring face
- Plain
- With clamp nut

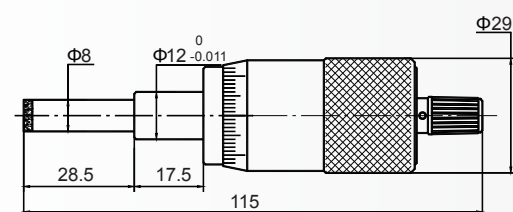
0-25mm/0-1" 100 Step Graduation



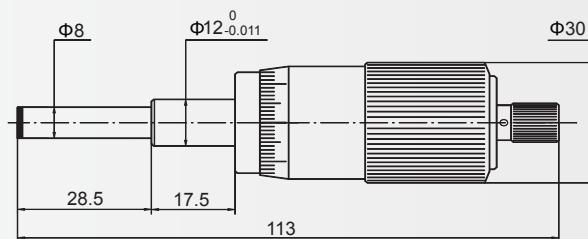
0004-000



0004-030



0004-000



0004-030

Order No.	Range Metric	Accuracy	Order No.	Range Inch	Accuracy	Type
0004-000	0-25mm	0.004mm	0004-001	0-1"	0.00016"	Ratchet stop
0014-000	0-25mm	0.004mm	0014-001	0-1"	0.00016"	
0004-030	0-25mm	0.004mm	0004-031	0-1"	0.00016"	Ratchet friction thimble
0014-030	0-25mm	0.004mm	0014-031	0-1"	0.00016"	

- Flat & Carbide measuring face
- Spherical measuring face

Micrometers Heads

0-25mm/0-1"



0003-000



0003-120
0003-130

Feature:

- Resolution: 0.01mm(Metric); 0.001"(Inch) or 0.002mm(Metric); 0.0001"(Inch).
- Accuracy: 0.003mm.

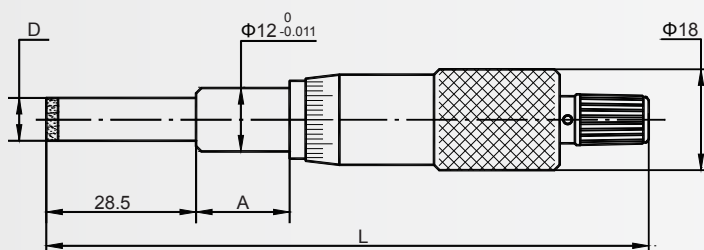
Resolution 0.01mm/0.001"

Order No.				Type
Metric		Inch		
A=17.5	A=20.5	A=17.5	A=20.5	
D=Φ6.5	D=Φ8	D=Φ6.5	D=Φ8	
Ratchet stop				
0003-000	0603-000	0003-001	0603-001	
0013-000	0613-000	0013-001	0613-001	
Friction thimble				
0003-020	0603-020	0003-021	0603-021	
0013-020	0613-020	0013-021	0613-021	
Ratchet friction thimble				
0003-030	0603-030	0003-031	0603-031	
0013-030	0613-030	0013-031	0613-031	

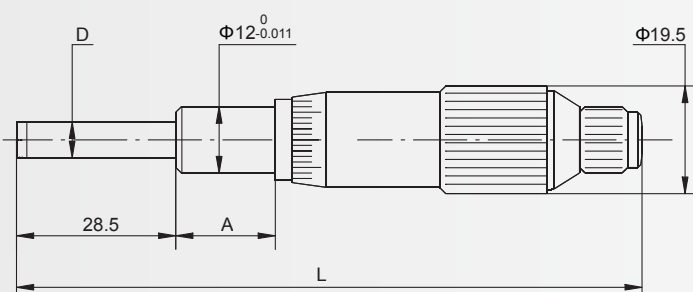
Resolution 0.002mm/0.0001"

Order No.				Type
Metric		Inch		
A=17.5	A=20.5	A=17.5	A=20.5	
D=Φ6.5	D=Φ8	D=Φ6.5	D=Φ8	
Ratchet stop				
0003-100	0603-100	0003-101	0603-101	
0013-100	0613-100	0013-101	0613-101	
Friction thimble				
0003-120	0603-120	0003-121	0603-121	
0013-120	0613-120	0013-121	0613-121	
Ratchet friction thimble				
0003-130	0603-130	0003-131	0603-131	
0013-130	0613-130	0013-131	0613-131	

- Flat & Carbide measuring face
 Spherical measuring face



0003-000
0603-000



0003-020
0603-020
0003-030
0603-030

Dimensions

Order No.		A	D	L
Metric	Inch			
00X3-X00	00X3-X01	17.5mm	Φ 6.5mm	113mm
00X3-X20	00X3-X21	17.5mm	Φ 6.5mm	110mm
00X3-X30	00X3-X31	17.5mm	Φ 6.5mm	110mm
06X3-X00	06X3-X01	20.5mm	Φ 8.0mm	116mm
06X3-X20	06X3-X21	20.5mm	Φ 8.0mm	113mm
06X3-X30	06X3-X31	20.5mm	Φ 8.0mm	113mm

Micrometers Heads

0-25mm/0-1"

Feature:

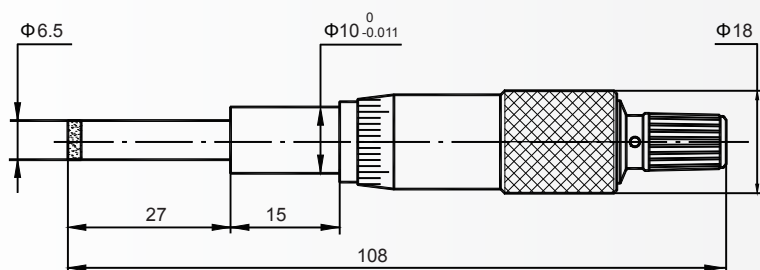
- Resolution: 0.01mm(Metric); 0.001"(Inch).
- Accuracy: 0.003mm.
- Without spindle lock.



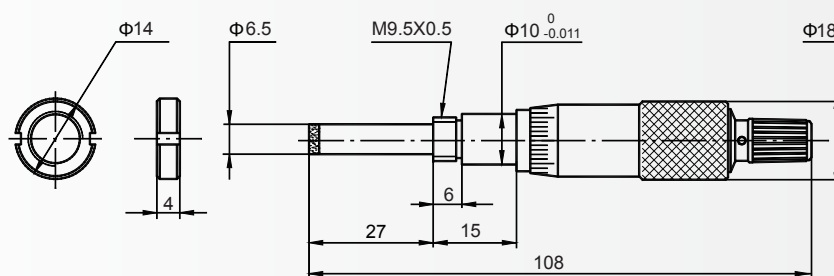
0803-010

Order No.	Range	Order No.	Range	Order No.	Range	Order No.	Range	Type
Plain				With clamp nut				
Metric		Inch		Metric		Inch		
0803-010	0-25mm	0803-011	0-1"	0803-310	0-25mm	0803-311	0-1"	Ratchet stop
0813-010	0-25mm	0813-011	0-1"	0813-310	0-25mm	0813-311	0-1"	Ratchet stop
0803-020	0-25mm	0803-021	0-1"	0803-320	0-25mm	0803-321	0-1"	Friction thimble
0813-020	0-25mm	0813-021	0-1"	0813-320	0-25mm	0813-321	0-1"	Friction thimble
0803-030	0-25mm	0803-031	0-1"	0803-330	0-25mm	0803-331	0-1"	Ratchet friction thimble
0813-030	0-25mm	0813-031	0-1"	0813-330	0-25mm	0813-331	0-1"	Ratchet friction thimble

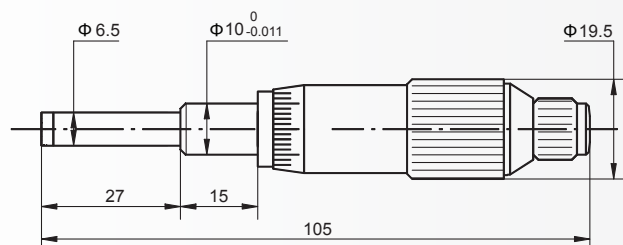
- Flat & Carbide measuring face
- Spherical measuring face



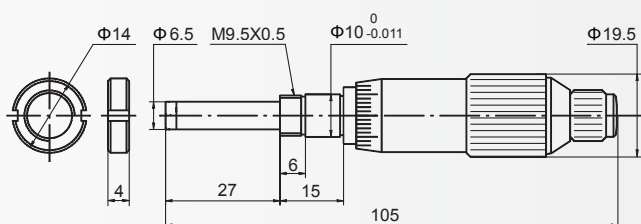
0803-010



0803-310



0803-020
0803-030



0803-320
0803-330

Micrometers Heads

0-25mm/0-1"

Feature:

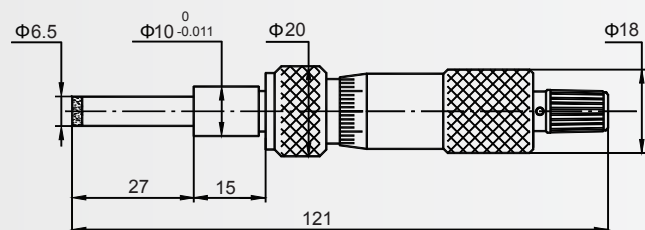
- Resolution: 0.01mm(Metric); 0.001"(Inch).
- Accuracy: 0.003mm.
- With spindle lock.



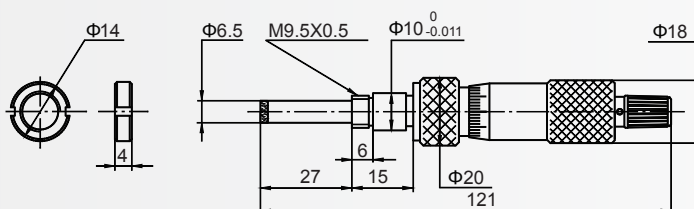
0903-010

Order No.	Range	Order No.	Range	Order No.	Range	Order No.	Range	Type
Plain				With clamp nut				
Metric		Inch		Metric		Inch		
0903-010	0-25mm	0903-011	0-1"	0903-310	0-25mm	0903-311	0-1"	Flat & Carbide measuring face
0913-010	0-25mm	0913-011	0-1"	0913-310	0-25mm	0913-311	0-1"	Spherical measuring face
0903-020	0-25mm	0903-021	0-1"	0903-320	0-25mm	0903-321	0-1"	Ratchet stop
0913-020	0-25mm	0913-021	0-1"	0913-320	0-25mm	0913-321	0-1"	Friction thimble
0903-030	0-25mm	0903-031	0-1"	0903-330	0-25mm	0903-331	0-1"	Ratchet friction thimble
0913-030	0-25mm	0913-031	0-1"	0913-330	0-25mm	0913-331	0-1"	

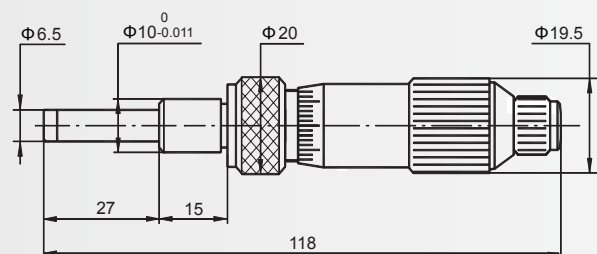
Flat & Carbide measuring face
Spherical measuring face



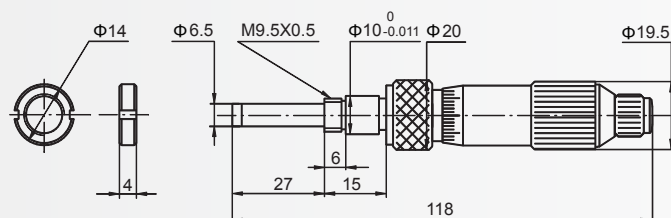
0903-010



0903-310



0903-020
0903-030



0903-320
0903-330

Micrometers Heads

0-25mm/0-1"

Feature:

- Resolution: 0.01mm(Metric); 0.001"(Inch) or 0.001mm(Metric); 0.0001"(Inch).
- Without spindle lock.



0403-010

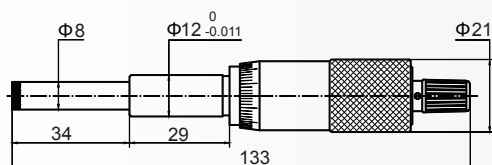
Plain 

					
Order No.	Range	Order No.	Range	Accuracy	Type
Metric		Inch			
Resolution 0.01mm(Metric)/0.001"(Inch)					
0403-000	0-25mm	0403-003	0-1"	0.003mm	 Without measuring force
0413-000	0-25mm	0413-003	0-1"	0.003mm	 Without measuring force
0403-010	0-25mm	0403-013	0-1"	0.003mm	 Ratchet stop
0413-010	0-25mm	0413-013	0-1"	0.003mm	 Ratchet stop
Resolution 0.001mm(Metric)/0.0001"(Inch)					
0403-002	0-25mm	0403-001	0-1"	0.003mm	 Without measuring force
0413-002	0-25mm	0413-001	0-1"	0.003mm	 Without measuring force
0403-012	0-25mm	0403-011	0-1"	0.003mm	 Ratchet stop
0413-012	0-25mm	0413-011	0-1"	0.003mm	 Ratchet stop

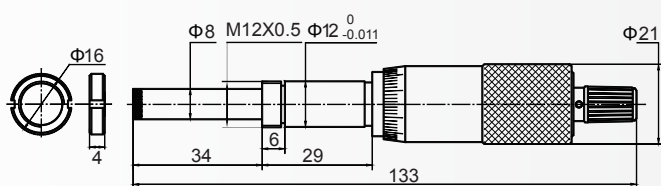
With clamp nut 

					
Order No.	Range	Order No.	Range	Accuracy	Type
Metric		Inch			
Resolution 0.01mm(Metric)/0.001"(Inch)					
0403-300	0-25mm	0403-303	0-1"	0.003mm	 Without measuring force
0413-300	0-25mm	0413-303	0-1"	0.003mm	 Without measuring force
0403-310	0-25mm	0403-313	0-1"	0.003mm	 Ratchet stop
0413-310	0-25mm	0413-313	0-1"	0.003mm	 Ratchet stop
Resolution 0.001mm(Metric)/0.0001"(Inch)					
0403-302	0-25mm	0403-301	0-1"	0.003mm	 Without measuring force
0413-302	0-25mm	0413-301	0-1"	0.003mm	 Without measuring force
0403-312	0-25mm	0403-311	0-1"	0.003mm	 Ratchet stop
0413-312	0-25mm	0413-311	0-1"	0.003mm	 Ratchet stop

 Flat & Carbide measuring face
 Spherical measuring face



0403-010



0403-310

Micrometers Heads

0-25mm/0-1"

Feature:

- Resolution: 0.01mm(Metric); 0.001"(Inch) or 0.001mm(Metric); 0.0001"(Inch).
- With spindle lock.



0423-010

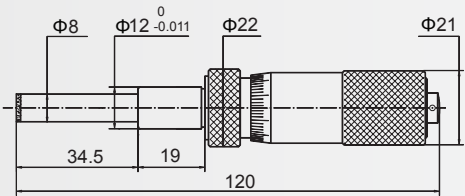
Plain

 Order No.	 Range	 Order No.	 Range	 Accuracy	 Type
Metric		Inch			
Resolution 0.01mm(Metric)/0.001"(Inch)					
0423-000	0-25mm	0423-003	0-1"	0.003mm	 Without measuring force
0433-000	0-25mm	0433-003	0-1"	0.003mm	 Ratchet stop
0423-010	0-25mm	0423-013	0-1"	0.003mm	 Without measuring force
0433-010	0-25mm	0433-013	0-1"	0.003mm	 Ratchet stop
Resolution 0.001mm(Metric)/0.0001"(Inch)					
0423-002	0-25mm	0423-001	0-1"	0.003mm	 Without measuring force
0433-002	0-25mm	0433-001	0-1"	0.003mm	 Ratchet stop
0423-012	0-25mm	0423-011	0-1"	0.003mm	 Without measuring force
0433-012	0-25mm	0433-011	0-1"	0.003mm	 Ratchet stop

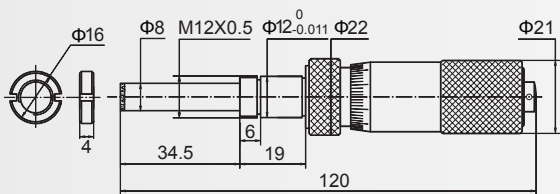
With clamp nut

					
Order No.	Range	Order No.	Range	Accuracy	Type
Metric		Inch			
Resolution 0.01mm(Metric)/0.001"(Inch)					
0423-300	0-25mm	0423-303	0-1"	0.003mm	 Without measuring force
0433-300	0-25mm	0433-303	0-1"	0.003mm	 Ratchet stop
0423-310	0-25mm	0423-313	0-1"	0.003mm	 Without measuring force
0433-310	0-25mm	0433-313	0-1"	0.003mm	 Ratchet stop
Resolution 0.001mm(Metric)/0.0001"(Inch)					
0423-302	0-25mm	0423-301	0-1"	0.003mm	 Without measuring force
0433-302	0-25mm	0433-301	0-1"	0.003mm	 Ratchet stop
0423-312	0-25mm	0423-311	0-1"	0.003mm	 Without measuring force
0433-312	0-25mm	0433-311	0-1"	0.003mm	 Ratchet stop

- Flat & Carbide measuring face
- Spherical measuring face



0423-000



0423-300

Micrometers Heads

0-50mm/0-2"

Feature:

- Resolution: 0.01mm(Metric); 0.001"(Inch) or 0.001mm(Metric); 0.0001"(Inch).



0404-010

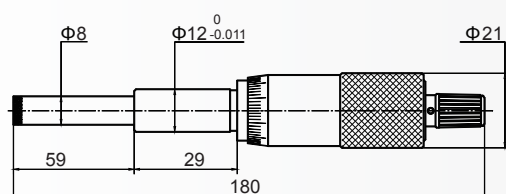
Plain 

					
Order No.	Range	Order No.	Range	Accuracy	Type
Metric		Inch			
Resolution 0.01mm(Metric)/0.001"(Inch)					
0404-000	0-50mm	0404-003	0-2"	0.005mm	 Without measuring force
0414-000	0-50mm	0414-003	0-2"	0.005mm	 Without measuring force
0404-010	0-50mm	0404-013	0-2"	0.005mm	 Ratchet stop
0414-010	0-50mm	0414-013	0-2"	0.005mm	 Ratchet stop
Resolution 0.001mm(Metric)/0.0001"(Inch)					
0404-002	0-50mm	0404-001	0-2"	0.005mm	 Without measuring force
0414-002	0-50mm	0414-001	0-2"	0.005mm	 Without measuring force
0404-012	0-50mm	0404-011	0-2"	0.005mm	 Ratchet stop
0414-012	0-50mm	0414-011	0-2"	0.005mm	 Ratchet stop

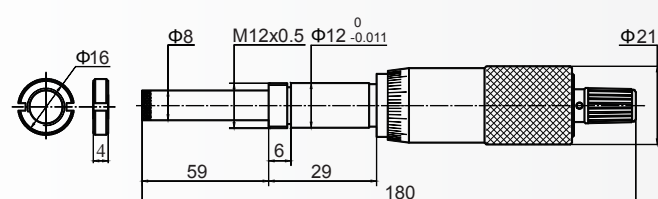
With clamp nut 

					
Order No.	Range	Order No.	Range	Accuracy	Type
Metric		Inch			
Resolution 0.01mm(Metric)/0.001"(Inch)					
0404-300	0-50mm	0404-303	0-2"	0.005mm	 Without measuring force
0414-300	0-50mm	0414-303	0-2"	0.005mm	 Without measuring force
0404-310	0-50mm	0404-313	0-2"	0.005mm	 Ratchet stop
0414-310	0-50mm	0414-313	0-2"	0.005mm	 Ratchet stop
Resolution 0.001mm(Metric)/0.0001"(Inch)					
0404-302	0-50mm	0404-301	0-2"	0.005mm	 Without measuring force
0414-302	0-50mm	0414-301	0-2"	0.005mm	 Without measuring force
0404-312	0-50mm	0404-311	0-2"	0.005mm	 Ratchet stop
0414-312	0-50mm	0414-311	0-2"	0.005mm	 Ratchet stop

 Flat & Carbide measuring face
 Spherical measuring face



0404-010



0404-310

Micrometers Heads

0-25mm/0-1" Non-rotating Spindle

Feature:

- Resolution: 0.01mm(Metric); 0.001"(Inch) or 0.002mm(Metric); 0.0001"(Inch).
- Accuracy: 0.003mm.

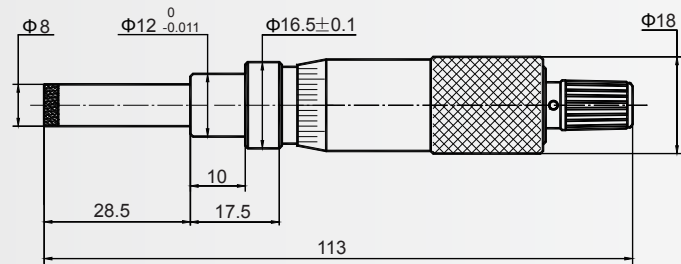


0503-000

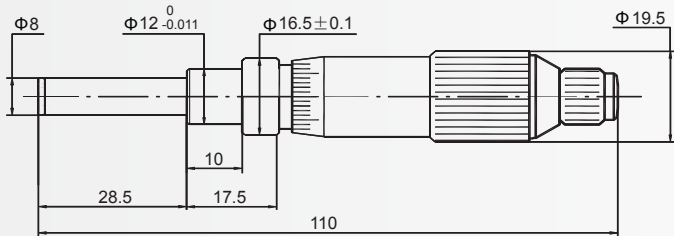


0503-120
0503-130

											Type
Order No.	Range	Order No.	Range	Order No.	Range	Order No.	Range	Order No.	Range		
Resolution 0.01mm/0.001"				Resolution 0.002mm/0.0001"							
Metric		Inch		Metric		Inch					
0503-000	0-25mm	0503-001	0-1"	0503-100	0-25mm	0503-101	0-1"		Ratchet stop		
0513-000	0-25mm	0513-001	0-1"	0513-100	0-25mm	0513-101	0-1"		Friction thimble		
0503-020	0-25mm	0503-021	0-1"	0503-120	0-25mm	0503-121	0-1"		Ratchet friction thimble		
0513-020	0-25mm	0513-021	0-1"	0513-120	0-25mm	0513-121	0-1"		Flat & Carbide measuring face		
0503-030	0-25mm	0503-031	0-1"	0503-130	0-25mm	0503-131	0-1"		Spherical measuring face		
0513-030	0-25mm	0513-031	0-1"	0513-130	0-25mm	0513-131	0-1"				



0503-000



0503-020
0503-030

Micrometers Heads

0-25mm/0-1" Non-rotating Spindle (interchangeable anvils)



0573-000

Feature:

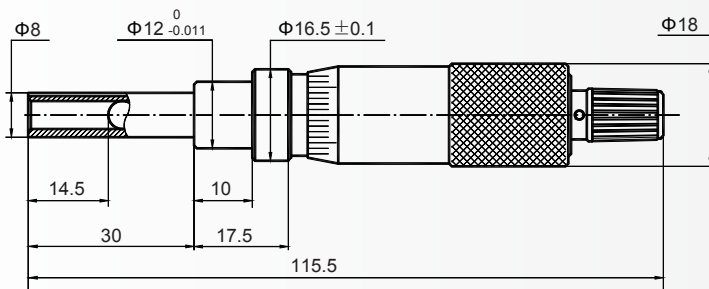
- Resolution: 0.01mm(Metric); 0.001"(Inch) or 0.002mm(Metric); 0.0001"(Inch).
- Universal interchangeable anvils (seeing page D35)

Resolution:0.01mm/0.001"

 Order No.	 Range	 Accuracy	 Type
Metric			
0573-000	0-25mm	0.003mm	Ratchet stop
0573-020	0-25mm	0.003mm	Friction thimble
0573-030	0-25mm	0.003mm	Ratchet friction thimble
Inch			
0573-001	0-1"	0.00012"	Ratchet stop
0573-021	0-1"	0.00012"	Friction thimble
0573-031	0-1"	0.00012"	Ratchet friction thimble

Resolution:0.002mm/0.0001"

 Order No.	 Range	 Accuracy	 Type
Metric			
0573-100	0-25mm	0.003mm	Ratchet stop
0573-120	0-25mm	0.003mm	Friction thimble
0573-130	0-25mm	0.003mm	Ratchet friction thimble
Inch			
0573-101	0-1"	0.00012"	Ratchet stop
0573-121	0-1"	0.00012"	Friction thimble
0573-131	0-1"	0.00012"	Ratchet friction thimble



0-25mm/0-1" Parallax Free

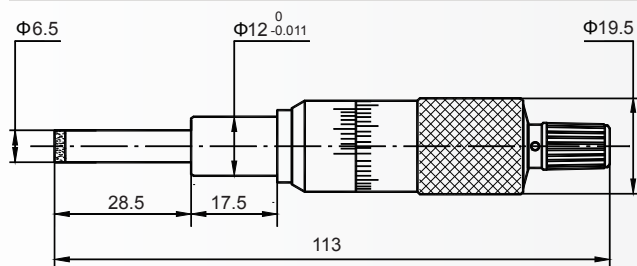
0103-120
0103-130

Feature:

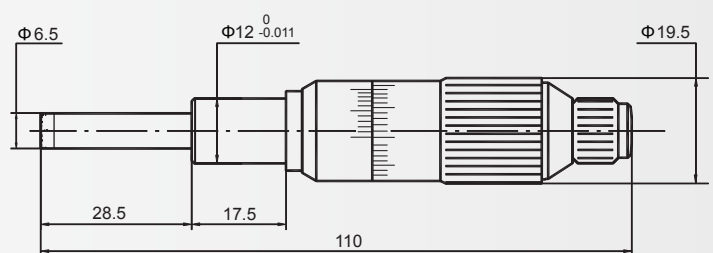
- Resolution: 0.001mm(Metric); 0.0001"(Inch).
- Accuracy: 0.003mm.

 Order No.	 Range	 Order No.	 Range	 Type
Metric		Inch		
0103-100	0-25mm	0103-101	0-1"	Ratchet stop
0113-100	0-25mm	0113-101	0-1"	
0103-120	0-25mm	0103-121	0-1"	Friction thimble
0113-120	0-25mm	0113-121	0-1"	
0103-130	0-25mm	0103-131	0-1"	Ratchet friction thimble
0113-130	0-25mm	0113-131	0-1"	

-  Flat & Carbide measuring face
 Spherical measuring face



0103-100

0103-120
0103-130

Micrometers Heads

0-50mm/0-2"

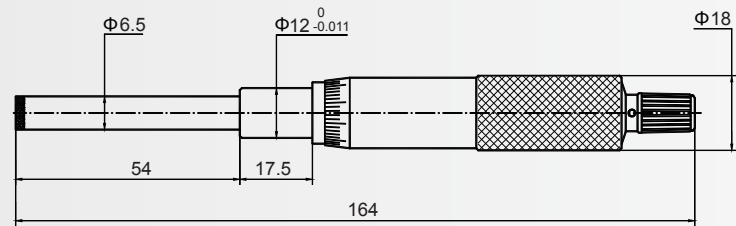
- Feature:
- Resolution: 0.01mm(Metric); 0.001"(Inch).
 - Accuracy: 0.005mm.



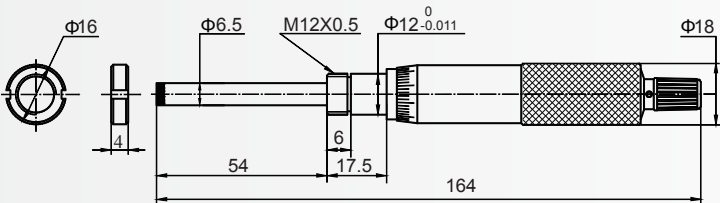
0005-090

Order No.	Range	Order No.	Range	Order No.	Range	Order No.	Range	Type
Plain				With clamp nut				
Metric		Inch		Metric		Inch		
0005-090	0-50mm	0005-091	0-2"	0005-390	0-50mm	0005-391	0-2"	Ratchet
0015-090	0-50mm	0015-091	0-2"	0015-390	0-50mm	0015-391	0-2"	stop
0005-080	0-50mm	0005-081	0-2"	0005-380	0-50mm	0005-381	0-2"	Friction
0015-080	0-50mm	0015-081	0-2"	0015-380	0-50mm	0015-381	0-2"	thimble
0005-070	0-50mm	0005-071	0-2"	0005-370	0-50mm	0005-371	0-2"	Ratchet
0015-070	0-50mm	0015-071	0-2"	0015-370	0-50mm	0015-371	0-2"	friction thimble

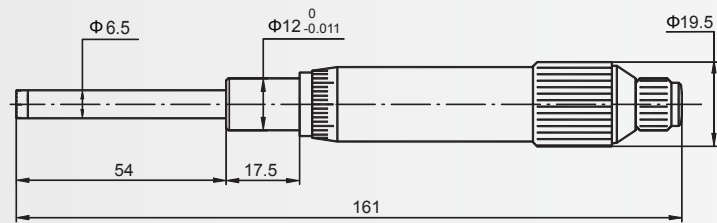
- Flat & Carbide measuring face
- Spherical measuring face



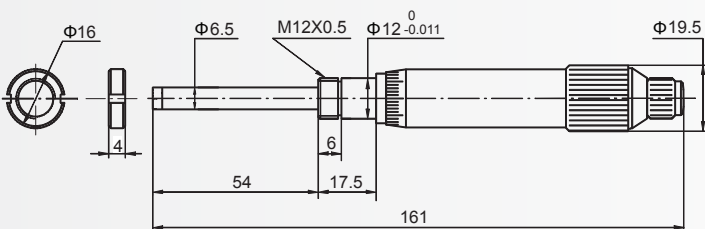
0005-090



0005-390



0005-080
0005-070



0005-380
0005-370

Micrometers Heads

0-50mm/0-2" 100 Step Graduation



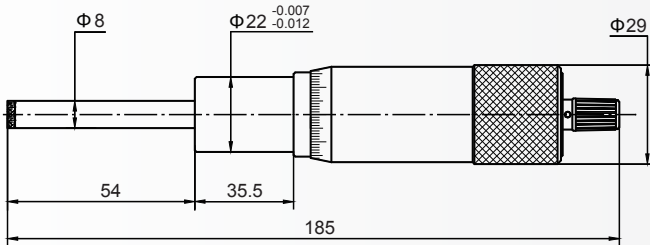
0015-000

Feature:

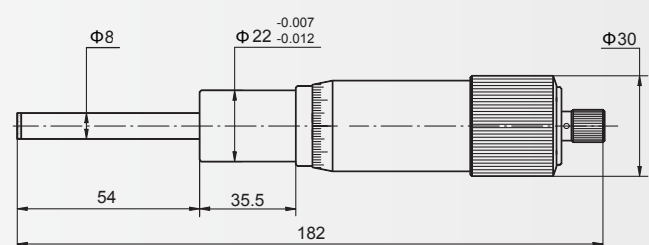
- Resolution: 0.01mm(Metric); 0.0005"(Inch).
- Accuracy: 0.005mm.
- Micrometer thread pitch: 1mm.

Order No.	Range	Order No.	Range	Type
Metric		Inch		
0005-000	0-50mm	0005-001	0-2"	Ratchet stop
0015-000	0-50mm	0015-001	0-2"	
0005-030	0-50mm	0005-031	0-2"	Ratchet friction thimble
0015-030	0-50mm	0015-031	0-2"	

- Flat & Carbide measuring face
- Spherical measuring face



0005-000



0005-030

Micrometers Heads (Fine reading)

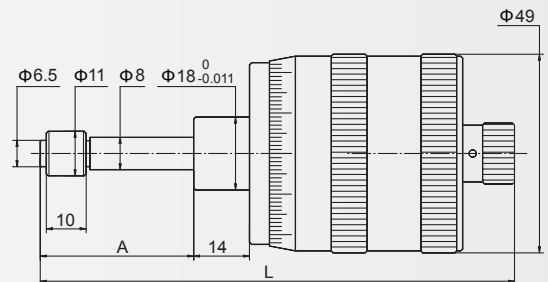
XY Plane



0006-650

Feature:

- Resolution: 0.002mm(Metric); 0.0001"(Inch). The large diameter thimble (Φ49mm) provides high resolution measurement.
- Bidirectional graduation has different fonts for easy reading in both directions.



Order No.	Range	Order No.	Range	Accuracy	Type
Metric		Inch			
0006-050	0-25mm	0006-051	0-1"	0.003mm	With non-rotating device
0006-250	0-25mm	0006-251	0-1"	0.003mm	
0006-450	0-25mm	0006-451	0-1"	0.003mm	Flat & Carbide measuring face
0006-650	0-25mm	0006-651	0-1"	0.003mm	
0007-050	0-50mm	0007-051	0-2"	0.005mm	Unilateral graduation
0007-250	0-50mm	0007-251	0-2"	0.005mm	
0007-450	0-50mm	0007-451	0-2"	0.005mm	Bidirectional graduation
0007-650	0-50mm	0007-651	0-2"	0.005mm	

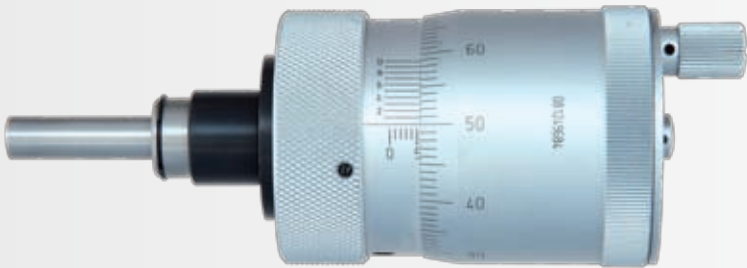
Dimensions

Range		A	L
Metric	Inch		
0-25mm	0-1"	38.5mm	119mm
0-50mm	0-2"	65mm	163mm

- With non-rotating device
- Flat & Carbide measuring face
- Unilateral graduation
- Bidirectional graduation

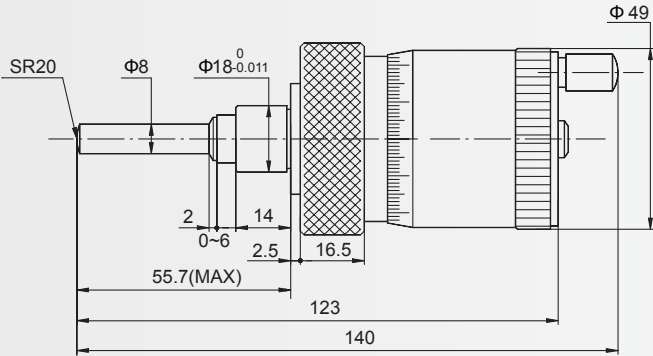
Micrometers Heads (Fine reading)

0-25mm/0-1" Zero Adjusting

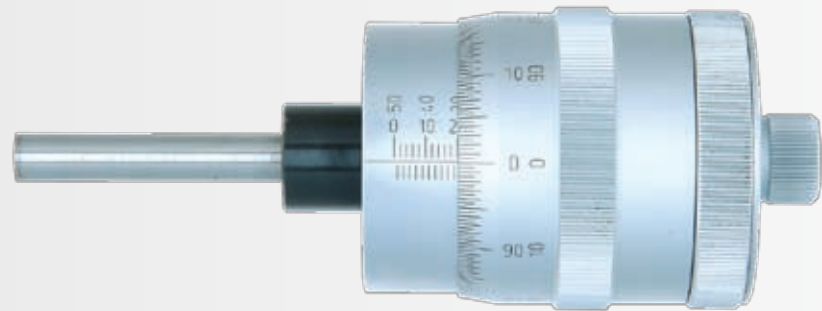


0006-080

 Order No.	 Range Metric	 Accuracy	 Order No.	 Range Inch	 Accuracy
0006-080	0-25mm	0.003mm	0006-081	0-1"	0.00012"

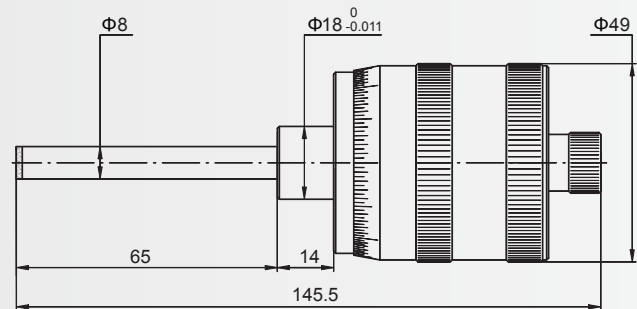


0-50mm/0-2"



0507-250

 Order No.	 Range Metric	 Accuracy	 Order No.	 Range Inch	 Accuracy
0507-250	0-50mm	0.005mm	0507-251	0-2"	0.0002"



Feature:

- Resolution: 0.001mm(Metric); 0.0005"(Inch).
- Floating thimble (graduation) can be adjusted with the spindle clamped, allowing zero setting at any spindle position.

Feature:

- Resolution: 0.005mm(Metric); 0.0002"(Inch).
- Micrometer thread pitch: 1mm.
- Non-rotating spindle.
- Flat & Carbide measuring face.

Micrometers Heads

0-13mm/0-0.5"

Feature:

- Resolution: 0.01mm(Metric); 0.001"(Inch).

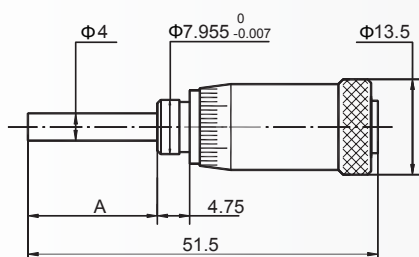


1002-050

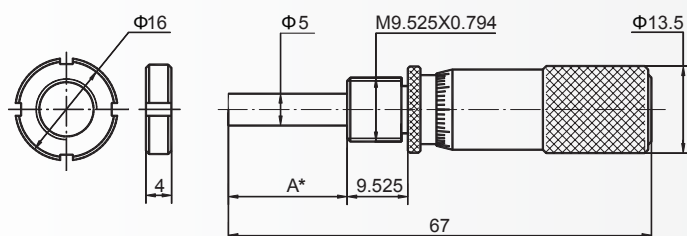


1002-350

 Order No.	 Range	 Accuracy	 Order No.	 Range	 Accuracy
	Metric			Inch	
1002-050	0-13mm	0.003mm	1002-051	0-0.5"	0.00012"
1002-350	0-13mm	0.003mm	1002-351	0-0.5"	0.00012"



1002-050



1002-350

* A=18.97mm(Metric);A=18.82mm(Inch).

Micrometers Heads

0-25mm/0-1" With Locking Device

Feature:

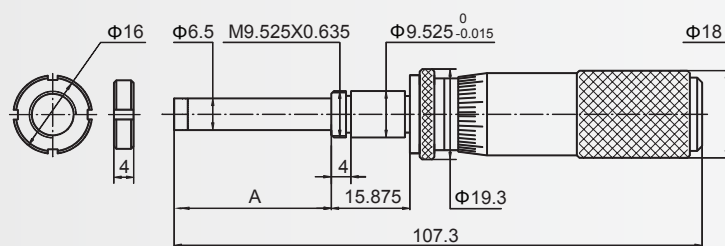
- Resolution: 0.01mm(Metric); 0.001"(Inch).



1903-300

Order No.	Range Metric	Accuracy	Order No.	Range Inch	Accuracy	Type
Without measuring force						
1903-000	0-25mm	0.004mm	1903-001	0-1"	0.00016"	
1903-300	0-25mm	0.004mm	1903-301	0-1"	0.00016"	
Ratchet stop						
1903-010	0-25mm	0.004mm	1903-011	0-1"	0.00016"	
1903-310	0-25mm	0.004mm	1903-311	0-1"	0.00016"	

Plain
 With clamp nut



* A=31.93mm(Metric);A=32.13mm(Inch).

0-50mm/0-2" With Locking Device

Feature:

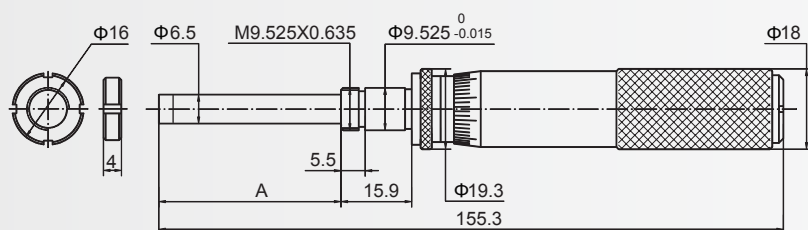
- Resolution: 0.01mm(Metric); 0.001"(Inch).



1905-300

Order No.	Range Metric	Accuracy	Order No.	Range Inch	Accuracy	Type
Without measuring force						
1905-000	0-50mm	0.005mm	1905-001	0-2"	0.0002"	
1905-300	0-50mm	0.005mm	1905-301	0-2"	0.0002"	
Ratchet stop						
1905-010	0-50mm	0.005mm	1905-011	0-2"	0.0002"	
1905-310	0-50mm	0.005mm	1905-311	0-2"	0.0002"	

Plain
 With clamp nut



* A=56mm(Metric);A=56.2mm(Inch).

Electronic Single Point Micrometers

Feature:

- Pointed spindle and anvil for measuring drills, grooves and hard-to-reach dimensions.
- Flat or blade anvil for single point micrometers for measuring the height of crimp contacts.
- Carbide-tipped measuring faces.



242-51-510

				
Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Type B				
242-51-410	0-25mm	242-51-411	0-1"	±0.002mm
242-52-410	25-50mm	242-52-411	1-2"	±0.002mm
242-53-410	50-75mm	242-53-411	2-3"	±0.003mm
242-54-410	75-100mm	242-54-411	3-4"	±0.003mm
Type C				
242-51-510	0-25mm	242-51-511	0-1"	±0.002mm
Type E				
242-51-610	0-25mm	242-51-611	0-1"	±0.002mm

- Protection level **IP65**.
- Electronic system same as 142-XX-436 electronic outside micrometers.



292-51-510

				
Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Type B				
292-51-410	0-25mm	292-51-411	0-1"	±0.002mm
292-52-410	25-50mm	292-52-411	1-2"	±0.002mm
292-53-410	50-75mm	292-53-411	2-3"	±0.003mm
292-54-410	75-100mm	292-54-411	3-4"	±0.003mm
Type C				
292-51-510	0-25mm	292-51-511	0-1"	±0.002mm
Type E				
292-51-610	0-25mm	292-51-611	0-1"	±0.002mm

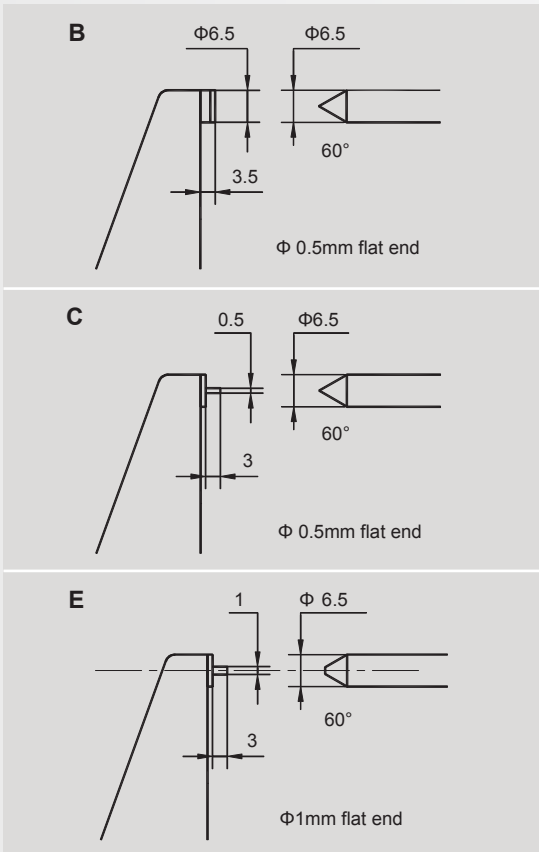
- Protection level **IP65**.
- Electronic system same as 133-XX-416 electronic outside micrometers.

Single Point Micrometers

- Feature:**
- Pointed spindle and anvil for measuring drills, grooves and hard-to-reach dimensions.
 - Flat or blade anvil for single point micrometers for measuring the height of crimp contacts.
 - Carbide-tipped measuring faces.
 - Resolution: 0.01mm(Metric);0.0001"(Inch).



				
Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Type B				
200-51-000	0-25mm	200-51-101	0-1"	0.004mm
200-52-000	25-50mm	200-52-101	1-2"	0.004mm
200-53-000	50-75mm	200-53-101	2-3"	0.005mm
200-54-000	75-100mm	200-54-101	3-4"	0.005mm
Type C				
200-51-200	0-25mm	200-51-301	0-1"	0.004mm
Type E				
200-51-400	0-25mm	200-51-501	0-1"	0.004mm



Electronic Point Micrometers

Feature:

- Pointed spindle and anvil for measuring drills, grooves and hard-to-reach dimensions.
- Carbide-tipped measuring faces.



242-41-510

Metric		Range	Inch		Accuracy
Order No.	Type A		Order No.	Type D	
242-41-410	242-41-510	0-25mm	242-41-411	242-41-511	0-1"
242-42-410	242-42-510	25-50mm	242-42-411	242-42-511	1-2"
242-43-410	242-43-510	50-75mm	242-43-411	242-43-511	2-3"
242-44-410	242-44-510	75-100mm	242-44-411	242-44-511	3-4"

- Protection level **IP65**.
- Electronic system same as 142-XX-436 electronic outside micrometers.



292-41-410

Metric		Range	Inch		Accuracy
Order No.	Type A		Order No.	Type D	
292-41-410	292-41-510	0-25mm	292-41-411	292-41-511	0-1"
292-42-410	292-42-510	25-50mm	292-42-411	292-42-511	1-2"
292-43-410	292-43-510	50-75mm	292-43-411	292-43-511	2-3"
292-44-410	292-44-510	75-100mm	292-44-411	292-44-511	3-4"

- Protection level **IP65**.
- Electronic system same as 133-XX-416 electronic outside micrometers.

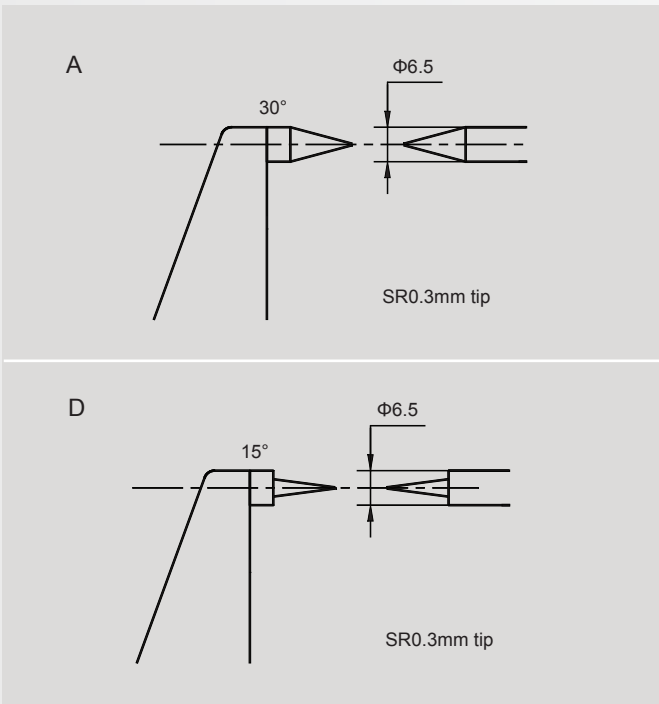
Point Micrometers

- Feature:
- Pointed spindle and anvil for measuring drills, grooves and hard-to-reach dimensions.
 - Carbide-tipped measuring faces.
 - Resolution: 0.01mm(Metric); 0.0001"(Inch).



200-41-000

				
Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Ratchet stop				
Type A	Type D	Type A	Type D	
200-41-000	200-41-060	0-25mm	200-41-101	200-41-161
200-42-000	200-42-060	25-50mm	200-42-101	200-42-161
200-43-000	200-43-060	50-75mm	200-43-101	200-43-161
200-44-000	200-44-060	75-100mm	200-44-101	200-44-161



Electronic Tube Micrometers

Feature:

- For measuring wall thickness of various tubes.
- Carbide-tipped measuring faces.



246-61-110

Order No.		Range	Order No.		Range	Accuracy
Metric			Inch			
Type J	Type K		Type J	Type K		
246-61-110	246-61-210	0-25mm	246-61-111	246-61-211	0-1"	±0.002mm
246-62-110	246-62-210	25-50mm	246-62-111	246-62-211	1-2"	±0.002mm
246-63-110	246-63-210	50-75mm	246-63-111	246-63-211	2-3"	±0.003mm
246-64-110	246-64-210	75-100mm	246-64-111	246-64-211	3-4"	±0.003mm

- Protection level **IP65**.
- Electronic system same as 142-XX-436 electronic outside micrometers.



296-61-110

Order No.		Range	Order No.		Range	Accuracy
Metric			Inch			
Type J	Type K		Type J	Type K		
296-61-110	296-61-210	0-25mm	296-61-111	296-61-211	0-1"	±0.002mm
296-62-110	296-62-210	25-50mm	296-62-111	296-62-211	1-2"	±0.002mm
296-63-110	296-63-210	50-75mm	296-63-111	296-63-211	2-3"	±0.003mm
296-64-110	296-64-210	75-100mm	296-64-111	296-64-211	3-4"	±0.003mm

- Protection level **IP65**.
- Electronic system same as 133-XX-416 electronic outside micrometers.

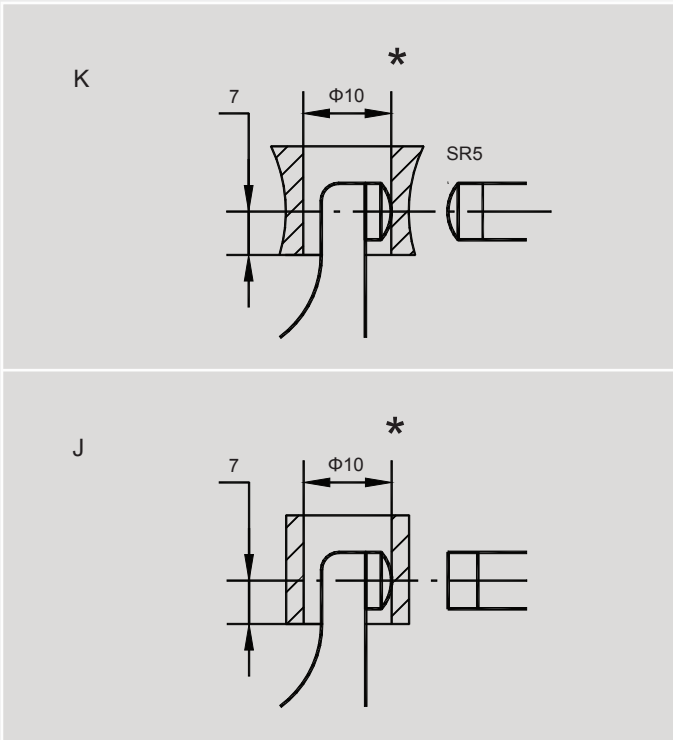
Tube Micrometers

- Feature:
- For measuring wall thickness of various tubes.
 - Carbide-tipped measuring faces.
 - Resolution: 0.01mm(Metric); 0.0001"(Inch).



200-61-200

Metric		Range	Inch		Range	Accuracy
Order No.	Order No.		Order No.	Order No.		
Type J	Type K		Type J	Type K		
200-61-100	200-61-200	0-25mm	200-61-101	200-61-201	0-1"	0.004mm
200-62-100	200-62-200	25-50mm	200-62-101	200-62-201	1-2"	0.004mm
200-63-100	200-63-200	50-75mm	200-63-101	200-63-201	2-3"	0.005mm
200-64-100	200-64-200	75-100mm	200-64-101	200-64-201	3-4"	0.005mm



* Min dimension of measured diameter.

Electronic Tube Micrometers

Feature:

- For measuring wall thickness of various tubes.
- Carbide-tipped measuring faces.



246-71-110

Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Type A	Type B	Type A	Type B	
246-71-110	246-71-210	246-71-111	246-71-211	±0.003mm
246-72-110	246-72-210	246-72-111	246-72-211	±0.003mm
Type C	Type D	Type C	Type D	
246-71-310	246-71-410	246-71-311	246-71-411	±0.003mm
246-72-310	246-72-410	246-72-311	246-72-411	±0.003mm
Type E	Type F	Type E	Type F	
246-71-510	246-71-810	246-71-511	246-71-811	±0.003mm
246-72-510	246-72-810	246-72-511	246-72-811	±0.003mm

- Protection level **IP65**.
- Electronic system same as 142-XX-436 electronic outside micrometers.



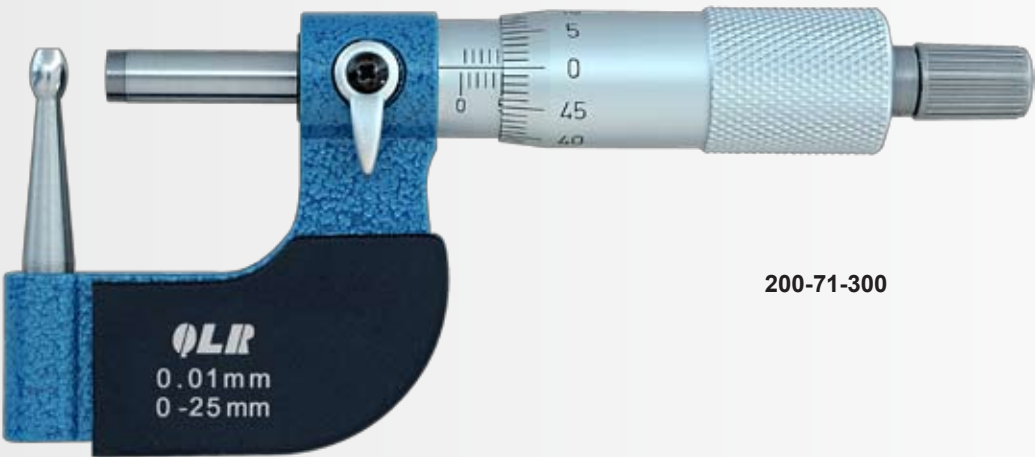
296-71-110

Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Type A	Type B	Type A	Type B	
296-71-110	296-71-210	296-71-111	296-71-211	±0.003mm
296-72-110	296-72-210	296-72-111	296-72-211	±0.003mm
Type C	Type D	Type C	Type D	
296-71-310	296-71-410	296-71-311	296-71-411	±0.003mm
296-72-310	296-72-410	296-72-311	296-72-411	±0.003mm
Type E	Type F	Type E	Type F	
296-71-510	296-71-810	296-71-511	296-71-811	±0.003mm
296-72-510	296-72-810	296-72-511	296-72-811	±0.003mm

- Protection level **IP65**.
- Electronic system same as 133-XX-416 electronic outside micrometers.

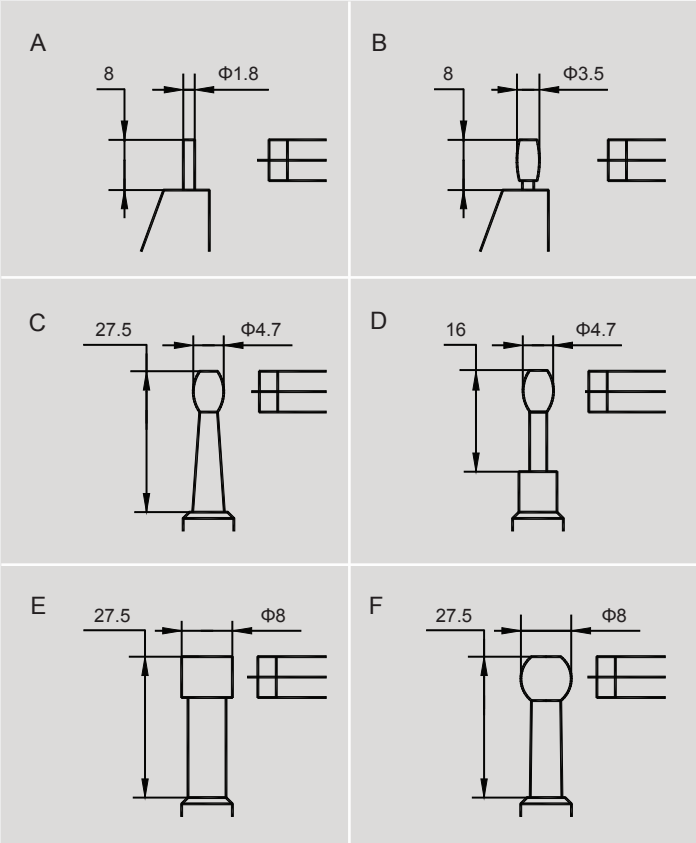
Tube Micrometers

- Feature:
- For measuring wall thickness of various tubes.
 - Carbide-tipped measuring faces.
 - Resolution: 0.01mm(Metric); 0.0001"(Inch).



200-71-300

Order No. Metric	Range	Order No. Inch	Range	Accuracy
Ratchet stop				
Type A	Type B	Type A	Type B	
200-71-100	200-71-200	200-71-101	200-71-201	0.006mm
200-72-100	200-72-200	200-72-101	200-72-201	0.006mm
Type C	Type D	Type C	Type D	
200-71-300	200-71-400	200-71-301	200-71-401	0.006mm
200-72-300	200-72-400	200-72-301	200-72-401	0.006mm
Type E	Type F	Type E	Type F	
200-71-500	200-71-800	200-71-501	200-71-801	0.006mm
200-72-500	200-72-800	200-72-501	200-72-801	0.006mm



Electronic Small Measuring Faces Micrometers

Feature:

- Small measuring faces for measuring splined shafts, slots and keyways.
- Carbide-tipped measuring faces.



240-11-510

Metric		Range	Inch		Range	Accuracy
Order No.	Order No.		Order No.	Order No.		
Type A	Type B		Type A	Type B		
240-11-410	240-11-510	0-25mm	240-11-411	240-11-511	0-1"	±0.002mm
240-12-410	240-12-510	25-50mm	240-12-411	240-12-511	1-2"	±0.002mm
240-13-410	240-13-510	50-75mm	240-13-411	240-13-511	2-3"	±0.003mm
240-14-410	240-14-510	75-100mm	240-14-411	240-14-511	3-4"	±0.003mm
240-15-410	240-15-510	100-125mm	240-15-411	240-15-511	4-5"	±0.003mm
240-16-410	240-16-510	125-150mm	240-16-411	240-16-511	5-6"	±0.003mm
240-17-410	240-17-510	150-175mm	240-17-411	240-17-511	6-7"	±0.004mm

- Protection level **IP65**.
- Electronic system same as 142-XX-436 electronic outside micrometers.



290-11-510

Metric		Range	Inch		Range	Accuracy
Order No.	Order No.		Order No.	Order No.		
Type A	Type B		Type A	Type B		
290-11-410	290-11-510	0-25mm	290-11-411	290-11-511	0-1"	±0.002mm
290-12-410	290-12-510	25-50mm	290-12-411	290-12-511	1-2"	±0.002mm
290-13-410	290-13-510	50-75mm	290-13-411	290-13-511	2-3"	±0.003mm
290-14-410	290-14-510	75-100mm	290-14-411	290-14-511	3-4"	±0.003mm
290-15-410	290-15-510	100-125mm	290-15-411	290-15-511	4-5"	±0.003mm
290-16-410	290-16-510	125-150mm	290-16-411	290-16-511	5-6"	±0.003mm
290-17-410	290-17-510	150-175mm	290-17-411	290-17-511	6-7"	±0.004mm

- Protection level **IP65**.
- Electronic system same as 133-XX-416 electronic outside micrometers.

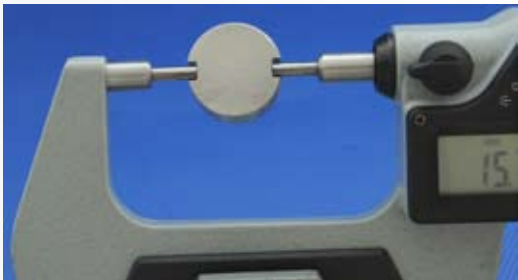
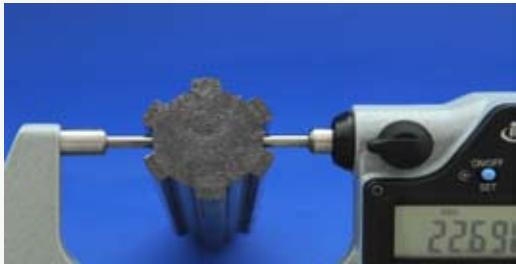
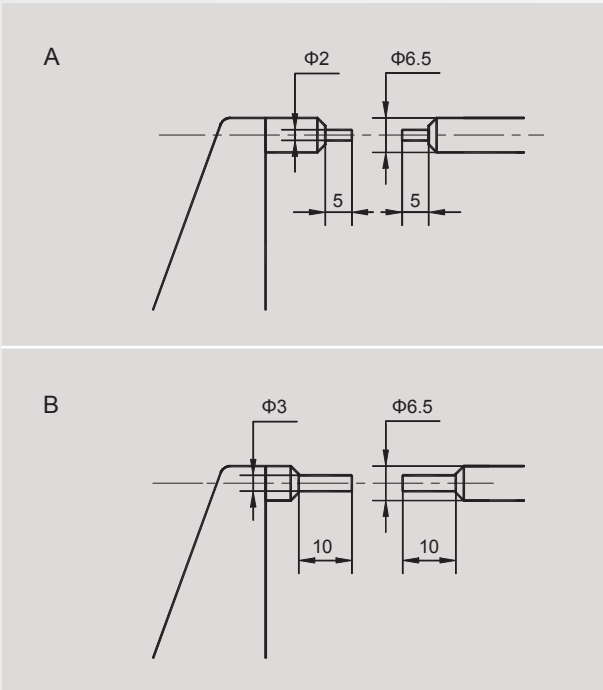
Small Measuring Faces Micrometers

- Feature:
- Small measuring faces for measuring splined shafts, slots and keyways.
 - Carbide-tipped measuring faces.
 - Resolution: 0.01mm(Metric); 0.0001"(Inch).



200-11-000

Metric		Inch		Accuracy	
Order No.	Range	Order No.	Range		
Type A	Type B	Type A	Type B		
200-11-000	200-11-200	200-11-101	200-11-301	0-1"	0.004mm
200-12-000	200-12-200	200-12-101	200-12-301	1-2"	0.004mm
200-13-000	200-13-200	200-13-101	200-13-301	2-3"	0.005mm
200-14-000	200-14-200	200-14-101	200-14-301	3-4"	0.005mm
200-15-000	200-15-200	200-15-101	200-15-301	4-5"	0.006mm
200-16-000	200-16-200	200-16-101	200-16-301	5-6"	0.006mm
200-17-000	200-17-200	200-17-101	200-17-301	6-7"	0.007mm



Electronic Blade Micrometers

Feature:

- Blade measuring faces and non-rotating spindle.



245-11-410

Metric		Inch		Range	Accuracy
Order No.	Range	Order No.	Range		
Type A	Type B	Type A	Type B		
245-11-410	245-11-510	245-11-411	245-11-511	0-1"	±0.002mm
245-12-410	245-12-510	245-12-411	245-12-511	1-2"	±0.002mm
245-13-410	245-13-510	245-13-411	245-13-511	2-3"	±0.003mm
245-14-410	245-14-510	245-14-411	245-14-511	3-4"	±0.003mm
245-15-410	245-15-510	245-15-411	245-15-511	4-5"	±0.003mm
245-16-410	245-16-510	245-16-411	245-16-511	5-6"	±0.003mm
245-17-410	245-17-510	245-17-411	245-17-511	6-7"	±0.004mm

- Electronic system same as 142-XX-436 electronic outside micrometers.



295-11-410

Metric		Inch		Range	Accuracy
Order No.	Range	Order No.	Range		
Type A	Type B	Type A	Type B		
295-11-410	295-11-510	295-11-411	295-11-511	0-1"	±0.002mm
295-12-410	295-12-510	295-12-411	295-12-511	1-2"	±0.002mm
295-13-410	295-13-510	295-13-411	295-13-511	2-3"	±0.003mm
295-14-410	295-14-510	295-14-411	295-14-511	3-4"	±0.003mm
295-15-410	295-15-510	295-15-411	295-15-511	4-5"	±0.003mm
295-16-410	295-16-510	295-16-411	295-16-511	5-6"	±0.003mm
295-17-410	295-17-510	295-17-411	295-17-511	6-7"	±0.004mm

- Electronic system same as 133-XX-416 electronic outside micrometers.

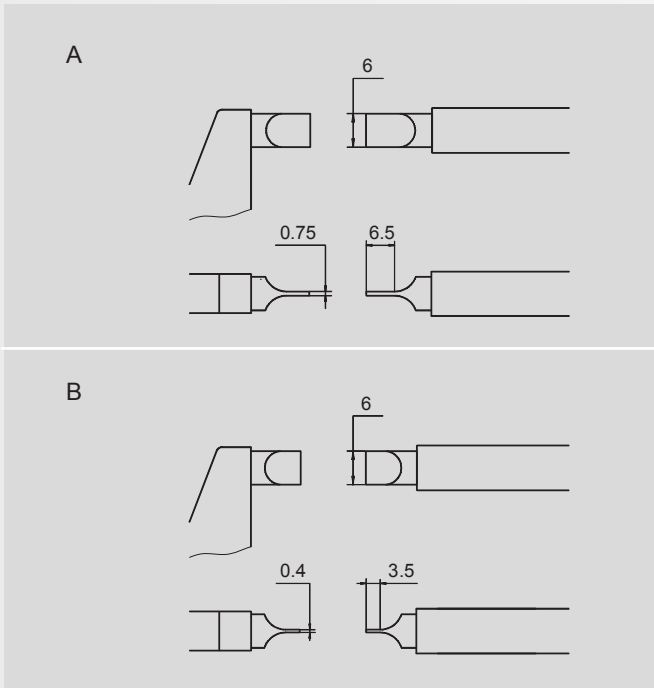
Blade Micrometers

- Feature:
- Blade measuring faces and non-rotating spindle.
 - Resolution: 0.01mm(Metric); 0.0001"(Inch).



201-21-000

						
Order No.	Range	Order No.	Range	Accuracy		
Metric		Inch				
Type A	Type B	Type A	Type B			
201-21-000	205-01-000	0-25mm	201-21-101	205-01-101	0-1"	0.004mm
201-22-000	205-02-000	25-50mm	201-22-101	205-02-101	1-2"	0.004mm
201-23-000	205-03-000	50-75mm	201-23-101	205-03-101	2-3"	0.005mm
201-24-000	205-04-000	75-100mm	201-24-101	205-04-101	3-4"	0.005mm
201-25-000	205-05-000	100-125mm	201-25-101	205-05-101	4-5"	0.006mm
201-26-000	205-06-000	125-150mm	201-26-101	205-06-101	5-6"	0.006mm
201-27-000	205-07-000	150-175mm	201-27-101	205-07-101	6-7"	0.007mm



Electronic Gear Root Diameter Micrometers

Feature:

- Wide measuring range with adjustable anvil
- High accuracy standard collars enable that reading does not have to be reset when adjusting collars.
- Carbide-tipped measuring faces.
- Pipe combined frame for light weight and high rigidity (over 200mm/8" range).



240-81-410

					
Order No.	Range	Order No.	Range	Accuracy	Point
Metric		Inch			
240-81-410	5-100mm	240-81-411	0.2-4"	±0.003mm	SR0.4mm
240-82-410	100-200mm	240-82-411	4-8"	±0.004mm	SR0.5mm
240-83-410	200-300mm	240-83-411	8-12"	±0.005mm	SR0.7mm
240-84-410	300-400mm	240-84-411	12-16"	±0.006mm	SR0.7mm
240-85-410	400-500mm	240-85-411	16-20"	±0.007mm	SR0.7mm
240-86-410	500-600mm	240-86-411	20-24"	±0.008mm	SR0.7mm
240-87-410	600-700mm	240-87-411	24-28"	±0.008mm	SR0.7mm
240-88-410	700-800mm	240-88-411	28-32"	±0.009mm	SR0.7mm
240-89-410	800-900mm	240-89-411	32-36"	±0.010mm	SR0.7mm

- Protection level **IP65**.
- Electronic system same as 142-XX-436 electronic outside micrometers.



290-81-410

					
Order No.	Range	Order No.	Range	Accuracy	Point
Metric		Inch			
290-81-410	5-100mm	290-81-411	0.2-4"	±0.003mm	SR0.4mm
290-82-410	100-200mm	290-82-411	4-8"	±0.004mm	SR0.5mm
290-83-410	200-300mm	290-83-411	8-12"	±0.005mm	SR0.7mm
290-84-410	300-400mm	290-84-411	12-16"	±0.006mm	SR0.7mm
290-85-410	400-500mm	290-85-411	16-20"	±0.007mm	SR0.7mm
290-86-410	500-600mm	290-86-411	20-24"	±0.008mm	SR0.7mm
290-87-410	600-700mm	290-87-411	24-28"	±0.008mm	SR0.7mm
290-88-410	700-800mm	290-88-411	28-32"	±0.009mm	SR0.7mm
290-89-410	800-900mm	290-89-411	32-36"	±0.010mm	SR0.7mm

- Protection level **IP65**.
- Electronic system same as 133-XX-416 electronic outside micrometers.

Gear Root Diameter Micrometers

- Feature:**
- Wide measuring range with adjustable anvil.
 - High accuracy standard collars enable that reading does not have to be reset when adjusting collars.
 - Carbide-tipped measuring faces.
 - Pipe combined frame for light weight and high rigidity (over 200mm/8" range).
 - Resolution: 0.01mm(Metric); 0.001"(Inch).



200-81-000

				
Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Ratchet stop				
200-81-000	5-100mm	200-81-001	0.2-4"	0.005mm
200-82-000	100-200mm	200-82-001	4-8"	0.007mm
200-83-000	200-300mm	200-83-001	8-12"	0.009mm
200-84-000	300-400mm	200-84-001	12-16"	0.011mm
200-85-000	400-500mm	200-85-001	16-20"	0.013mm
200-86-000	500-600mm	200-86-001	20-24"	0.015mm
200-87-000	600-700mm	200-87-001	24-28"	0.016mm
200-88-000	700-800mm	200-88-001	28-32"	0.018mm
200-89-000	800-900mm	200-89-001	32-36"	0.020mm



Electronic Disc Brake Micrometers

Feature:

- For measuring the depth of grooves on the disc of brake systems.
- Carbide measuring face with 60° point.



244-51-410

Order No.	Range	Order No.	Range	Accuracy	A	L
Metric		Inch				
244-51-410	7.6-33mm	244-51-411	0.3-1.3"	±0.002mm	29mm	64.5mm
244-52-410	25-50mm	244-52-411	1-2"	±0.002mm	29mm	82mm

- Protection level **IP65**.
- Electronic system same as 142-XX-436 electronic outside micrometers.



294-51-410

Order No.	Range	Order No.	Range	Accuracy	A	L
Metric		Inch				
294-51-410	7.6-33mm	294-51-411	0.3-1.3"	±0.002mm	29mm	64.5mm
294-52-410	25-50mm	294-52-411	1-2"	±0.002mm	29mm	82mm

- Protection level **IP65**.
- Electronic system same as 133-XX-416 electronic outside micrometers.

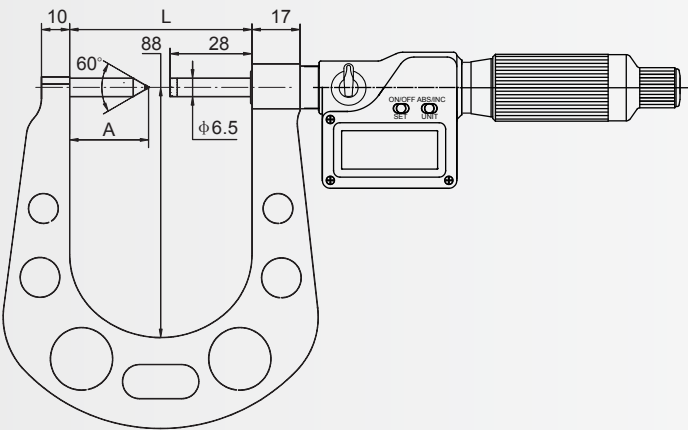
Disc Brake Micrometers

- Feature:
- For measuring the depth of grooves on the disc of brake systems.
 - Carbide measuring face with 60° point.
 - Resolution: 0.01mm(Metric);0.0001"(Inch).



204-51-000

				
Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Ratchet stop				
204-51-000	7.6-33mm	204-51-101	0.3-1.3"	0.004mm
204-52-000	25-50mm	204-52-101	1-2"	0.004mm



Dimensions

Range		A	L
Metric	Inch		
7.6-33mm	0.3-1.3"	29mm	64.5mm
25-50mm	1-2"	29mm	82mm



Electronic Deep Throat Micrometers

Feature:

- Deep throat frame for measuring thickness of sheet metal, paper and sheet plastic.
- Carbide measuring faces.
- Protection level **IP65**.
- Electronic system same as 142-XX-436 electronic outside micrometers.



243-01-410

 Order No. Metric			 Range	 Order No. Inch			 Range	 Accuracy
Type A	Type B	Type C		Type A	Type B	Type C		
Ratchet stop								
Throat depth: 50 mm								
243-01-410	243-01-510	243-01-610	0-25mm	243-01-411	243-01-511	243-01-611	0-1"	±0.002mm
243-02-410	243-02-510	243-02-610	25-50mm	243-02-411	243-02-511	243-02-611	1-2"	±0.002mm
Throat depth: 100 mm								
243-03-410	243-03-510	243-03-610	0-25mm	243-03-411	243-03-511	243-03-611	0-1"	±0.003mm
243-04-410	243-04-510	243-04-610	25-50mm	243-04-411	243-04-511	243-04-611	1-2"	±0.003mm
Throat depth: 150 mm								
243-05-410	243-05-510	243-05-610	0-25mm	243-05-411	243-05-511	243-05-611	0-1"	±0.003mm
243-06-410	243-06-510	243-06-610	25-50mm	243-06-411	243-06-511	243-06-611	1-2"	±0.003mm
Throat depth: 300 mm								
/	243-07-510	243-07-610	0-25mm	/	243-07-511	243-07-611	0-1"	±0.004mm
/	243-08-510	243-08-610	25-50mm	/	243-08-511	243-08-611	1-2"	±0.004mm



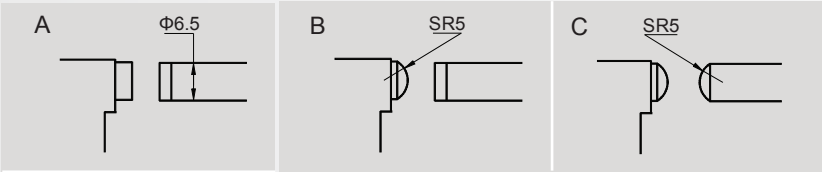
Electronic Deep Throat Micrometers

- Feature:**
- Deep throat frame for measuring thickness of sheet metal, paper and sheet plastic.
 - Carbide measuring faces.
 - Protection level **IP65**.
 - Electronic system same as 133-XX-416 electronic outside micrometers.



293-01-410

 Order No. Metric			 Range	 Order No. Inch			 Range	 Accuracy
Ratchet stop								
Type A	Type B	Type C		Type A	Type B	Type C		
Throat depth: 50 mm								
293-01-410	293-01-510	293-01-610	0-25mm	293-01-411	293-01-511	293-01-611	0-1"	±0.002mm
293-02-410	293-02-510	293-02-610	25-50mm	293-02-411	293-02-511	293-02-611	1-2"	±0.002mm
Throat depth: 100 mm								
293-03-410	293-03-510	293-03-610	0-25mm	293-03-411	293-03-511	293-03-611	0-1"	±0.003mm
293-04-410	293-04-510	293-04-610	25-50mm	293-04-411	293-04-511	293-04-611	1-2"	±0.003mm
Throat depth: 150 mm								
293-05-410	293-05-510	293-05-610	0-25mm	293-05-411	293-05-511	293-05-611	0-1"	±0.003mm
293-06-410	293-06-510	293-06-610	25-50mm	293-06-411	293-06-511	293-06-611	1-2"	±0.003mm
Throat depth: 300 mm								
/	293-07-510	293-07-610	0-25mm	/	293-07-511	293-07-611	0-1"	±0.004mm
/	293-08-510	293-08-610	25-50mm	/	293-08-511	293-08-611	1-2"	±0.004mm



Deep Throat Micrometers

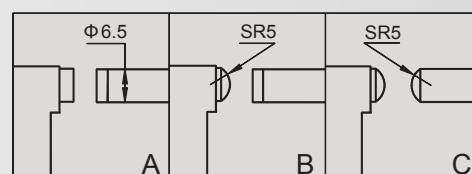


203-05-000

Feature:

- Deep throat frame for measuring thickness of sheet metal, paper and sheet plastic.
- Carbide measuring faces.
- Resolution: 0.01mm(Metric); 0.0001"(Inch).

Throat depth	Accuracy
50mm	0.004mm
100mm	0.005mm
150mm	0.006mm
300mm	0.007mm



Order No. Metric		Range		Order No. Inch		Range	
Ratchet stop							
Type A	Type B	Type C		Type A	Type B	Type C	
Throat depth: 50 mm							
203-01-000	203-11-000	203-21-000	0-25mm	203-01-101	203-11-101	203-21-101	0-1"
203-02-000	203-12-000	203-22-000	25-50mm	203-02-101	203-12-101	203-22-101	1-2"
Throat depth: 100 mm							
203-03-000	203-13-000	203-23-000	0-25mm	203-03-101	203-13-101	203-23-101	0-1"
203-04-000	203-14-000	203-24-000	25-50mm	203-04-101	203-14-101	203-24-101	1-2"
Throat depth: 150 mm							
203-05-000	203-15-000	203-25-000	0-25mm	203-05-101	203-15-101	203-25-101	0-1"
203-06-000	203-16-000	203-26-000	25-50mm	203-06-101	203-16-101	203-26-101	1-2"
Throat depth: 300 mm							
/	203-17-000	203-27-000	0-25mm	/	203-17-101	203-27-101	0-1"
/	203-18-000	203-28-000	25-50mm	/	203-18-101	203-28-101	1-2"



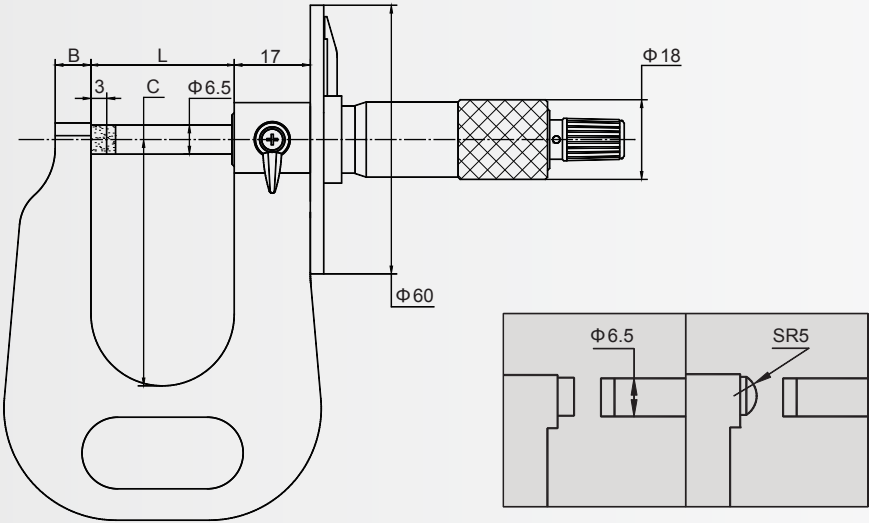
Sheet Metal Micrometers

- Feature:
- A dial is attached to the sleeve for making easy and quick reading of sheet metal thickness.
 - Carbide measuring faces.



207-02-010

					
Order No.	Range	Order No.	Range	Resolution	Accuracy
Metric					
Inch					
Ratchet stop					
Flat measuring faces					
207-01-010	0-15mm	207-01-011	0-0.6"	0.01mm	0.004mm
207-02-010	0-25mm	207-02-011	0-1"	0.01mm	0.004mm
207-03-010	0-50mm	207-03-011	0-2"	0.01mm	0.005mm
Spherical measuring faces					
207-31-010	0-15mm	207-31-011	0-0.6"	0.01mm	0.004mm
207-32-010	0-25mm	207-32-011	0-1"	0.01mm	0.004mm
207-33-010	0-50mm	207-33-011	0-2"	0.01mm	0.005mm



Range		L	B	C
Metric	Inch			
0-15mm	0-0.6"	22mm	8mm	50mm
0-25mm	0-1"	32mm	8mm	50mm
0-50mm	0-2"	57mm	12mm	100mm



Electronic Uni-Micrometers

Feature:

- Measuring tube thickness, shoulder-edge distance, rivet head height, etc. with interchangeable anvils (flat anvil and rod anvil) and measuring step height when removing anvils and clamp.



242-11-410

Order No.	Range	Order No.	Range	Accuracy	A	D
Metric		Inch				
242-11-410	0-25mm	242-11-411	0-1"	±0.002mm	28.5mm	Φ3mm
242-12-410	25-50mm	242-12-411	1-2"	±0.002mm	53.5mm	Φ5mm

- Protection level **IP65**.
- Electronic system same as 142-XX-436 electronic outside micrometers.

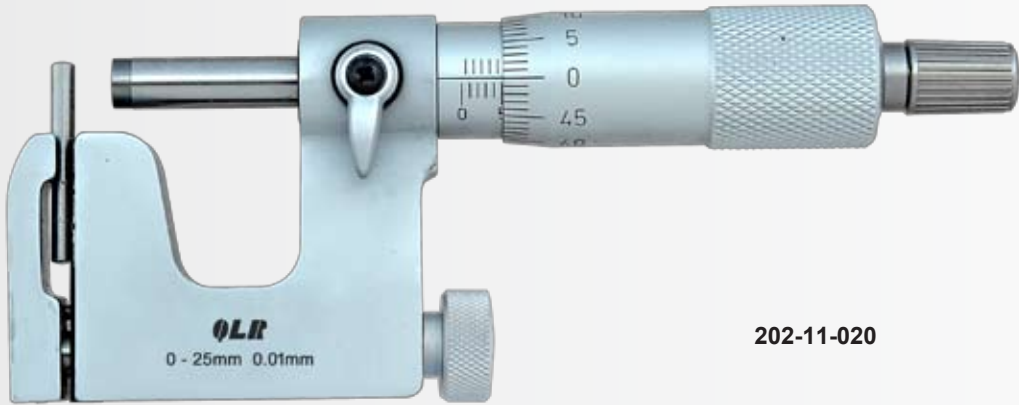


292-11-410

Order No.	Range	Order No.	Range	Accuracy	A	D
Metric		Inch				
292-11-410	0-25mm	292-11-411	0-1"	±0.002mm	28.5mm	Φ3mm
292-12-410	25-50mm	292-12-411	1-2"	±0.002mm	53.5mm	Φ5mm

- Protection level **IP65**.
- Electronic system same as 133-XX-416 electronic outside micrometers.

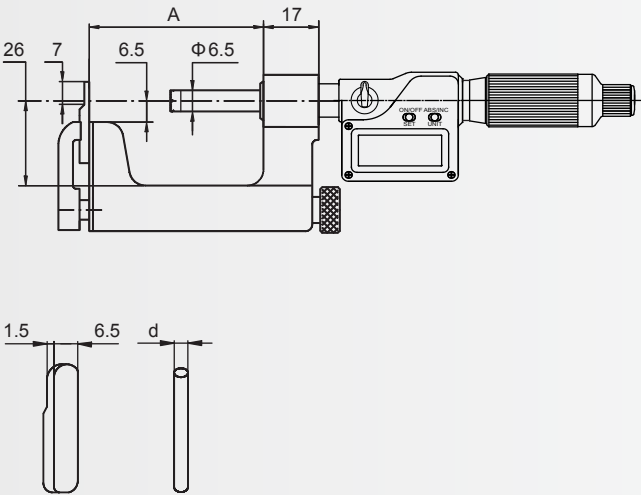
Uni-Micrometers



- Feature:**
- Measuring tube thickness, shoulder-edge distance, rivet head height, etc. with interchangeable anvils (flat anvil and rod anvil) and measuring step height when removing anvils and clamp.
 - Resolution: 0.01mm(Metric); 0.0001"(Inch).

202-11-020

						
Order No.	Range	Order No.	Range	Accuracy	A	d
Metric						
Inch						
Friction thimble						
202-11-020	0-25mm	202-11-121	0-1"	0.004mm	28.5mm	Φ3mm
202-12-020	25-50mm	202-12-121	1-2"	0.004mm	53.5mm	Φ5mm



Electronic Gear Micrometers

Feature:

- Interchangeable ball tips for various gear modules (0.6~3.5) are optional.



247-11-410
F0708 Anvils

Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
247-11-410	0-25mm	247-11-411	0-1"	±0.002mm
247-12-410	25-50mm	247-12-411	1-2"	±0.002mm
247-13-410	50-75mm	247-13-411	2-3"	±0.003mm
247-14-410	75-100mm	247-14-411	3-4"	±0.003mm
247-15-410	100-125mm	247-15-411	4-5"	±0.003mm
247-16-410	125-150mm	247-16-411	5-6"	±0.003mm
247-17-410	150-175mm	247-17-411	6-7"	±0.004mm

- Protection level **IP65**.
- Electronic system same as 142-XX-436 electronic outside micrometers.



297-11-410
F0707 Anvils

Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
297-11-410	0-25mm	297-11-411	0-1"	±0.002mm
297-12-410	25-50mm	297-12-411	1-2"	±0.002mm
297-13-410	50-75mm	297-13-411	2-3"	±0.003mm
297-14-410	75-100mm	297-14-411	3-4"	±0.003mm
297-15-410	100-125mm	297-15-411	4-5"	±0.003mm
297-16-410	125-150mm	297-16-411	5-6"	±0.003mm
297-17-410	150-175mm	297-17-411	6-7"	±0.004mm

- Protection level **IP65**.
- Electronic system same as 133-XX-416 electronic outside micrometers.

Gear Micrometers

- Feature:
- Interchangeable ball tips for various gear modules (0.6~3.5) are optional.
 - Resolution: 0.01mm(Metric);0.001"(Inch).

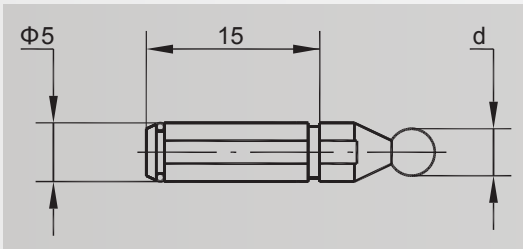


207-11-000
F0709 Anvils

				
Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Ratchet stop				
207-11-000	0-25mm	207-11-001	0-1"	0.004mm
207-12-000	25-50mm	207-12-001	1-2"	0.004mm
207-13-000	50-75mm	207-13-001	2-3"	0.005mm
207-14-000	75-100mm	207-14-001	3-4"	0.005mm
207-15-000	100-125mm	207-15-001	4-5"	0.006mm
207-16-000	125-150mm	207-16-001	5-6"	0.006mm
207-17-000	150-175mm	207-17-001	6-7"	0.007mm



Interchangeable Anvils (Optional)			
Order No.	Ball dia.	Module	Diametral pitch
F0701	Φ1mm	0.6-0.65	45
F0702	Φ1.5mm	0.9-1.0	28-26
F0703	Φ2.0mm	1.25	22
F0704	Φ2.5mm	1.5	17
F0705	Φ3.0mm	1.75	15
F0706	Φ3.5mm	2	13
F0707	Φ4.0mm	2.25	11
F0708	Φ4.5mm	2.5	10
F0709	Φ5.0mm	2.75	9
F0710	Φ6.0mm	3.5	7
F0700	Sets		



F07XX

Electronic Large Anvil Micrometers

Feature:

- Large anvil for measuring tooth width of side milling cutter.



243-61-410

					A
Order No.	Range	Order No.	Range	Accuracy	
Metric		Inch			
243-61-410	0-25mm	243-61-411	0-1"	±0.002mm	50mm
243-62-410	25-50mm	243-62-411	1-2"	±0.002mm	60mm

- Protection level **IP65**.
- Electronic system same as 142-XX-436 electronic outside micrometers.



293-61-410

					A
Order No.	Range	Order No.	Range	Accuracy	
Metric		Inch			
293-61-410	0-25mm	293-61-411	0-1"	±0.002mm	50mm
293-62-410	25-50mm	293-62-411	1-2"	±0.002mm	60mm

- Protection level **IP65**.
- Electronic system same as 133-XX-416 electronic outside micrometers.

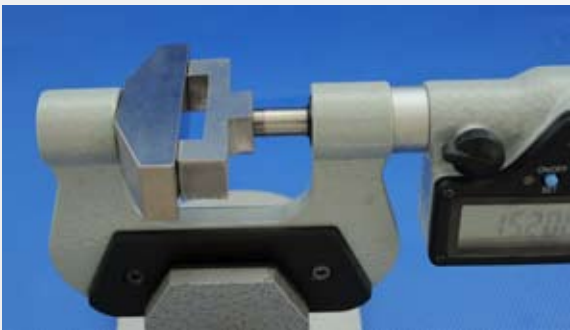
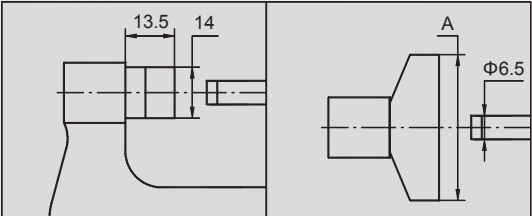
Large Anvil Micrometers

- Feature:**
- Large anvil for measuring tooth width of side milling cutter.
 - Resolution: 0.01mm(Metric);0.0001"(Inch).



203-61-000

					
Order No.	Range	Order No.	Range	Accuracy	A
Metric		Inch			
Ratchet stop					
203-61-000	0-25mm	203-61-101	0-1"	0.004mm	50mm
203-62-000	25-50mm	203-62-101	1-2"	0.004mm	60mm



Electronic Screw Thread Micrometers

Feature:

- 60° or 55° V-shaped and con-shaped anvils (interchangeable) are available.
- Dimension of anvil-tail: $\Phi 5 \times 15 \text{mm}$ (Seeing page E7).



240-91-410

				
Order No.	Range	Order No.	Range	Accuracy
	Metric		Inch	
240-91-410	0-25mm	240-91-411	0-1"	$\pm 0.002 \text{mm}$
240-92-410	25-50mm	240-92-411	1-2"	$\pm 0.002 \text{mm}$
240-93-410	50-75mm	240-93-411	2-3"	$\pm 0.002 \text{mm}$
240-94-410	75-100mm	240-94-411	3-4"	$\pm 0.003 \text{mm}$
240-95-410	100-125mm	240-95-411	4-5"	$\pm 0.003 \text{mm}$
240-96-410	125-150mm	240-96-411	5-6"	$\pm 0.003 \text{mm}$
240-97-410	150-175mm	240-97-411	6-7"	$\pm 0.003 \text{mm}$
240-98-410	175-200mm	240-98-411	7-8"	$\pm 0.003 \text{mm}$

- Protection level **IP65**.
- Electronic system same as 142-XX-436 electronic outside micrometers.



290-91-410

				
Order No.	Range	Order No.	Range	Accuracy
	Metric		Inch	
290-91-410	0-25mm	290-91-411	0-1"	$\pm 0.002 \text{mm}$
290-92-410	25-50mm	290-92-411	1-2"	$\pm 0.002 \text{mm}$
290-93-410	50-75mm	290-93-411	2-3"	$\pm 0.002 \text{mm}$
290-94-410	75-100mm	290-94-411	3-4"	$\pm 0.003 \text{mm}$
290-95-410	100-125mm	290-95-411	4-5"	$\pm 0.003 \text{mm}$
290-96-410	125-150mm	290-96-411	5-6"	$\pm 0.003 \text{mm}$
290-97-410	150-175mm	290-97-411	6-7"	$\pm 0.003 \text{mm}$
290-98-410	175-200mm	290-98-411	7-8"	$\pm 0.003 \text{mm}$

- Protection level **IP65**.
- Electronic system same as 133-XX-416 electronic outside micrometers.

Screw Thread Micrometers

- Feature:
- 60° or 55° V-shaped and con-shaped anvils (interchangeable) are available.
 - Dimension of anvil-tail: Φ5X15mm
 - Resolution: 0.01mm(Metric);0.001"(Inch).

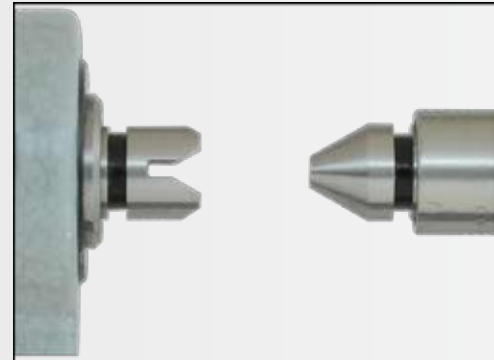


200-91-000
F0303 Anvils

				
Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Ratchet stop				
200-91-000	0-25mm	200-91-101	0-1"	0.004mm
200-92-000	25-50mm	200-92-101	1-2"	0.004mm
200-93-000	50-75mm	200-93-101	2-3"	0.005mm
200-94-000	75-100mm	200-94-101	3-4"	0.005mm
200-95-000	100-125mm	200-95-101	4-5"	0.006mm
200-96-000	125-150mm	200-96-101	5-6"	0.006mm
200-97-000	150-175mm	200-97-101	6-7"	0.007mm
200-98-000	175-200mm	200-98-101	7-8"	0.007mm

V-shaped and con-shaped anvils				
Order No.	Pitch	Order No.	Pitch	
Metric screw (60°thread)		Whitworth screw (55°thread)		
F0300	F0301	0.4-0.5mm /64-48TPI	F0401	60-48TPI
	F0302	0.6-0.9mm /44-28TPI	F0402	48-40TPI
	F0303	1-1.75mm /24-14TPI	F0403	40-32TPI
	F0304	2-3mm /13-9TPI	F0404	32-24TPI
	F0305	3.5-5mm /8-5TPI	F0405	24-18TPI
	F0306	5.5-7mm /4.5-3.5TPI	F0406	18-14TPI
			F0407	14-10TPI
			F0408	10- 7 TPI
			F0409	7-4.5TPI
			F0410	4.5-3.5TPI

Con-shaped anvils



Electronic Screw Thread Micrometers (Non-rotating spindle)

Feature:

- 60° or 55° V-shaped and knife-edged anvils (interchangeable) are optional.
- Dimension of anvil-tail: $\Phi 5 \times 15$ mm.



245-91-410

				
Order No.	Range	Order No.	Range	Accuracy
	Metric		Inch	
245-91-410	0-25mm	245-91-411	0-1"	± 0.002 mm
245-92-410	25-50mm	245-92-411	1-2"	± 0.002 mm
245-93-410	50-75mm	245-93-411	2-3"	± 0.002 mm
245-94-410	75-100mm	245-94-411	3-4"	± 0.003 mm
245-95-410	100-125mm	245-95-411	4-5"	± 0.003 mm
245-96-410	125-150mm	245-96-411	5-6"	± 0.003 mm
245-97-410	150-175mm	245-97-411	6-7"	± 0.003 mm
245-98-410	175-200mm	245-98-411	7-8"	± 0.003 mm

- Protection level **IP65**.
- Electronic system same as 142-XX-436 electronic outside micrometers.



295-91-410

				
Order No.	Range	Order No.	Range	Accuracy
	Metric		Inch	
295-91-410	0-25mm	295-91-411	0-1"	± 0.002 mm
295-92-410	25-50mm	295-92-411	1-2"	± 0.002 mm
295-93-410	50-75mm	295-93-411	2-3"	± 0.002 mm
295-94-410	75-100mm	295-94-411	3-4"	± 0.003 mm
295-95-410	100-125mm	295-95-411	4-5"	± 0.003 mm
295-96-410	125-150mm	295-96-411	5-6"	± 0.003 mm
295-97-410	150-175mm	295-97-411	6-7"	± 0.003 mm
295-98-410	175-200mm	295-98-411	7-8"	± 0.003 mm

- Protection level **IP65**.
- Electronic system same as 133-XX-416 electronic outside micrometers.

Screw Thread Micrometers
(Non-rotating spindle)

- Feature:
- 60° or 55° V-shaped and knife-edged anvils (interchangeable) are optional.
 - Dimension of anvil-tail: Φ5X15mm.
 - Resolution: 0.01mm(Metric);0.001"(Inch).



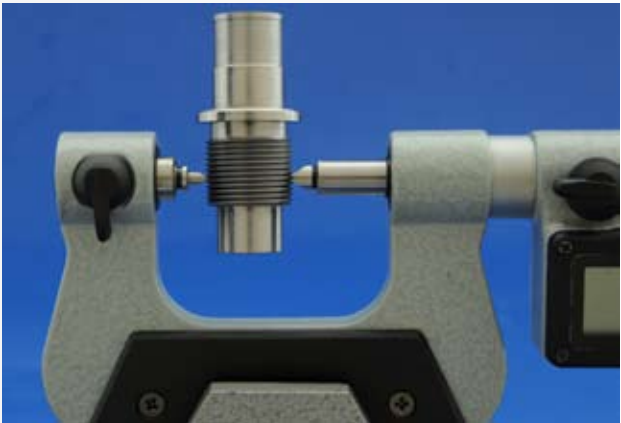
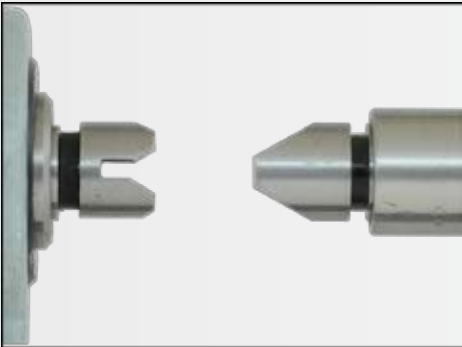
250-91-000

 Order No.	 Range	 Order No.	 Range	 Accuracy
Metric		Inch		
Ratchet stop				
250-91-000	0-25mm	250-91-101	0-1"	0.004mm
250-92-000	25-50mm	250-92-101	1-2"	0.004mm
250-93-000	50-75mm	250-93-101	2-3"	0.005mm
250-94-000	75-100mm	250-94-101	3-4"	0.005mm
250-95-000	100-125mm	250-95-101	4-5"	0.006mm
250-96-000	125-150mm	250-96-101	5-6"	0.006mm
250-97-000	150-175mm	250-97-101	6-7"	0.007mm
250-98-000	175-200mm	250-98-101	7-8"	0.007mm

V-shaped and knife-edged anvils (Optional)				
Metric screw (60°thread)		Whitworth screw (55°thread)		
Order No.	Pitch	Order No.	Pitch	
F0100	F0101	F0200	F0201	60-48TPI
	0.4-0.5mm /64-48TPI		F0202	48-40TPI
	F0102		F0203	40-32TPI
	0.6-0.9mm /44-28TPI		F0204	32-24TPI
	F0103		F0205	24-18TPI
	1-1.75mm /24-14TPI		F0206	18-14TPI
F0100	F0104		F0207	14-10TPI
	2-3mm /13-9TPI		F0208	10- 7 TPI
	F0105		F0209	7-4.5TPI
	3.5-5mm /8-5TPI		F0210	4.5-3.5TPI
F0100	F0106			
	5.5-7mm /4.5-3.5TPI			



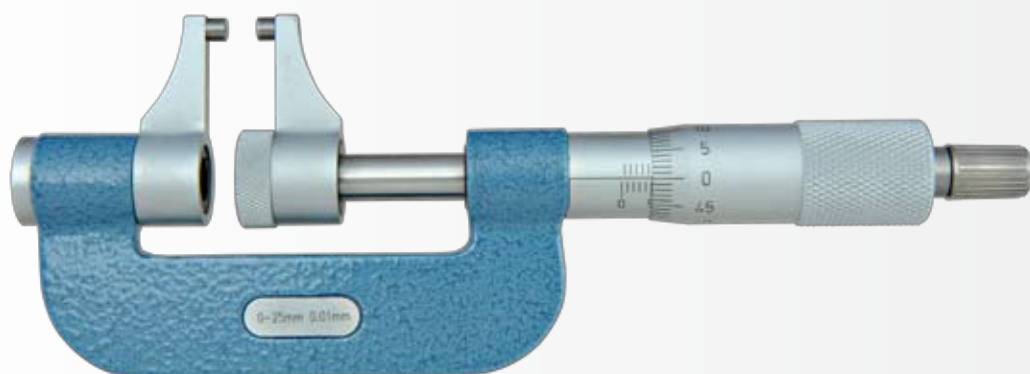
Knife-edged anvils



Caliper Type Micrometers

Feature:

- This outside micrometers enables the measuring of hard-to-reach parts.
- Spherical carbide measuring faces.
- Resolution: 0.01mm(Metric);0.001"(Inch).

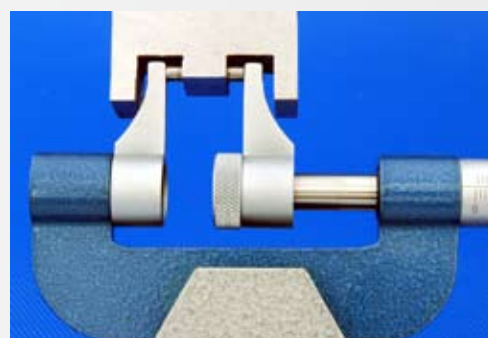
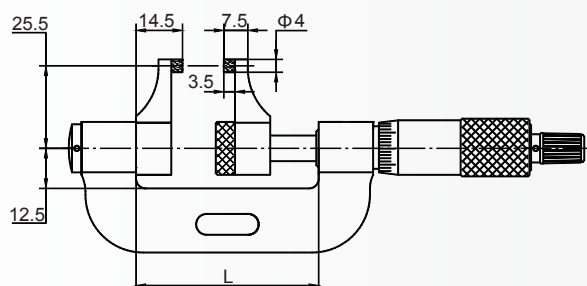


152-01-000

				
Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Ratchet stop				
152-01-000	0-25mm	152-01-001	0-1"	±0.005mm
152-02-000	25-50mm	152-02-001	1-2"	±0.006mm
152-03-000	50-75mm	152-03-001	2-3"	±0.007mm
152-04-000	75-100mm	152-04-001	3-4"	±0.008mm

Dimensions

Range	L
0-25mm	56mm
25-50mm	81mm
50-75mm	106mm
75-100mm	131mm



Electronic Vertical Micrometers



247-01-410

- Feature:
- Vertical micrometers for measuring thickness of sheet metal and sheet plastic.
 - Carbide measuring faces.



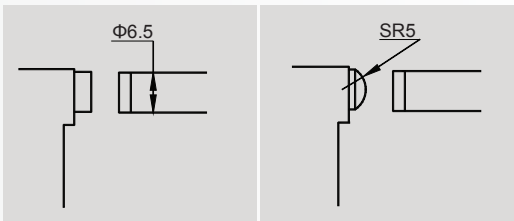
- Protection level **IP65**.
- Electronic system same as 142-XX-436 electronic outside micrometers.



				
Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Flat measuring faces				
247-01-410	0-25mm	247-01-411	0-1"	±0.002mm
247-02-410	25-50mm	247-02-411	1-2"	±0.002mm
Spherical measuring faces				
247-31-410	0-25mm	247-31-411	0-1"	±0.002mm
247-32-410	25-50mm	247-32-411	1-2"	±0.002mm



207-01-410



- Protection level **IP65**.
- Electronic system same as 133-XX-416 electronic outside micrometers.



				
Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Flat measuring faces				
207-01-410	0-25mm	207-01-411	0-1"	±0.002mm
207-02-410	25-50mm	207-02-411	1-2"	±0.002mm
Spherical measuring faces				
207-31-410	0-25mm	207-31-411	0-1"	±0.002mm
207-32-410	25-50mm	207-32-411	1-2"	±0.002mm

Electronic Universal Micrometers (Non-rotating spindle)

Feature:

- With 7 pairs of interchangeable anvils (flat, spherical, spline, disk, blade, point and knife-edge), for a wide range of applications.
- Interchangeable anvils seeing page D35.



243-51-410
F0501 Anvils

Order No.	Range	Order No.	Range	Accuracy	C	L
Metric		Inch				
243-51-410	0-25mm	243-51-411	0-1"	±0.002mm	26mm	42mm
243-52-410	25-50mm	243-52-411	1-2"	±0.002mm	38mm	67mm
243-53-410	50-75mm	243-53-411	2-3"	±0.003mm	50mm	92mm
243-54-410	75-100mm	243-54-411	3-4"	±0.003mm	62mm	118mm
243-55-410	100-125mm	243-55-411	4-5"	±0.003mm	70mm	143mm
243-56-410	125-150mm	243-56-411	5-6"	±0.003mm	82mm	168mm
243-57-410	150-175mm	243-57-411	6-7"	±0.004mm	95mm	192mm
243-58-410	175-200mm	243-58-411	7-8"	±0.004mm	107mm	217mm

- Electronic system same as 142-XX-436 electronic outside micrometers.



293-51-410
F0504 Anvils

Order No.	Range	Order No.	Range	Accuracy	C	L
Metric		Inch				
293-51-410	0-25mm	293-51-411	0-1"	±0.002mm	26mm	42mm
293-52-410	25-50mm	293-52-411	1-2"	±0.002mm	38mm	67mm
293-53-410	50-75mm	293-53-411	2-3"	±0.003mm	50mm	92mm
293-54-410	75-100mm	293-54-411	3-4"	±0.003mm	62mm	118mm
293-55-410	100-125mm	293-55-411	4-5"	±0.003mm	70mm	143mm
293-56-410	125-150mm	293-56-411	5-6"	±0.003mm	82mm	168mm
293-57-410	150-175mm	293-57-411	6-7"	±0.004mm	95mm	192mm
293-58-410	175-200mm	293-58-411	7-8"	±0.004mm	107mm	217mm

- Electronic system same as 133-XX-416 electronic outside micrometers.

Universal Micrometers

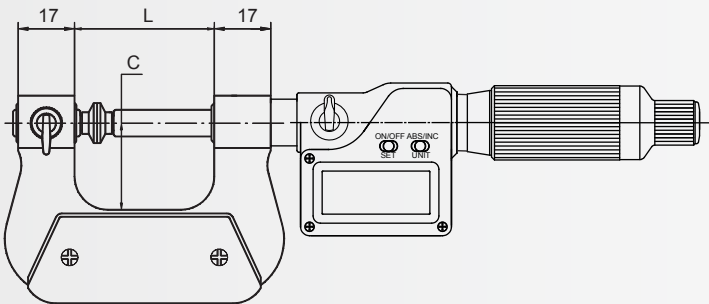
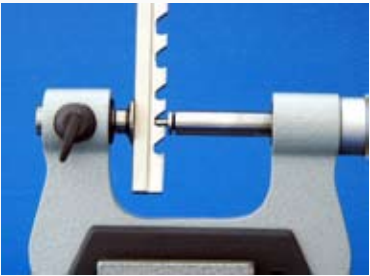
Feature:

- With 7 pairs of interchangeable anvils (flat, spherical, spline, disk, blade, point and knife-edge),for a wide range of applications.
- Interchangeable anvils seeing page 35.



253-51-000
F0506 Anvils

 N°		 N°		
Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Ratchet stop				
253-51-000	0-25mm	253-51-101	0-1"	0.004mm
253-52-000	25-50mm	253-52-101	1-2"	0.004mm
253-53-000	50-75mm	253-53-101	2-3"	0.005mm
253-54-000	75-100mm	253-54-101	3-4"	0.005mm
253-55-000	100-125mm	253-55-101	4-5"	0.006mm
253-56-000	125-150mm	253-56-101	5-6"	0.006mm
253-57-000	150-175mm	253-57-101	6-7"	0.007mm
253-58-000	175-200mm	253-58-101	7-8"	0.007mm



Dimensions

Range		C	L
Metric	Inch		
0-25mm	0-1"	26mm	42mm
25-50mm	1-2"	38mm	67mm
50-75mm	2-3"	50mm	92mm
75-100mm	3-4"	62mm	118mm
100-125mm	4-5"	70mm	143mm
125-150mm	5-6"	82mm	168mm
150-175mm	6-7"	95mm	192mm
175-200mm	7-8"	107mm	217mm

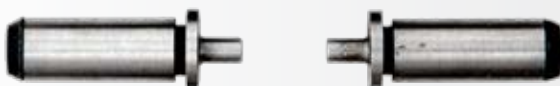
Universal Anvils



Flat



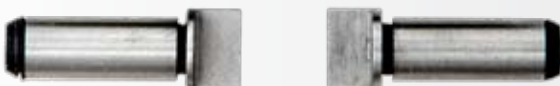
Spherical



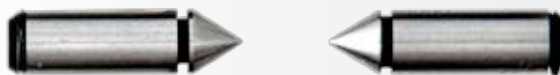
Spline



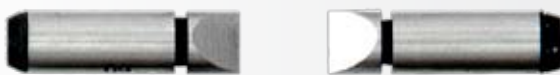
Disk



Blade



Point



Knife-edge

Interchangeable Anvils

Order No.	Anvils	Type
F0501	Flat	
F0502	Spherical	
F0503	Spline	
F0504	Disk	
F0505	Blade	
60°: F0506 55°: F0606	Point	
60°: F0507 55°: F0607	Knife-edge	
F0500	F0501、F0502、F0503、F0504、F0505、F0506、F0507	
F0600	F0501、F0502、F0503、F0504、F0505、F0606、F0607	

Electronic V-Anvil Micrometers

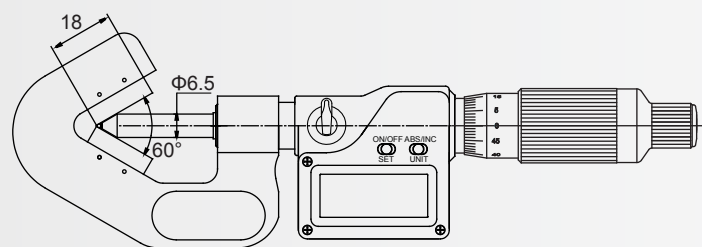


IP65

291-41-410

Feature:

- Measuring diameter of cylinder with an odd number flutes, such as taps, reamers, end mills.
- Carbide measuring faces.
- Protection level IP65.
- Electronic system same as 133-XX-416 electronic outside micrometers.
- 1-15mm, with pointed tip on spindle.

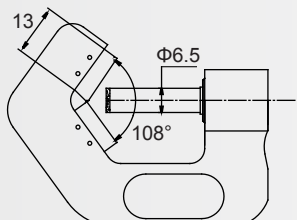


3 Flutes

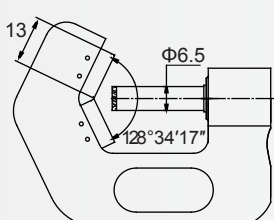
V-Anvil Micrometers



201-41-000



5 Flutes



7 Flutes



				
Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
3 Flutes				
291-41-410	1-15mm	291-41-411	0.04-0.6"	±0.002mm
291-42-410	5-20mm	291-42-411	0.2-0.8"	±0.002mm
291-43-410	20-35mm	291-43-411	0.8-1.4"	±0.003mm
291-44-410	35-50mm	291-44-411	1.4-2.0"	±0.003mm
291-45-410	50-65mm	291-45-411	2.0-2.6"	±0.003mm
291-46-410	65-80mm	291-46-411	2.6-3.2"	±0.003mm
291-47-410	80-95mm	291-47-411	3.2-3.8"	±0.004mm
291-81-410	2.3-25mm	291-81-411	0.09-1"	±0.002mm
291-82-410	25-50mm	291-82-411	1-2"	±0.003mm
5 Flutes				
291-51-410	5-25mm	291-51-411	0.2-1.0"	±0.002mm
291-52-410	25-45mm	291-52-411	1.0-1.8"	±0.003mm
291-53-410	45-65mm	291-53-411	1.8-2.6"	±0.003mm
291-54-410	65-85mm	291-54-411	2.6-3.4"	±0.004mm
291-55-410	85-105mm	291-55-411	3.4-4.2"	±0.004mm
7 Flutes				
291-61-410	5-25mm	291-61-411	0.2-1.0"	±0.002mm
291-62-410	25-45mm	291-62-411	1.0-1.8"	±0.003mm
291-63-410	45-65mm	291-63-411	1.8-2.6"	±0.003mm
291-64-410	65-85mm	291-64-411	2.6-3.4"	±0.004mm

- Resolution:0.01mm(Metric); 0.001"(Inch).

				
Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Ratchet stop				
3 Flutes				
201-41-000	1-15mm	201-41-001	0.04-0.6"	0.004mm
201-42-000	5-20mm	201-42-001	0.2-0.8"	0.004mm
201-43-000	20-35mm	201-43-001	0.8-1.4"	0.005mm
201-44-000	35-50mm	201-44-001	1.4-2.0"	0.005mm
201-45-000	50-65mm	201-45-001	2.0-2.6"	0.006mm
201-46-000	65-80mm	201-46-001	2.6-3.2"	0.006mm
201-47-000	80-95mm	201-47-001	3.2-3.8"	0.007mm
201-41-200	2.3-25mm	201-41-201	0.09-1"	0.004mm
201-42-200	25-50mm	201-42-201	1-2"	0.005mm
5 Flutes				
201-51-000	5-25mm	201-51-001	0.2-1.0"	0.004mm
201-52-000	25-45mm	201-52-001	1.0-1.8"	0.005mm
201-53-000	45-65mm	201-53-001	1.8-2.6"	0.006mm
201-54-000	65-85mm	201-54-001	2.6-3.4"	0.007mm
201-55-000	85-105mm	201-55-001	3.4-4.2"	0.008mm
7 Flutes				
201-61-000	5-25mm	201-61-001	0.2-1.0"	0.004mm
201-62-000	25-45mm	201-62-001	1.0-1.8"	0.005mm
201-63-000	45-65mm	201-63-001	1.8-2.6"	0.006mm
201-64-000	65-85mm	201-64-001	2.6-3.4"	0.007mm

Electronic Jaw Type Micrometers

Feature:

- Non-rotating spindle.
- Jaw type measuring faces.



241-01-410

Order No.	Range	Order No.	Range	Accuracy	D	d
Metric		Inch				
241-01-410	0-25mm	241-01-411	0-1"	0.004mm	R10mm	Φ8mm
241-02-410	25-50mm	241-02-411	1-2"	0.004mm	R10mm	Φ8mm
241-03-410	50-75mm	241-03-411	2-3"	0.005mm	R10mm	Φ8mm
241-04-410	75-100mm	241-04-411	3-4"	0.005mm	R10mm	Φ8mm
241-05-410	100-125mm	241-05-411	4-5"	0.006mm	R15mm	Φ12mm
241-06-410	125-150mm	241-06-411	5-6"	0.006mm	R15mm	Φ12mm
241-07-410	150-175mm	241-07-411	6-7"	0.007mm	R15mm	Φ12mm
241-08-410	175-200mm	241-08-411	7-8"	0.007mm	R15mm	Φ12mm

- Electronic system same as 142-XX-436 electronic outside micrometers.



291-01-410

Order No.	Range	Order No.	Range	Accuracy	D	d
Metric		Inch				
291-01-410	0-25mm	291-01-411	0-1"	0.004mm	R10mm	Φ8mm
291-02-410	25-50mm	291-02-411	1-2"	0.004mm	R10mm	Φ8mm
291-03-410	50-75mm	291-03-411	2-3"	0.005mm	R10mm	Φ8mm
291-04-410	75-100mm	291-04-411	3-4"	0.005mm	R10mm	Φ8mm
291-05-410	100-125mm	291-05-411	4-5"	0.006mm	R15mm	Φ12mm
291-06-410	125-150mm	291-06-411	5-6"	0.006mm	R15mm	Φ12mm
291-07-410	150-175mm	291-07-411	6-7"	0.007mm	R15mm	Φ12mm
291-08-410	175-200mm	291-08-411	7-8"	0.007mm	R15mm	Φ12mm

- Electronic system same as 133-XX-416 electronic outside micrometers.

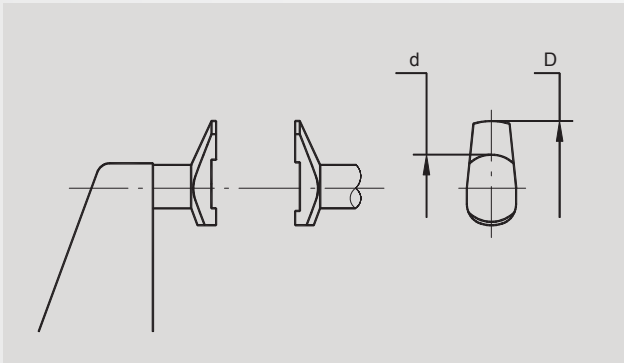
Jaw Type Micrometers

- Feature:
- Non-rotating spindle.
 - Jaw type measuring faces.
 - Resolution: 0.01mm(Metric); 0.0001"(Inch).



201-01-000

						
Order No.	Range	Order No.	Range	Accuracy	D	d
Metric		Inch				
Ratchet stop						
201-01-000	0-25mm	201-01-101	0-1"	0.004mm	R10mm	Φ8mm
201-02-000	25-50mm	201-02-101	1-2"	0.004mm	R10mm	Φ8mm
201-03-000	50-75mm	201-03-101	2-3"	0.005mm	R10mm	Φ8mm
201-04-000	75-100mm	201-04-101	3-4"	0.005mm	R10mm	Φ8mm
201-05-000	100-125mm	201-05-101	4-5"	0.006mm	R15mm	Φ12mm
201-06-000	125-150mm	201-06-101	5-6"	0.006mm	R15mm	Φ12mm
201-07-000	150-175mm	201-07-101	6-7"	0.007mm	R15mm	Φ12mm
201-08-000	175-200mm	201-08-101	7-8"	0.007mm	R15mm	Φ12mm



Electronic Disk Micrometers (Non-rotating spindle)

Feature:

- Non-rotating spindle.
- Disk measuring faces for measuring gears and paper thickness.



240-21-410

 Order No.	 Range	 Order No.	 Range	 Accuracy
Metric		Inch		
240-21-410	0-25mm	240-21-411	0-1"	0.004mm
240-22-410	25-50mm	240-22-411	1-2"	0.004mm
240-23-410	50-75mm	240-23-411	2-3"	0.005mm
240-24-410	75-100mm	240-24-411	3-4"	0.005mm
240-25-410	100-125mm	240-25-411	4-5"	0.006mm
240-26-410	125-150mm	240-26-411	5-6"	0.006mm
240-27-410	150-175mm	240-27-411	6-7"	0.007mm
240-28-410	175-200mm	240-28-411	7-8"	0.007mm

- Electronic system same as 142-XX-436 electronic outside micrometers.



290-21-410

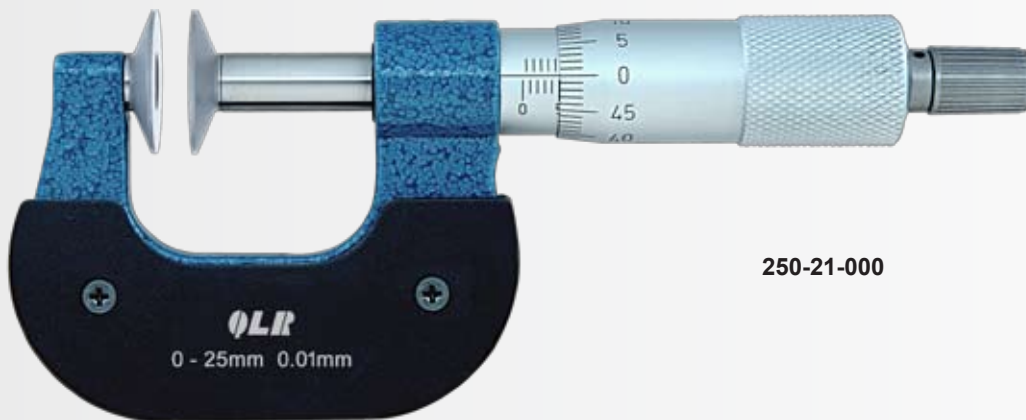
 Order No.	 Range	 Order No.	 Range	 Accuracy
Metric		Inch		
290-21-410	0-25mm	290-21-411	0-1"	0.004mm
290-22-410	25-50mm	290-22-411	1-2"	0.004mm
290-23-410	50-75mm	290-23-411	2-3"	0.005mm
290-24-410	75-100mm	290-24-411	3-4"	0.005mm
290-25-410	100-125mm	290-25-411	4-5"	0.006mm
290-26-410	125-150mm	290-26-411	5-6"	0.006mm
290-27-410	150-175mm	290-27-411	6-7"	0.007mm
290-28-410	175-200mm	290-28-411	7-8"	0.007mm

- Electronic system same as 133-XX-416 electronic outside micrometers.

Disk Micrometers(Non-rotating spindle)

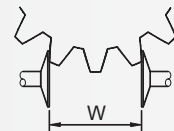
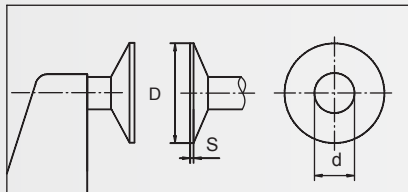
Feature:

- Non-rotating spindle.
- Disk measuring faces for measuring gears and paper thickness.
- Resolution: 0.01mm(Metric); 0.0001"(Inch).

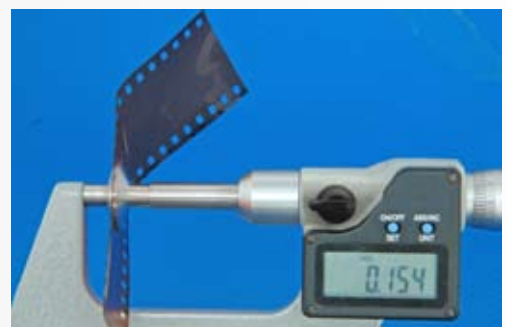
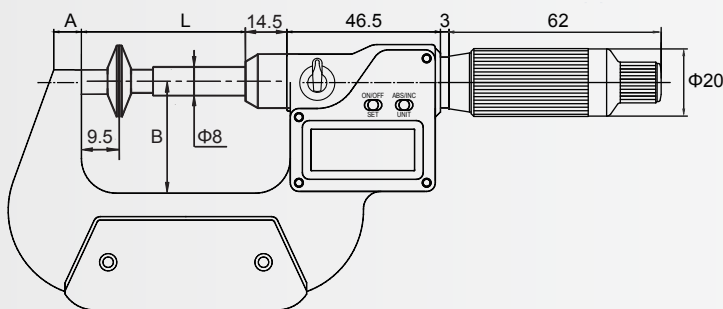


250-21-000

				
Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Ratchet stop				
250-21-000	0-25mm	250-21-101	0-1"	0.004mm
250-22-000	25-50mm	250-22-101	1-2"	0.004mm
250-23-000	50-75mm	250-23-101	2-3"	0.005mm
250-24-000	75-100mm	250-24-101	3-4"	0.005mm
250-25-000	100-125mm	250-25-101	4-5"	0.006mm
250-26-000	125-150mm	250-26-101	5-6"	0.006mm
250-27-000	150-175mm	250-27-101	6-7"	0.007mm
250-28-000	175-200mm	250-28-101	7-8"	0.007mm



W=Root tangent length



Dimensions

Range	A	B	L	D	S	d
0-25mm/0-1"	8mm	32mm	43mm	Φ20mm	0.7mm	Φ8mm
25-50mm/1-2"	8mm	44.5mm	68mm	Φ20mm	0.7mm	Φ8mm
50-75mm/2-3"	8mm	57mm	93mm	Φ20mm	0.7mm	Φ8mm
75-100mm/3-4"	10mm	70mm	118.5mm	Φ20mm	0.7mm	Φ8mm
100-125mm/4-5"	10mm	82mm	144mm	Φ30mm	0.9mm	Φ12mm
125-150mm/5-6"	12mm	94.5mm	169.5mm	Φ30mm	0.9mm	Φ12mm
150-175mm/6-7"	12mm	107mm	194.8mm	Φ30mm	0.9mm	Φ12mm
175-200mm/7-8"	12mm	120mm	220mm	Φ30mm	0.9mm	Φ12mm

Disk Micrometers

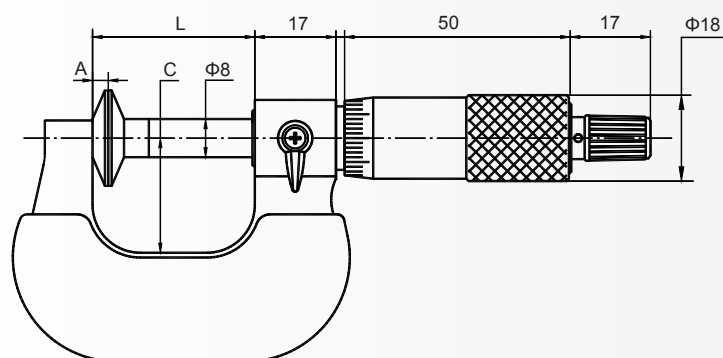
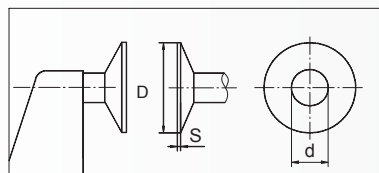
Feature:

- Disk measuring faces for measuring gears and paper thickness.
- Resolution: 0.01mm(Metric); 0.0001"(Inch).



200-21-000

 Order No.	 Range	 Order No.	 Range	 Accuracy
Metric		Inch		
Ratchet stop				
200-21-000	0-25mm	200-21-101	0-1"	0.004mm
200-22-000	25-50mm	200-22-101	1-2"	0.004mm
200-23-000	50-75mm	200-23-101	2-3"	0.005mm
200-24-000	75-100mm	200-24-101	3-4"	0.005mm
200-25-000	100-125mm	200-25-101	4-5"	0.006mm
200-26-000	125-150mm	200-26-101	5-6"	0.006mm
200-27-000	150-175mm	200-27-101	6-7"	0.007mm
200-28-000	175-200mm	200-28-101	7-8"	0.007mm



Dimensions

Range	A	C	L	D	S	d
0-25mm/0-1"	3.3mm	24mm	34mm	Φ20mm	0.7mm	Φ8mm
25-50mm/1-2"	3.3mm	32mm	59mm	Φ20mm	0.7mm	Φ8mm
50-75mm/2-3"	3.3mm	45mm	85mm	Φ20mm	0.7mm	Φ8mm
75-100mm/3-4"	3.3mm	57mm	110mm	Φ20mm	0.7mm	Φ8mm
100-125mm/4-5"	4.3mm	70mm	138mm	Φ30mm	0.9mm	Φ12mm
125-150mm/5-6"	4.3mm	82mm	163mm	Φ30mm	0.9mm	Φ12mm
150-175mm/6-7"	4.3mm	95mm	188mm	Φ30mm	0.9mm	Φ12mm
175-200mm/7-8"	4.3mm	107mm	214mm	Φ30mm	0.9mm	Φ12mm

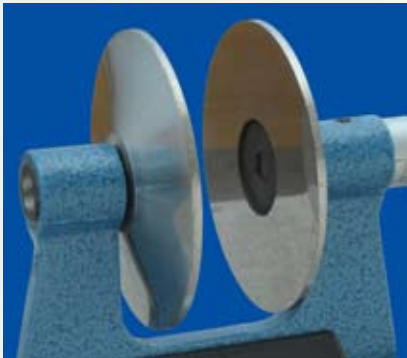
Large Disk Micrometers

- Feature:**
- Non-rotating spindle.
 - Large disk measuring faces.
 - Disk diameter: $\Phi 60\text{mm}$.
 - Resolution: 0.01mm(Metric); 0.001"(Inch).



257-11-010

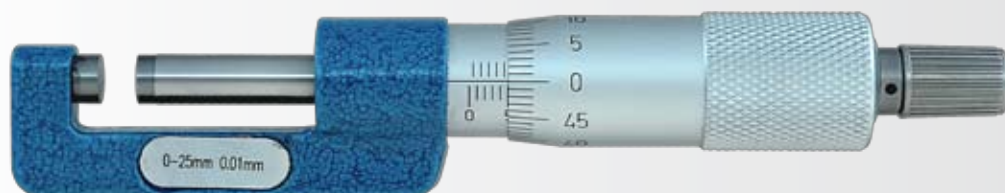
				
Order No.	Range	Order No.	Range	Accuracy
Metric		Inch		
Ratchet stop				
257-11-010	0-25mm	257-11-011	0-1"	0.008mm
257-12-010	25-50mm	257-12-011	1-2"	0.008mm
257-13-010	50-75mm	257-13-011	2-3"	0.010mm
257-14-010	75-100mm	257-14-011	3-4"	0.010mm



Hub Micrometers

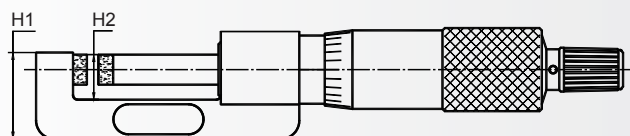
Feature:

- Measuring hub thickness and shoulders inside a bore.
- Carbide measuring faces. Painted frame.
- Ratchet stop.



203-71-000

						
Order No.	Range	Resolution	Order No.	Range	Resolution	Accuracy
Metric			Inch			
Ratchet stop						
203-71-000	0-25mm	0.01mm	203-71-101	0-1"	0.0001"	0.004mm
203-72-000	25-50mm	0.01mm	203-72-101	1-2"	0.0001"	0.004mm
203-73-000	50-75mm	0.01mm	203-73-101	2-3"	0.0001"	0.005mm
203-74-000	75-100mm	0.01mm	203-74-101	3-4"	0.0001"	0.005mm



Dimensions

Range		H1	H2
Metric	Inch		
0-25mm	0-1"	18.7mm	10.2mm
25-50mm	1-2"	21.2mm	10.2mm
50-75mm	2-3"	21.2mm	10.2mm
75-100mm	3-4"	21.2mm	10.2mm



Electronic Depth Micrometers

Feature:

- Interchangeable rods provide a wide measuring range.
- High accuracy interchangeable rods enable that reading does not have to be reset when changing rods.
- Accuracy: $\pm 0.003\text{mm}$.
- Measuring inserts: $\pm(2+L/75)\mu\text{m}$ [$\pm(0.001+0.0005(L/3))$ "],
L= measuring length (Metric/Inch).



243-31-410

 Order No.				 Range	 Rods
Flat end		Spherical end			
Metric/Inch					
A=63.0mm	A=101.5mm	A=63.0mm	A=101.5mm		
243-31-410/411	243-31-510/511	243-41-410/411	243-41-510/511	0-25mm/0-1"	1
243-32-410/411	243-32-510/511	243-42-410/411	243-42-510/511	0-50mm/0-2"	2
243-33-410/411	243-33-510/511	243-43-410/411	243-43-510/511	0-100mm/0-4"	4
243-34-410/411	243-34-510/511	243-44-410/411	243-44-510/511	0-150mm/0-6"	6
243-35-410/411	243-35-510/511	243-45-410/411	243-45-510/511	0-200mm/0-8"	8
243-36-410/411	243-36-510/511	243-46-410/411	243-46-510/511	0-300mm/0-12"	12

- Protection level **IP65**.
- Electronic system same as 142-XX-436 electronic outside micrometers.

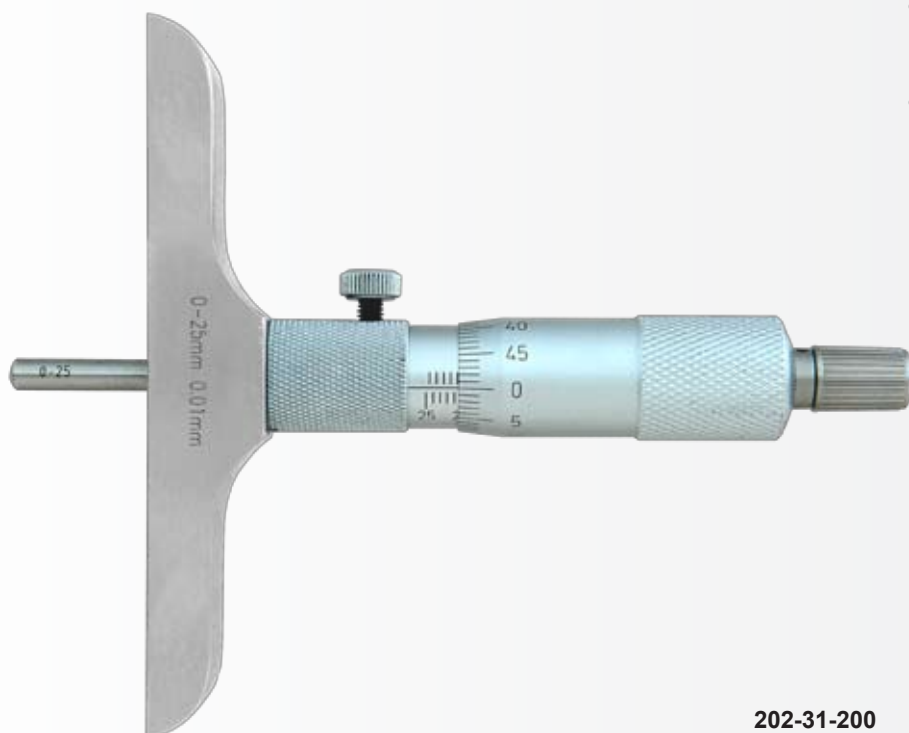


293-31-410

 Order No.				 Range	 Rods
Flat end		Spherical end			
Metric/Inch					
A=63.0mm	A=101.5mm	A=63.0mm	A=101.5mm		
293-31-410/411	293-31-510/511	293-41-410/411	293-41-510/511	0-25mm/0-1"	1
293-32-410/411	293-32-510/511	293-42-410/411	293-42-510/511	0-50mm/0-2"	2
293-33-410/411	293-33-510/511	293-43-410/411	293-43-510/511	0-100mm/0-4"	4
293-34-410/411	293-34-510/511	293-44-410/411	293-44-510/511	0-150mm/0-6"	6
293-35-410/411	293-35-510/511	293-45-410/411	293-45-510/511	0-200mm/0-8"	8
293-36-410/411	293-36-510/511	293-46-410/411	293-46-510/511	0-300mm/0-12"	12

- Protection level **IP65**.
- Electronic system same as 133-XX-416 electronic outside micrometers.

Depth Micrometers

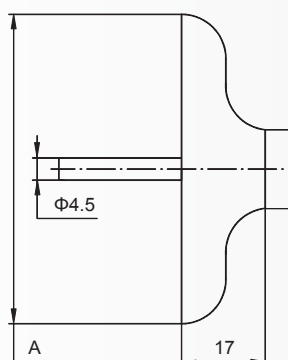


202-31-200

Feature:

- Interchangeable rods provide a wide measuring range.
- High accuracy interchangeable rods enable that reading does not have to be reset when changing rods.
- Resolution: 0.01mm(Metric); 0.001"(Inch).

 Order No.				 Range	 Accuracy	 Rods
Flat end		Spherical end				
Ratchet stop						
Metric						
A=63.0mm	A=101.5mm	A=63.0mm	A=101.5mm			
202-51-000	202-51-200	202-31-000	202-31-200	0-25mm	0.004mm	1
202-52-000	202-52-200	202-32-000	202-32-200	0-50mm	0.004mm	2
202-53-000	202-53-200	202-33-000	202-33-200	0-100mm	0.005mm	4
202-54-000	202-54-200	202-34-000	202-34-200	0-150mm	0.005mm	6
202-55-000	202-55-200	202-35-000	202-35-200	0-200mm	0.006mm	8
202-56-000	202-56-200	202-36-000	202-36-200	0-300mm	0.007mm	12
Inch						
A=2.5"	A=4"	A=2.5"	A=4"			
202-51-001	202-51-201	202-31-001	202-31-201	0-1"	0.00016"	1
202-52-001	202-52-201	202-32-001	202-32-201	0-2"	0.00016"	2
202-53-001	202-53-201	202-33-001	202-33-201	0-4"	0.00020"	4
202-54-001	202-54-201	202-34-001	202-34-201	0-6"	0.00020"	6
202-55-001	202-55-201	202-35-001	202-35-201	0-8"	0.00024"	8
202-56-001	202-56-201	202-36-001	202-36-201	0-12"	0.00028"	12



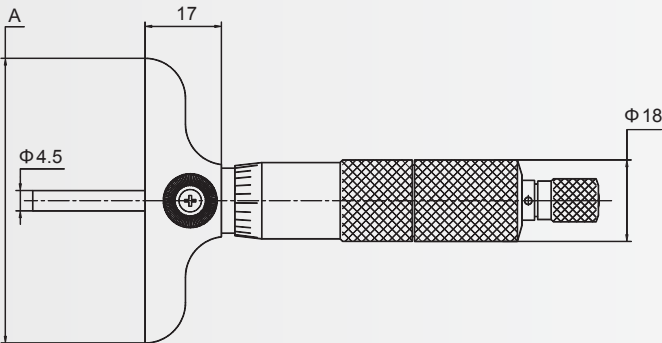
Depth Micrometers

Feature:

- Run through interchangeable rods, provide a wide measuring range.
- High accuracy interchangeable rods enable that reading does not have to be reset when changing rods.
- Positive locking clamp.
- Resolution: 0.01mm(Metric); 0.001"(Inch).
- Ratchet stop.



 Order No.				 Range	 Accuracy	 Rods
Flat end		Spherical end				
Ratchet stop						
Metric						
A=63.0mm	A=101.5mm	A=63.0mm	A=101.5mm			
202-61-000	202-61-200	202-41-000	202-41-200	0-25mm	0.004mm	1
202-62-000	202-62-200	202-42-000	202-42-200	0-50mm	0.004mm	2
202-63-000	202-63-200	202-43-000	202-43-200	0-100mm	0.005mm	4
202-64-000	202-64-200	202-44-000	202-44-200	0-150mm	0.005mm	6
202-65-000	202-65-200	202-45-000	202-45-200	0-200mm	0.006mm	8
202-66-000	202-66-200	202-46-000	202-46-200	0-300mm	0.007mm	12
Inch						
A=2.5"	A=4"	A=2.5"	A=4"			
202-61-001	202-61-201	202-41-001	202-41-201	0-1"	0.00016"	1
202-62-001	202-62-201	202-42-001	202-42-201	0-2"	0.00016"	2
202-63-001	202-63-201	202-43-001	202-43-201	0-4"	0.00020"	4
202-64-001	202-64-201	202-44-001	202-44-201	0-6"	0.00020"	6
202-65-001	202-65-201	202-45-001	202-45-201	0-8"	0.00024"	8
202-66-001	202-66-201	202-46-001	202-46-201	0-12"	0.00028"	12



Groove Micrometers (Without measuring force)

Feature:

- Flanged measuring faces for measuring width, depth, and location of grooves inside bores.
- Provided with 2 types of laser engraved graduations, for inside and outside measurement.
- Resolution: 0.01mm(Metric); 0.001"(Inch).

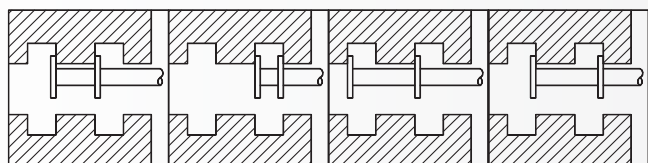
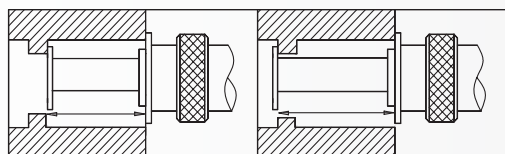


202-72-000



202-70-000

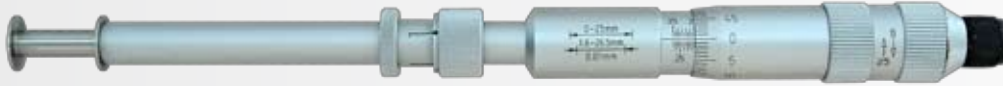
Order No.	Range		Accuracy	Parallelism	D
	Outside	Inside			
Metric					
202-70-000	0-25mm	1.6-26.5mm	0.01mm	0.01mm	Φ6.5mm
202-71-000	0-25mm	1.6-26.5mm	0.01mm	0.01mm	Φ13mm
202-72-000	25-50mm	26.5-51.5mm	0.01mm	0.01mm	Φ13mm
202-73-000	50-75mm	51.5-76.5mm	0.01mm	0.01mm	Φ13mm
202-74-000	75-100mm	76.5-101.5mm	0.01mm	0.01mm	Φ13mm
Inch					
202-70-001	0-1"	0.06-1.05"	0.001"	0.001"	Φ6.5mm
202-71-001	0-1"	0.06-1.05"	0.001"	0.001"	Φ13mm
202-72-001	1-2"	1.05-2.05"	0.001"	0.001"	Φ13mm
202-73-001	2-3"	2.05-3.05"	0.001"	0.001"	Φ13mm
202-74-001	3-4"	3.05-4.05"	0.001"	0.001"	Φ13mm



Groove Micrometers (Two-directional measuring force)

Feature:

- Flanged measuring faces for measuring width, depth, and location of grooves inside bores.
- Provided 2 types of laser engraved graduations for inside and outside measurement.
- Resolution: 0.01mm(Metric); 0.001"(Inch).

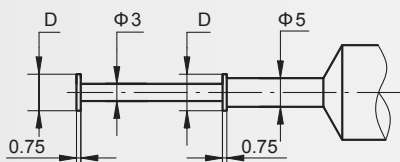
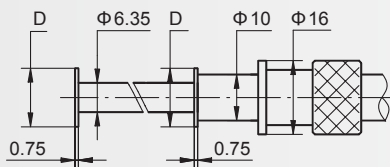


202-72-030



202-70-030

Order No.	Range		Accuracy	Parallelism	D
	Outside	Inside			
Metric					
202-70-030	0-25mm	1.6-26.5mm	0.01mm	0.01mm	Φ6.5mm
202-71-030	0-25mm	1.6-26.5mm	0.01mm	0.01mm	Φ13mm
202-72-030	25-50mm	26.5-51.5mm	0.01mm	0.01mm	Φ13mm
202-73-030	50-75mm	51.5-76.5mm	0.01mm	0.01mm	Φ13mm
202-74-030	75-100mm	76.5-101.5mm	0.01mm	0.01mm	Φ13mm
Inch					
202-70-031	0-1"	0.06-1.05"	0.001"	0.001"	Φ6.5mm
202-71-031	0-1"	0.06-1.05"	0.001"	0.001"	Φ13mm
202-72-031	1-2"	1.05-2.05"	0.001"	0.001"	Φ13mm
202-73-031	2-3"	2.05-3.05"	0.001"	0.001"	Φ13mm
202-74-031	3-4"	3.05-4.05"	0.001"	0.001"	Φ13mm



Can Seam Micrometers

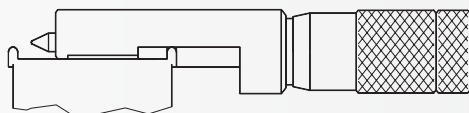


Feature:

- Measures the width, height, and depth of can seams.
- Resolution: 0.01mm (Metric); 0.001" (Inch).

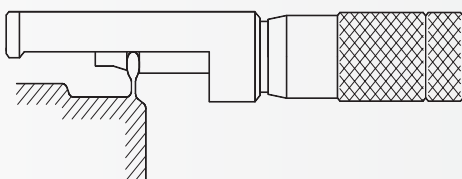
203-91-020
For steel cans

 Order No.	 Range	 Accuracy
Metric		
203-91-020	0-13mm	0.004mm
Inch		
203-91-021	0-0.6"	0.00016"



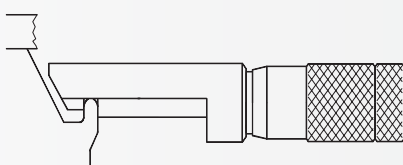
204-91-020
For aluminum cans

 Order No.	 Range	 Accuracy
Metric		
204-91-020	0-13mm	0.004mm
Inch		
204-91-021	0-0.6"	0.00016"



205-91-020
For sprayer cans

 Order No.	 Range	 Accuracy
Metric		
205-91-020	0-13mm	0.004mm
Inch		
205-91-021	0-0.6"	0.00016"



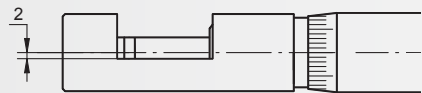
Wire Micrometers

- Feature:
- Designed for measuring the diameter of wire or small ball.
 - Carbide measuring faces.
 - Resolution: 0.01mm(Metric); 0.0001"(Inch).



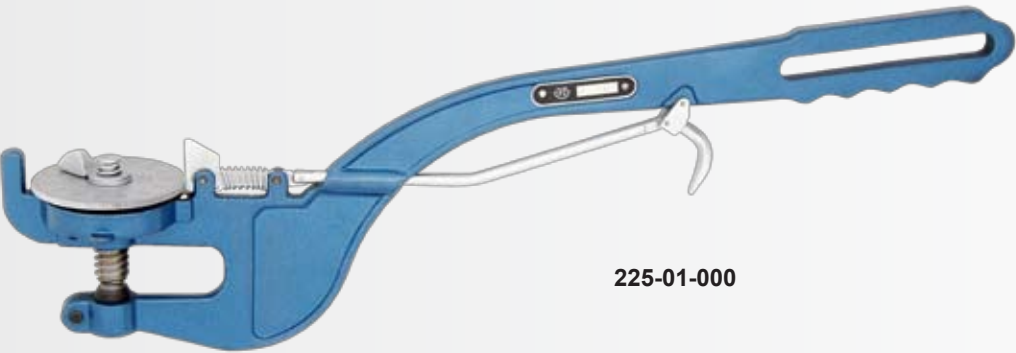
202-91-000

		
Order No.	Range	Accuracy
Metric		
202-91-000	0-10mm	0.004mm
Inch		
202-91-101	0-0.4"	0.00016"



Hot Sheet Micrometers

- Feature:
- Designed for measuring thickness of hot rolling sheet metal.
 - Carbide measuring faces. Painted frame.



225-01-000

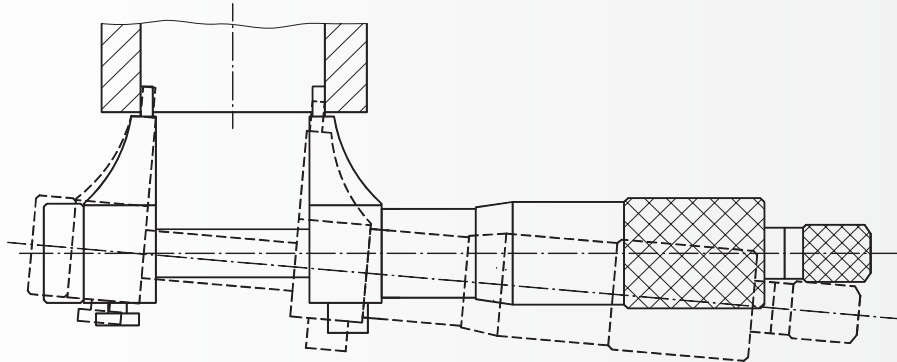
						
Order No.	Range	Resolution	Order No.	Range	Resolution	Accuracy
Metric						
225-01-000	0-15mm	0.05mm	225-01-001	0-0.6"	0.002"	0.05mm
225-02-000	15-30mm	0.05mm	225-02-001	0.6-1.2"	0.002"	0.05mm
225-03-000	30-45mm	0.05mm	225-03-001	1.2-1.8"	0.002"	0.05mm
225-04-000	45-60mm	0.05mm	225-04-001	1.8-2.4"	0.002"	0.05mm
225-05-000	60-75mm	0.05mm	225-05-001	2.4-3.0"	0.002"	0.05mm
225-06-000	75-90mm	0.05mm	225-06-001	3.0-3.6"	0.002"	0.05mm
225-07-000	90-105mm	0.05mm	225-07-001	3.6-4.2"	0.002"	0.05mm



Inside Dimension Measuring

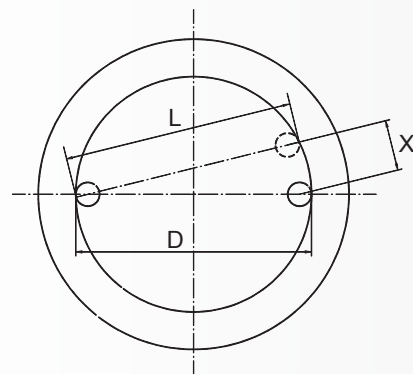
Inside Micrometer

1.Measuring azimuth ascertaining:

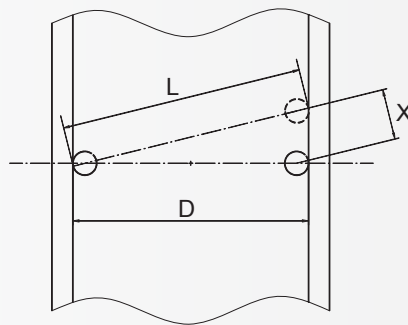


The measuring jaws' generatrix of inside micrometers are parallel to each other. So, when measuring inside dimension by inside micrometers, to ensure measuring jaws and inside of measured part touched completely (As shown real line of measuring azimuth in above drawing).

2.Find measuring optimal value:



Drawing1



Drawing2



To measure different objects by inside micrometers, reading means are different accordingly to get optimal value.

Measuring inside hole dimension (Drawing1) :

If there is deflection (X) between measuring azimuth (L) and measured part (D), the measuring error is:

$$\delta = D - L = D - \sqrt{D^2 - X^2}$$

Therefore, max reading value is the optimal value when measuring bore dimension.

Measuring width dimension (Drawing 2) :

If there is deflection (X) between measuring azimuth (L) and measured part (D), the measuring error is:

$$\delta = L - D = \sqrt{D^2 + X^2} - D$$

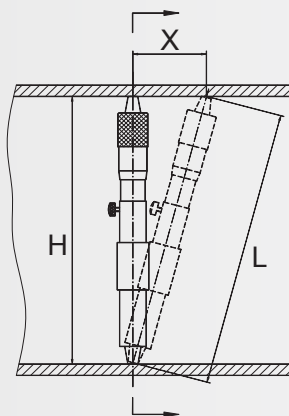
Therefore, min reading value is the optimal value when measuring width dimension.



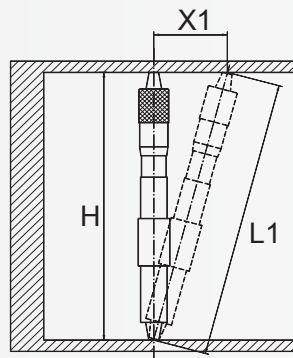
Inside Dimension Measuring

Inside Micrometer

1.Measuring width dimension:



Drawing 1



Drawing 2

To measuring distance (H) of two parallel planes by inside micrometers, optimal reading value can be gotten when line connecting two measuring heads is vertical to two parallel planes at random azimuth.

Shown as drawing 1:

If there is deflection (X) between measuring azimuth (L) and optimal azimuth (H), the measuring deflection is: $\delta = L - H = \sqrt{H^2 + X^2} - H$

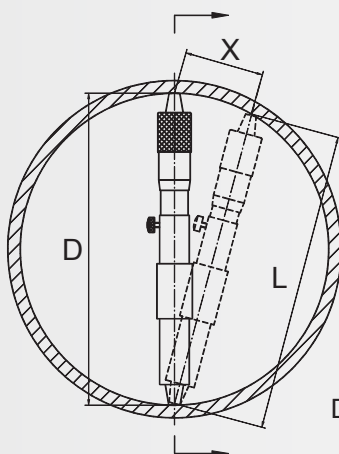
Shown as drawing 2 (Right cutaway view of drawing 1):

If there is deflection (X1) between measuring azimuth (L1) and optimal azimuth (H), the Measuring deflection is: $\delta = L1 - H = \sqrt{H^2 + X1^2} - H$

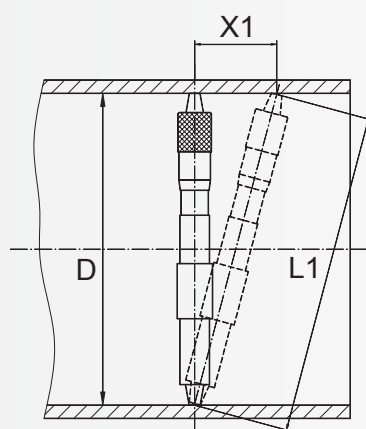
Therefore, min reading value is the optimal value when measuring width dimension.



2.Measuring inner bore:



Drawing 3



Drawing 4

To measure inner bore by internal micrometers, follow below two steps to get optimal reading value.

Shown as drawing 3:

If there is deflection (X) between measuring azimuth (L) and optimal azimuth (D), the Measuring deflection is: $\delta = D - L = \sqrt{D^2 + X^2} - D$

Therefore, max reading value is the optimal value when measuring bore dimension.

Shown as drawing 4 (Right cutaway view of drawing 3):

If there is deflection (X1) between measuring azimuth (L1) and optimal azimuth (D), the Measuring deflection is: $\delta = L1 - D = \sqrt{D^2 + X1^2} - D$

Therefore, min reading value is the optimal value when measuring width dimension.

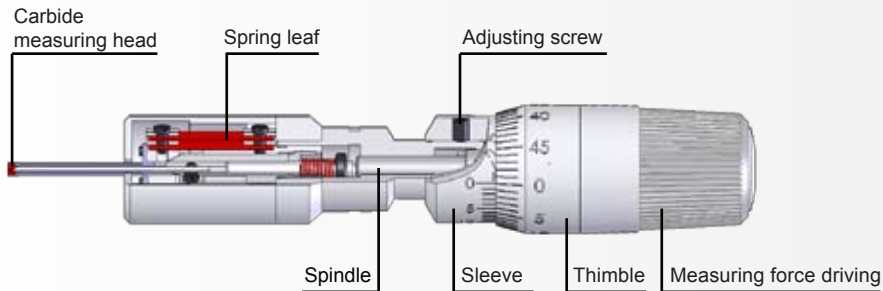


Inside Dimension Measuring

Three-point (Two-point) Internal Micrometers

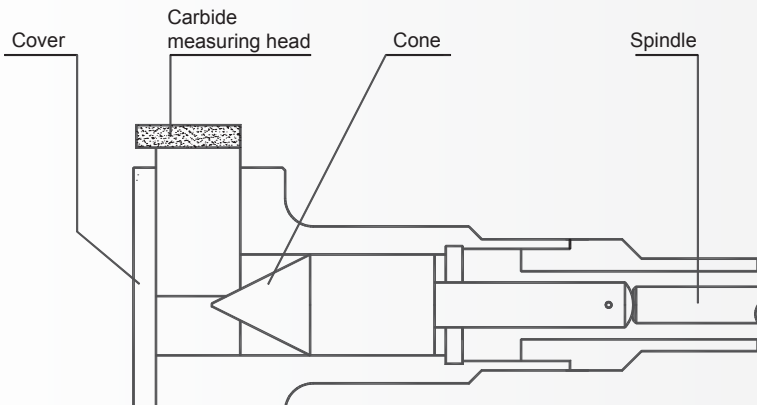
It is self-centering to measuring hole (or blind hole) precisely by three-point internal micrometer (6-1000mm) and two point internal micrometers (2-6mm).

2-6mm Two-point internal Micrometer



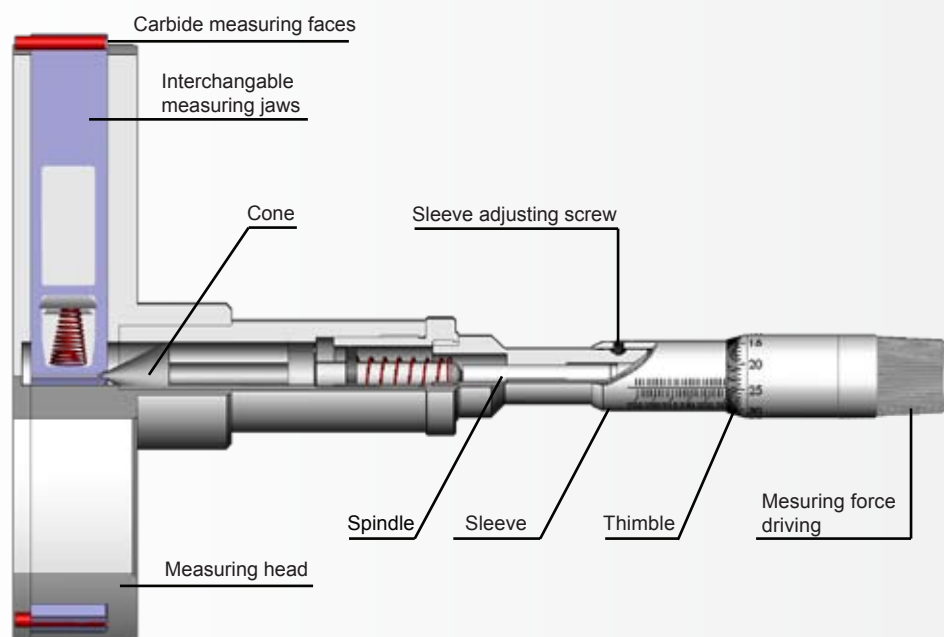
Measuring head of two point internal micrometer is mainly used for measuring small holes (2-6mm) precisely.

6-300mm Three-point internal micrometer



Measuring head of three point internal micrometer, driving by cone, transforms measurement on Y direction to measuring reading on X direction.

100-300mm Three-point internal micrometer

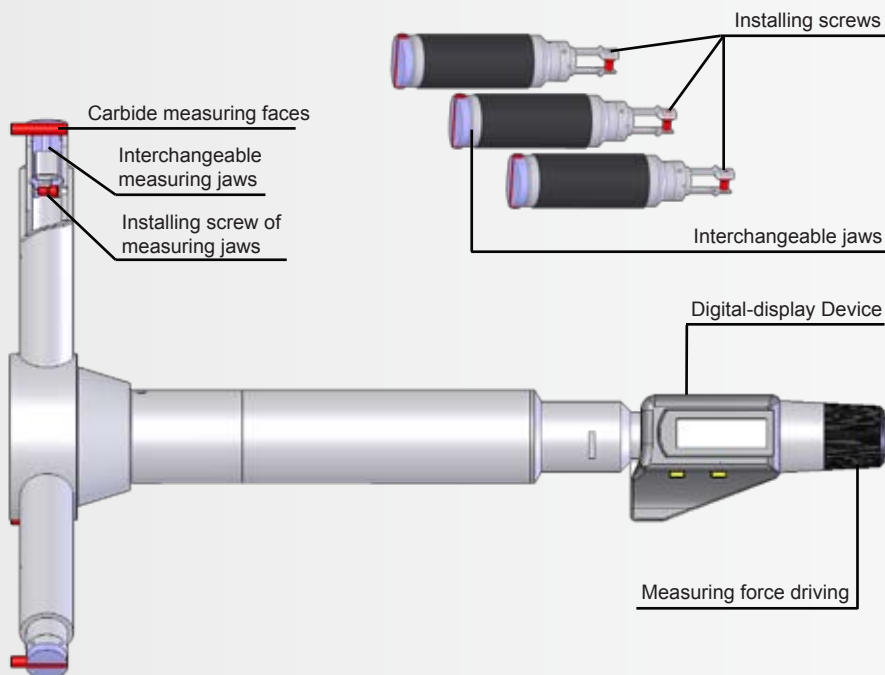


Inside Dimensions Measuring

200-1000mm Three-point (Two-point) Internal Micrometer (patented product)

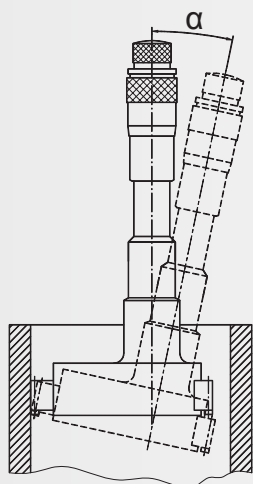
Long stroke (100mm), large measuring range (200-1000mm) make it possible to measure large holes precisely.

Measuring jaws of the micrometers are interchangeable. According to different measuring ranges, micrometers have three groups (200-500mm) or seven groups (200-1000mm) of interchangeable jaws. Setting original value ($\Phi 200\text{mm}$) by equipped setting ring, interchangeable measuring jaws with high precision make it unnecessary to set zero after changing jaws.

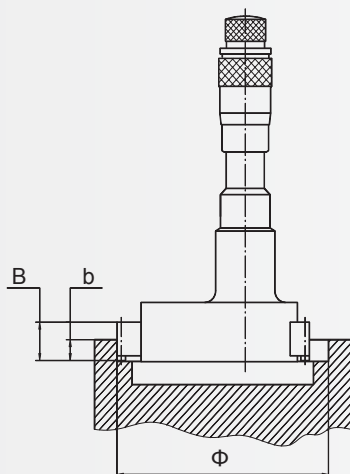


Other notices using three point internal micrometers:

1. Measuring forces: when using, keep measuring force stable and away from striking.
2. Setting origin data: Before measuring, set origin data of micrometers four or five times by measuring force device, to keep reading stable.
3. Reading: when reading, keep measuring force condition coincident with that when setting origin data.



Three-point internal micrometer is self-centering. When measuring, make measuring jaws and inner hole touched completely, make sure measuring head not shake inside hole. Then, maximum value is the optimal value. As left drawing shown, real lines show correct method and broken lines wrong method with error caused by angle α .

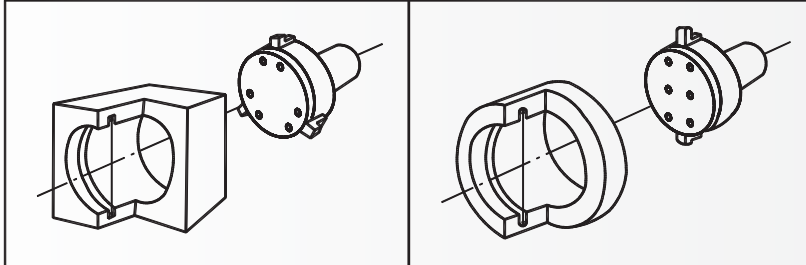


When measuring blind hole by three point internal micrometers, ensure depth of hole (b) no less than half height of measuring jaws (B).

Inside Dimension Measuring

Three-point(Two-point) internal micrometer other application

Three-point (Two-point) internal micrometers, special for measuring inner grooves



- Two-point or three point measuring head is optional.
- Shape of measuring head is optional.
- Measuring range: 6-300mm.

Shapes of measuring heads and their measurements:



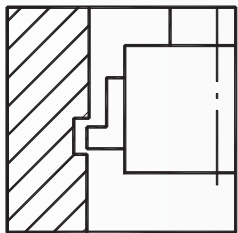
Step head



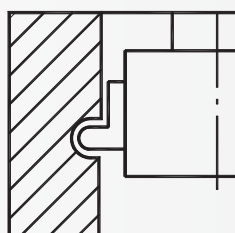
Arc head



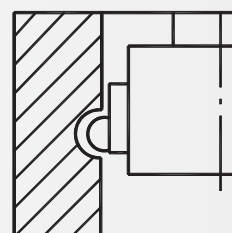
Ball head



Step groove measurement

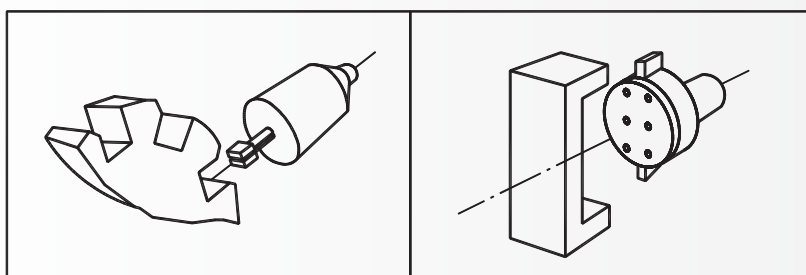


Arc groove measurement



Ball groove measurement

Two-point internal micrometers, special for measuring inner width

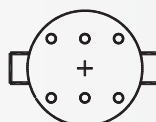


- Measuring range
Two-part flat measuring head: 2-6mm.
Two-blocks flat measuring head: 6-300mm.

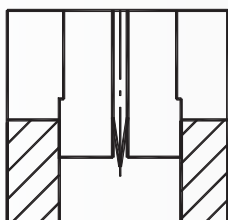
Shapes of measuring heads and their measurements:



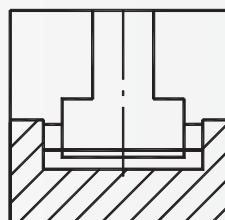
Two-part flat measuring head



Two-blocks flat measuring head



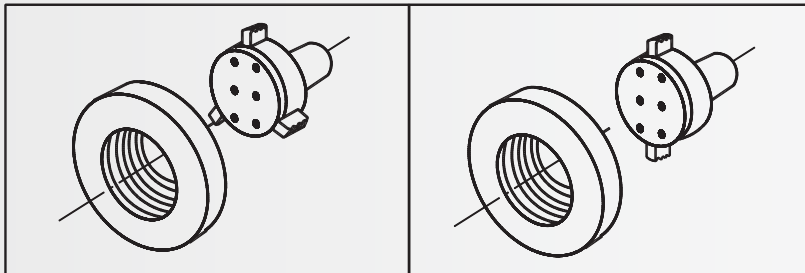
Small range (2-6mm)
width measurement



Width measurement

Inside Dimension Measuring

Three-point (Two-point) internal micrometers, special for measuring inner screw thread

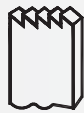


- Two-point or three point measuring head is optional.
- Shape of measuring head is optional.
- Measuring range: 12-300mm.

Shapes of measuring heads and their measurements:



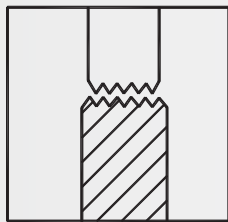
Normal head



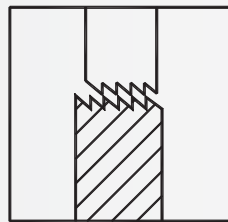
Tooth head



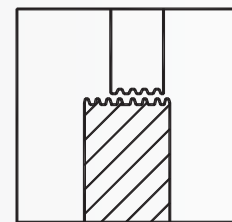
Trapeziform head



Normal head measurement

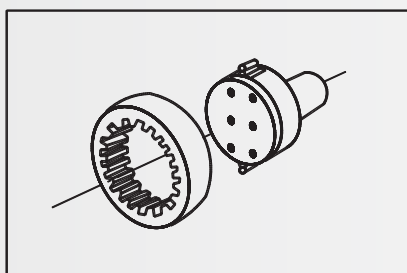


Tooth head measurement

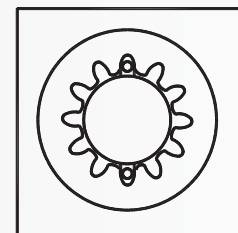


Trapeziform head measurement

Three-point (Two-point) internal micrometers, special for measuring spline in bores

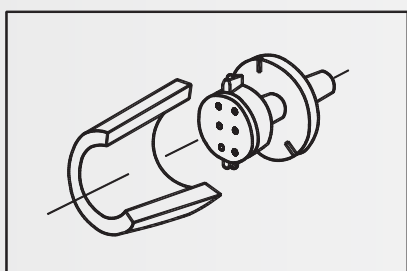


Shapes of measuring heads and their measurements:

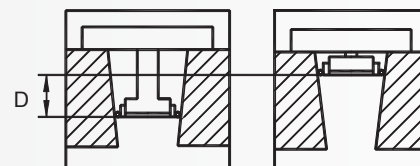


- Two-point or three point measuring heads of spline and needle are optional.
- Measuring range: 12-300mm.

Three-point (Two-point) internal micrometers, special for measuring taper bores



Measure:



- Calculate specific of taper bore by measuring in two position and their distance (D).
- Ball measuring head.
- Three-point measuring head is optional.

Inside Micrometers with Interchangeable Anvils



Feature:

- 60° or 55° V-shaped and cone-shaped anvils (interchangeable) are optional.
- Dimensions of anvil-tail: $\Phi 5 \times 15$ mm.
- Supplied with a standard caliper gage for zero setting.
- Resolution: 0.01 mm (Metric); 0.001" (Inch).
- Steel-ball-tipped anvils (interchangeable) also are optional for measuring over-pin diameter of internal gears. (Seeing page D24).

318-02-050

 Order No.	 Range	 Order No.	 Range	 Accuracy
Metric		Inch		
318-01-050	75-100mm	318-01-051	3-4"	0.03mm
318-02-050	100-125mm	318-02-051	4-5"	0.03mm
318-03-050	125-150mm	318-03-051	5-6"	0.03mm
318-04-050	150-175mm	318-04-051	6-7"	0.03mm
318-05-050	175-200mm	318-05-051	7-8"	0.04mm
318-06-050	200-225mm	318-06-051	8-9"	0.04mm
318-07-050	225-250mm	318-07-051	9-10"	0.04mm
318-08-050	250-275mm	318-08-051	10-11"	0.04mm
318-09-050	275-300mm	318-09-051	11-12"	0.05mm

V-shaped and cone-shaped anvils (optional)				
Order No.	Pitch (turns/inch)	Order No.	Pitch (turns/inch)	
Metric, Unified screw (60° thread)		Whitworth screw (55° thread)		
F0300	F0301 0.4-0.5mm /64-48TPI	F0400	F0401 60-48TPI	
	F0302 0.6-0.9mm /44-28TPI		F0402 48-40TPI	
	F0303 1-1.75mm /24-14TPI		F0403 40-32TPI	
	F0304 2-3mm /13-9TPI		F0404 32-24TPI	
	F0305 3.5-5mm /8-5TPI		F0405 24-18TPI	
	F0306 5.5-7mm /4.5-3.5TPI		F0406 18-14TPI	
			F0407 14-10TPI	
			F0408 10-7TPI	
			F0409 7-4.5TPI	
			F0410 4.5-3.5TPI	

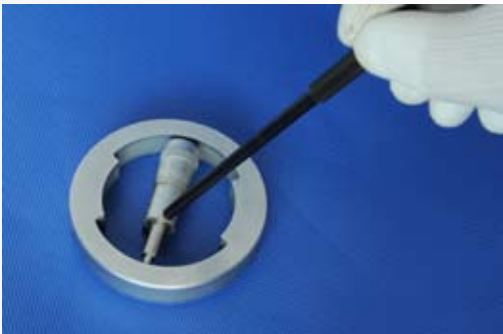
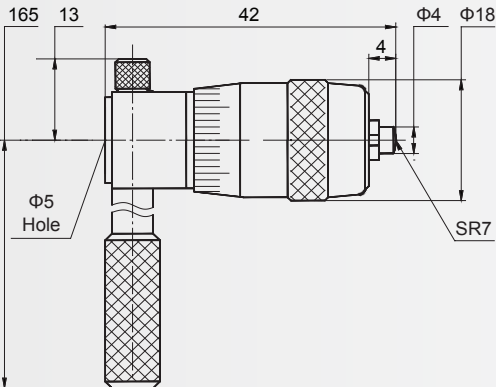
Inside Micrometers



- Feature:**
- The interchangeable extension rods provide a wide measuring range.
 - Each interchangeable rod is marked range, for easy operation.
 - Resolution: 0.01mm(Metric); 0.001"(Inch).
 - Accuracy: Metric $(6+L/50)\mu\text{m}$,
Inch $[0.0003+0.00005(L/2)]"$.
(L=maximum measuring length(mm) [Inch]).

351-12-050

 Order No.	 Range	 Extension rods
25mm Micrometer head		
301-00-050	25-32mm	Micrometer head
301-01-050	25-50mm	2
301-00-051	1-1.25"	Micrometer head
301-01-051	1-2"	2
50mm Micrometer head		
351-10-050	50-63mm	Micrometer head
351-11-050	50-200mm	6
351-12-050	50-300mm	10
351-10-051	2-2.5"	Micrometer head
351-11-051	2-8"	6
351-12-051	2-12"	10
200mm Micrometer head		
352-10-050	200-225mm	Micrometer head
352-11-050	200-500mm	3
352-12-050	200-1000mm	8
352-10-051	8-9"	Micrometer head
352-11-051	8-20"	3
352-12-051	8-40"	8



Inside Micrometers

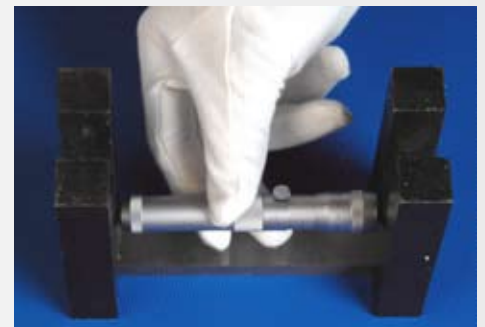


Feature:

- The combining of extension rods provides a wide measuring range.
- Supplied with a standard caliper gage for zero setting.
- Resolution: 0.01mm(Metric); 0.001"(Inch).
- Diameter of extension rods: $\Phi 15.5\text{mm}$.
- Accuracy: Metric $(3+n+L/50)\mu\text{m}$,
Inch $[0.00005(3+L/2)]"$.
(n=number of rod,
L=maximum measuring length(mm)[inch]).
- Carbide measuring faces: 301-XX-070.
- Painted rod.

301-14-060

Order No.	Range	Extension rods
Metric		
301-10-060	50-63mm	Micrometer head
301-11-060	50-100mm	13mm, 25mm
301-12-060	50-150mm	13mm, 25mm, 50mm
301-13-060	50-300mm	13mm, 25mm, 50mm (2pcs), 100mm
301-14-060	50-500mm	13mm, 25mm, 50mm (2pcs), 100mm, 200mm
301-21-060	50-900mm	13mm, 25mm, 50mm, 100mm, 150mm, 200mm, 300mm
301-15-060	50-1000mm	13mm, 25mm, 50mm, 100mm (2pcs), 150mm, 200mm, 300mm
301-16-060	50-1500mm	13mm, 25mm, 50mm, 100mm (2pcs), 150mm, 200mm (2pcs), 300mm (2pcs)
301-02-060	50-75mm	13mm
301-03-060	50-175mm	13mm, 25mm (2pcs), 50mm
301-04-060	50-250mm	13mm, 25mm, 50mm, 100mm
301-05-060	50-600mm	13mm, 25mm, 50mm, 100mm, 150mm, 200mm
Inch		
301-10-061	2-2.5"	Micrometer head
301-11-061	2-4"	0.5", 1"
301-12-061	2-6"	0.5", 1", 2"
301-13-061	2-12"	0.5", 1", 2" (2pcs.), 4"
301-14-061	2-20"	0.5", 1", 2" (2pcs.), 4", 8"
301-21-061	2-36"	0.5", 1", 2", 4", 6", 8", 12"
301-15-061	2-40"	0.5", 1", 2", 4" (2pcs.), 6", 8", 12"
301-16-061	2-60"	0.5", 1", 2", 4" (2pcs.), 6", 8" (2pcs.), 12" (2pcs.)
301-02-061	2-3"	0.5"
301-03-061	2-7"	0.5", 1" (2pcs.), 2"
301-04-061	2-10"	0.5", 1", 2", 4"
301-05-061	2-24"	0.5", 1", 2", 4", 6", 8"



Inside Micrometers (Single Rod)

Feature:

- Resolution: 0.01mm(Metric); 0.001"(Inch).
- Carbide measuring faces.
- Diameter of extension rods: $\Phi 16\text{mm}$.



303-09-050

 Order No. Metric	 Range	 Accuracy	 Order No. Inch	 Range	 Accuracy
303-03-050	50-75mm	0.005mm	303-03-051	2-3"	0.00020"
303-04-050	75-100mm	0.005mm	303-04-051	3-4"	0.00020"
303-05-050	100-125mm	0.006mm	303-05-051	4-5"	0.00024"
303-06-050	125-150mm	0.006mm	303-06-051	5-6"	0.00024"
303-07-050	150-175mm	0.007mm	303-07-051	6-7"	0.00028"
303-08-050	175-200mm	0.007mm	303-08-051	7-8"	0.00028"
303-09-050	200-225mm	0.008mm	303-09-051	8-9"	0.00032"
303-10-050	225-250mm	0.008mm	303-10-051	9-10"	0.00032"
303-11-050	250-275mm	0.009mm	303-11-051	10-11"	0.00036"
303-12-050	275-300mm	0.009mm	303-12-051	11-12"	0.00036"
303-13-050	300-325mm	0.009mm	303-13-051	12-13"	0.00036"
303-14-050	325-350mm	0.009mm	303-14-051	13-14"	0.00036"
303-15-050	350-375mm	0.010mm	303-15-051	14-15"	0.00040"
303-16-050	375-400mm	0.010mm	303-16-051	15-16"	0.00040"
303-17-050	400-425mm	0.010mm	303-17-051	16-17"	0.00040"
303-18-050	425-450mm	0.010mm	303-18-051	17-18"	0.00040"
303-19-050	450-475mm	0.011mm	303-19-051	18-19"	0.00043"
303-20-050	475-500mm	0.011mm	303-20-051	19-20"	0.00043"
303-21-050	500-525mm	0.011mm	303-21-051	20-21"	0.00043"
303-22-050	525-550mm	0.011mm	303-22-051	21-22"	0.00043"
303-23-050	550-575mm	0.011mm	303-23-051	22-23"	0.00043"
303-24-050	575-600mm	0.012mm	303-24-051	23-24"	0.00047"
303-25-050	600-625mm	0.012mm	303-25-051	24-25"	0.00047"
303-26-050	625-650mm	0.012mm	303-26-051	25-26"	0.00047"
303-27-050	650-675mm	0.013mm	303-27-051	26-27"	0.00051"
303-28-050	675-700mm	0.013mm	303-28-051	27-28"	0.00051"
303-29-050	700-725mm	0.013mm	303-29-051	28-29"	0.00051"
303-30-050	725-750mm	0.014mm	303-30-051	29-30"	0.00055"
303-31-050	750-775mm	0.014mm	303-31-051	30-31"	0.00055"
303-32-050	775-800mm	0.014mm	303-32-051	31-32"	0.00055"
303-33-050	800-825mm	0.015mm	303-33-051	32-33"	0.00059"
303-34-050	825-850mm	0.015mm	303-34-051	33-34"	0.00059"
303-35-050	850-875mm	0.015mm	303-35-051	34-35"	0.00059"
303-36-050	875-900mm	0.016mm	303-36-051	35-36"	0.00063"
303-37-050	900-925mm	0.016mm	303-37-051	36-37"	0.00063"
303-38-050	925-950mm	0.016mm	303-38-051	37-38"	0.00063"
303-39-050	950-975mm	0.017mm	303-39-051	38-39"	0.00067"
303-40-050	975-1000mm	0.017mm	303-40-051	39-40"	0.00067"



Inside Micrometers

Travel of micrometer head: 25mm/1"



Feature:

- The combining of extension rods provides a wide measuring range.
- Resolution: 0.01mm(Metric); 0.001"(Inch).
- Diameter of extension rods: $\Phi 22\text{mm}$.
- Accuracy: Metric $(3+n+L/50)\mu\text{m}$,
Inch $[0.00005(3+n+L/2)]"$;
(n=number of rod,
L=maximum measuring Length(mm) [Inch]).
- Carbide measuring faces: 302-XX-070.
- Painted rods.

302-03-060

 Order No.	 Range	 Extension rods
Metric		
302-00-060	100-125mm	Micrometer head
302-01-060	100-500mm	25mm, 50mm, 100mm, 200mm
302-02-060	100-900mm	25mm, 50mm, 100mm, 200mm, 400mm
302-03-060	100-1300mm	25mm, 50mm, 100mm, 200mm, 400mm(2pcs.)
302-04-060	100-1700mm	25mm, 50mm, 100mm, 200mm, 400mm(3pcs.)
302-05-060	100-2100mm	25mm, 50mm, 100mm, 200mm, 400mm(4pcs.)
Inch		
302-00-061	4-5"	Micrometer head
302-01-061	4-20"	1", 2", 4", 8"
302-02-061	4-36"	1", 2", 4", 8", 16"
302-03-061	4-52"	1", 2", 4", 8", 16"(2pcs.)
302-04-061	4-68"	1", 2", 4", 8", 16"(3pcs.)
302-05-061	4-84"	1", 2", 4", 8", 16"(4pcs.)

Travel of micrometer head: 50mm/2"



- Carbide measuring faces: 302-XX-070.
- Painted rods.
- Accuracy: Metric $(7+n+L/50)\mu\text{m}$,
Inch $[0.00005(7+n+L/2)]"$;
(n=number of rod,
L=maximum measuring Length(mm) [Inch]).

302-12-060

 Order No.	 Range	 Extension rods
Metric		
302-10-060	1000-1050mm	Micrometer head
302-11-060	1000-2000mm	50mm, 100mm(2pcs.), 200mm, 500mm
302-12-060	1000-3000mm	50mm, 100mm(2pcs.), 200mm, 500mm, 1000mm
Inch		
302-10-061	40-42"	Micrometer head
302-11-061	40-80"	2", 4"(2pcs.), 8", 20"
302-12-061	40-120"	2", 4"(2pcs.), 8", 20", 40"

Electronic Inside Micrometers



Feature:

- The combining of extension rods provides a wide measuring range.
- Supplied with a standard caliper gage for zero setting.
- Electronic system same as 133-XX-416 electronic outside micrometers.
- Resolution: 0.001mm/0.00005".
- Stroke of micrometer head: 25mm/1".



392-04-410

Order No.	Range	Extension rods
Metric		
392-00-410	150-175mm	Micrometer head
392-03-410	150-1000mm	25mm, 50mm(2pcs.), 100mm, 200mm, 400mm
392-04-410	150-1500mm	25mm, 50mm(2pcs.), 100mm(2pcs.), 200mm, 400mm(2pcs.)
392-05-410	150-2000mm	25mm, 50mm(2pcs.), 100mm, 200mm(2pcs.), 400mm(3pcs.)
Inch		
392-00-411	6-7"	Micrometer head
392-03-411	6-40"	1", 2"(2pcs.), 4", 8", 16"
392-04-411	6-60"	1", 2"(2pcs.), 4"(2pcs.), 8", 16"(2pcs.)
392-05-411	6-80"	1", 2"(2pcs.), 4", 8"(2pcs.), 16"(3pcs.)

Inside Micrometers



Feature:

- The combining of extension rods provide a wide measuring range.
- Supplied with a standard caliper gage for zero setting.
- Diameter of extension rods: $\Phi 22\text{mm}$.
- Accuracy: Metric $(3+n+L/50)\mu\text{m}$,
Inch $[0.00005(3+n+L/2)]"$;
(n =number of rod,
 L =maximum measuring Length(mm) [Inch]).
- Resolution: 0.01mm(Metric); 0.001"(Inch).
- Carbide measuring faces: 312-XX-070.
- Painted rods.

312-07-060

Order No.	Range	Extension rods
Metric		
312-00-060	150-175mm	Micrometer head
312-01-060	150-1400mm	25mm, 50mm(2pcs.), 100mm, 200mm, 400mm(2pcs.)
312-07-060	150-1500mm	25mm, 50mm(2pcs.), 100mm(2pcs.), 200mm, 400mm(2pcs.)
312-02-060	150-2000mm	25mm, 50mm(2pcs.), 100mm, 200mm(2pcs.), 400mm(3pcs.)
312-03-060	150-2100mm	25mm, 50mm(2pcs.), 100mm(2pcs.), 200mm(2pcs.), 400mm(3pcs.)
Inch		
312-00-061	6-7"	Micrometer head
312-01-061	6-56"	1", 2"(2pcs.), 4", 8", 16"(2pcs.)
312-07-061	6-60"	1", 2"(2pcs.), 4"(2pcs.), 8", 16"(2pcs.)
312-02-061	6-80"	1", 2"(2pcs.), 4", 8"(2pcs.), 16"(3pcs.)
312-03-061	6-84"	1", 2"(2pcs.), 4"(2pcs.), 8"(2pcs.), 16"(3pcs.)

Electronic Inside Micrometers (Caliper Type)

Feature:

- 5-30mm/0.2-1.2"、25-50mm/1-2" Micrometers provided with setting ring.
- For measuring various inside dimensions.
- Carbide measuring faces.



344-01-410

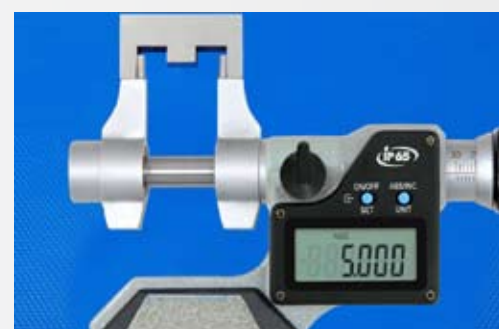
 Order No.	 Range	 Order No.	 Range	 Accuracy
Metric		Inch		
344-01-410	5-30mm	344-01-411	0.2-1.2"	±0.003mm
344-02-410	25-50mm	344-02-411	1-2"	±0.003mm
344-03-410	50-75mm	344-03-411	2-3"	±0.004mm
344-04-410	75-100mm	344-04-411	3-4"	±0.004mm
344-05-410	100-125mm	344-05-411	4-5"	±0.005mm
344-06-410	125-150mm	344-06-411	5-6"	±0.005mm
344-07-410	150-175mm	344-07-411	6-7"	±0.005mm
344-08-410	175-200mm	344-08-411	7-8"	±0.005mm

- Electronic system same as 142-XX-436 electronic outside micrometers.



394-01-410

 Order No.	 Range	 Order No.	 Range	 Accuracy
Metric		Inch		
394-01-410	5-30mm	394-01-411	0.2-1.2"	±0.003mm
394-02-410	25-50mm	394-02-411	1-2"	±0.003mm
394-03-410	50-75mm	394-03-411	2-3"	±0.004mm
394-04-410	75-100mm	394-04-411	3-4"	±0.004mm
394-05-410	100-125mm	394-05-411	4-5"	±0.005mm
394-06-410	125-150mm	394-06-411	5-6"	±0.005mm
394-07-410	150-175mm	394-07-411	6-7"	±0.005mm
394-08-410	175-200mm	394-08-411	7-8"	±0.005mm

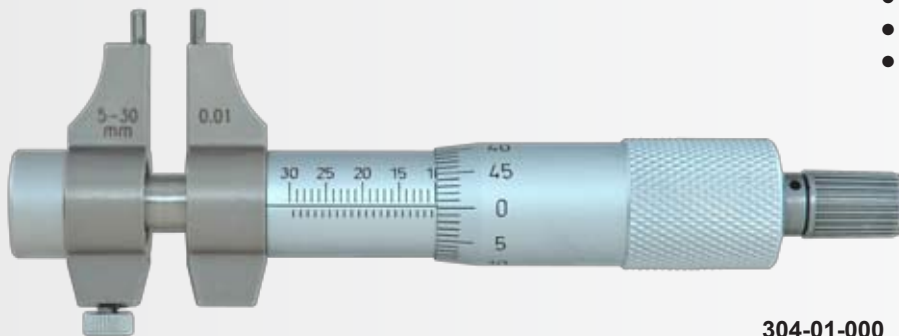


- Electronic system same as 133-XX-416 electronic outside micrometers.

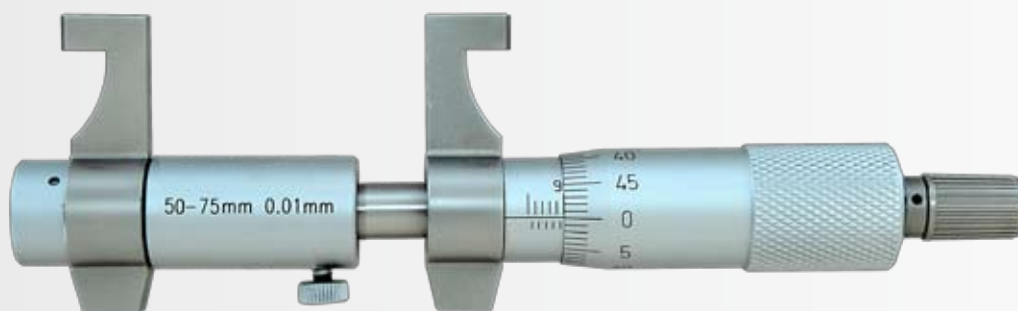
Inside Micrometers (Caliper Type)

Feature:

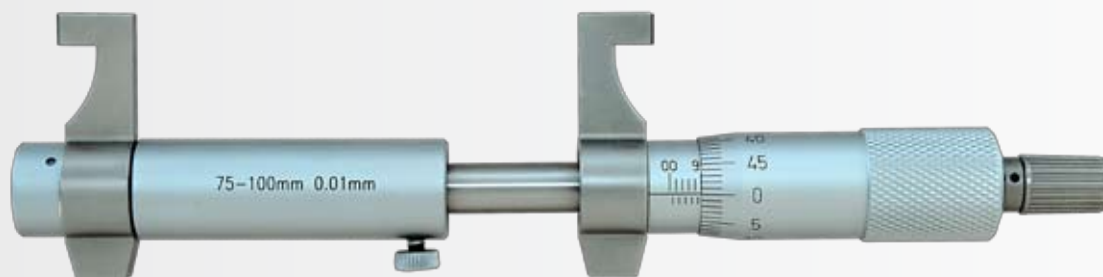
- 5-30mm/0.2-1.2"、25-50mm/1-2" Micrometers provided with setting ring.
- For measuring various inside dimensions.
- Resolution: 0.01mm(Metric); 0.001" (Inch).
- Ratchet stop.



304-01-000

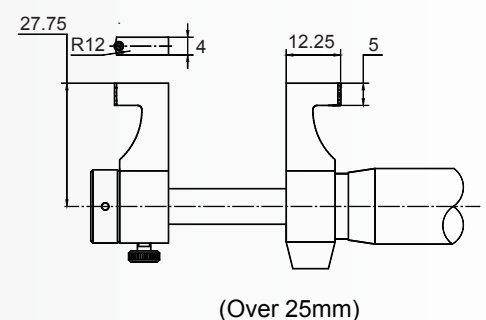
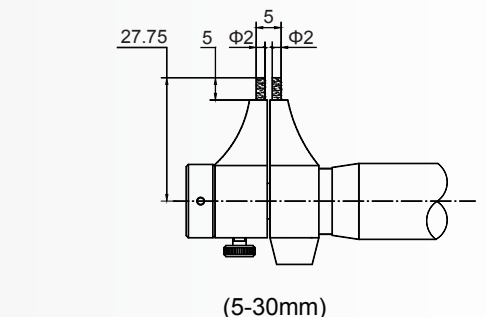


304-03-000



304-04-000

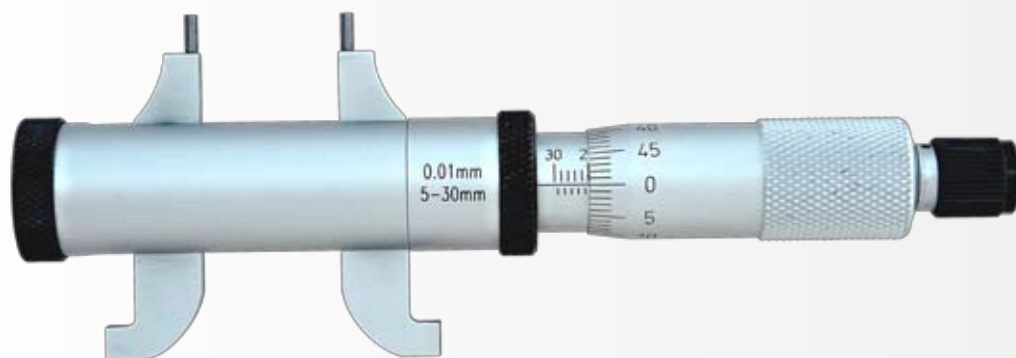
Order No.		Range	Accuracy
Carbide measuring faces	Stainless steel measuring faces		
Metric			
304-01-000	304-11-000	5-30mm	0.005mm
304-02-000	304-12-000	25-50mm	0.006mm
304-03-000	304-13-000	50-75mm	0.007mm
304-04-000	304-14-000	75-100mm	0.008mm
304-05-000	304-15-000	100-125mm	0.009mm
304-06-000	304-16-000	125-150mm	0.009mm
304-07-000	304-17-000	150-175mm	0.010mm
304-08-000	304-18-000	175-200mm	0.010mm
Inch			
304-01-001	304-11-001	0.2-1.2"	0.0002"
304-02-001	304-12-001	1-2"	0.00024"
304-03-001	304-13-001	2-3"	0.00028"
304-04-001	304-14-001	3-4"	0.00032"
304-05-001	304-15-001	4-5"	0.00036"
304-06-001	304-16-001	5-6"	0.00036"
304-07-001	304-17-001	6-7"	0.0004"
304-08-001	304-18-001	7-8"	0.0004"



Inside Micrometers (Two sides of calipers)

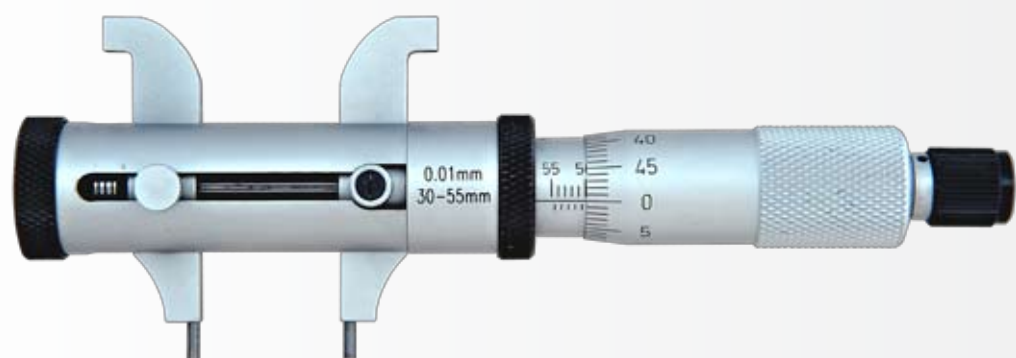
Feature:

- For all kinds of inside measurement.
- Large measuring range with two sides of calipers.
- Bidirectional graduation for easy reading in both directions.
- Supplied with setting ring ($\Phi 30\text{mm}/1.2''$).



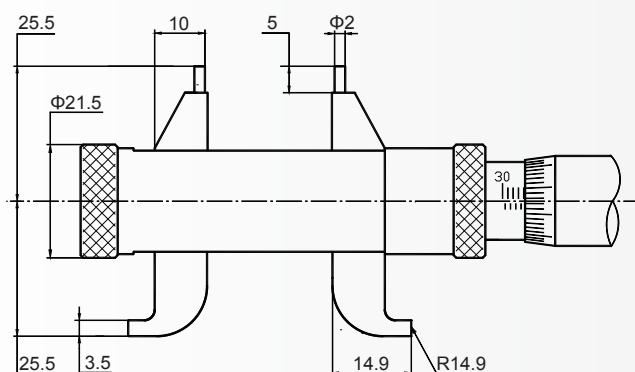
(5-30mm)

306-01-010



(30-50mm)

 Order No.	 Range	 Accuracy	 Setting rings
Metric			
306-01-010	5-30mm 30-55mm	0.006mm	$\Phi 30\text{mm}$
Inch			
306-01-011	0.2-1.2" 1.2-2.2"	0.00024"	1.2"



Three-point Internal Micrometers

Range:2-6mm/0.08-0.28"

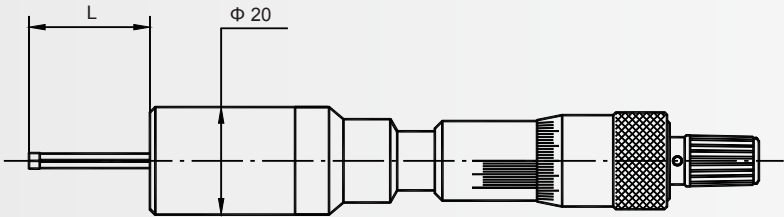
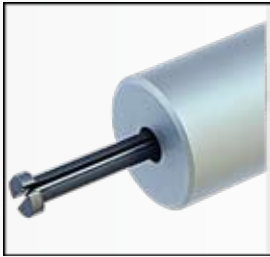
- Feature:
- Measurement can be taken closer to the bottom of the blind bore.
 - Carbide-tipped contact points.
 - Ratchet stop. Supplied with setting rings.
 - Range 2-6mm/0.08-0.28" is two point model for small holes.
 - Resolution:0.001mm/0.0001".



375-05-110

				
Order No.	Range	Accuracy	Setting rings	L
Metric				
375-01-110	2-2.5mm	0.004mm	Φ2.5mm	12.5mm
375-02-110	2.5-3mm	0.004mm	Φ2.5mm	12.5mm
375-03-110	3-4mm	0.004mm	Φ4mm	22.5mm
375-04-110	4-5mm	0.004mm	Φ5mm	22.5mm
375-05-110	5-6mm	0.004mm	Φ6mm	22.5mm
Inch				
375-01-111	0.08-0.1"	0.00016"	0.1"	0.5"
375-02-111	0.1-0.12"	0.00016"	0.1"	0.5"
375-03-111	0.12-0.16"	0.00016"	0.16"	0.9"
375-04-111	0.16-0.2"	0.00016"	0.16"	0.9"
375-05-111	0.2-0.24"	0.00016"	0.24"	0.9"
375-06-111	0.24-0.28"	0.00016"	0.24"	0.9"

Expanding two-point measuring head



Three-point Internal Micrometers

Range: 6-12mm/0.275-0.5"

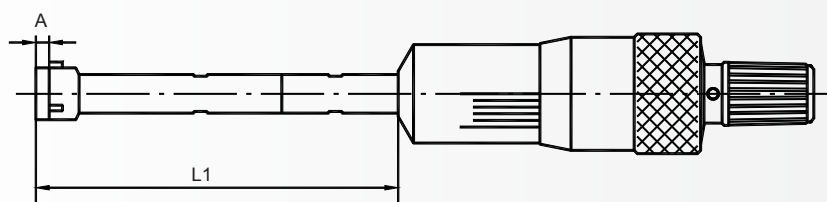
Feature:

- Measurement can be taken closer to the bottom of the blind bore.
- Ratchet stop. Supplied with setting rings.
- Resolution: 0.001mm/0.0001".



315-02-210

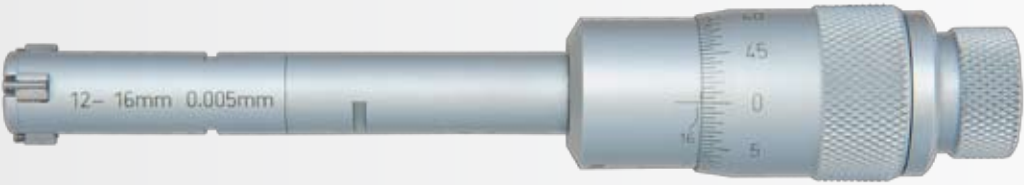
Order No.	Range	Accuracy	Setting rings	L1	A	Extension rods
Metric						
315-01-210	6-8mm	0.004mm	Φ6mm	53.5mm	0.5mm	100mm
315-02-210	8-10mm	0.004mm	Φ8mm	53.5mm	0.5mm	100mm
315-03-210	10-12mm	0.004mm	Φ10mm	53.5mm	0.5mm	100mm
Inch						
315-01-211	0.275-0.35"	0.00016"	0.275"	2.14"	0.02"	4"
315-02-211	0.35-0.425"	0.00016"	0.35"	2.14"	0.02"	4"
315-03-211	0.425-0.5"	0.00016"	0.5"	2.14"	0.02"	4"



Three-point Internal Micrometers

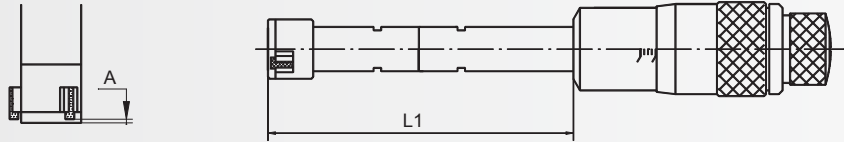
Range:6-50mm/0.275-2"

- Feature:
- Measurement can be taken closer to the bottom of the blind bore.
 - Carbide-tipped contact points (ex 6-12mm).
 - Ratchet stop.
 - Supplied with setting rings.
 - Resolution:
to 12mm/0.5": 0.001mm/0.0001"
over 12mm/0.5": 0.005mm/0.0002"



315-04-070

 Order No.	 Range	 Accuracy	 Setting rings	 L1	 A	 Extension rods
Chrome-plated surface						
Metric						
315-01-110	6-8mm	0.004mm	Φ6mm	54.5mm	1.5mm	100mm
315-02-110	8-10mm	0.004mm	Φ8mm	54.5mm	1.5mm	100mm
315-03-110	10-12mm	0.004mm	Φ10mm	54.5mm	1.5mm	100mm
315-04-070	12-16mm	0.004mm	Φ16mm	80mm	0.5mm	150mm
315-05-070	16-20mm	0.004mm	Φ16mm	80mm	0.5mm	150mm
315-06-070	20-25mm	0.004mm	Φ25mm	90mm	0.5mm	150mm
315-07-070	25-30mm	0.004mm	Φ25mm	90mm	0.5mm	150mm
315-08-070	30-40mm	0.004mm	Φ40mm	97mm	0.5mm	150mm
315-09-070	40-50mm	0.005mm	Φ40mm	97mm	0.5mm	150mm
Inch						
315-01-111	0.275-0.35"	0.00016"	0.275"	2.18"	0.06"	4"
315-02-111	0.35-0.42"	0.00016"	0.35"	2.18"	0.06"	4"
315-03-111	0.425-0.5"	0.00016"	0.5"	2.18"	0.06"	4"
315-04-071	0.5-0.65"	0.00016"	0.65"	3.2"	0.02"	6"
315-05-071	0.65-0.8"	0.00016"	0.65"	3.2"	0.02"	6"
315-06-071	0.8-1"	0.00016"	1"	3.6"	0.02"	6"
315-07-071	1-1.2"	0.00016"	1"	3.6"	0.02"	6"
315-08-071	1.2-1.6"	0.00016"	1.6"	3.88"	0.02"	6"
315-09-071	1.6-2"	0.0002"	1.6"	3.88"	0.02"	6"



Three-point Internal Micrometers

Range:50-300mm/2-12"

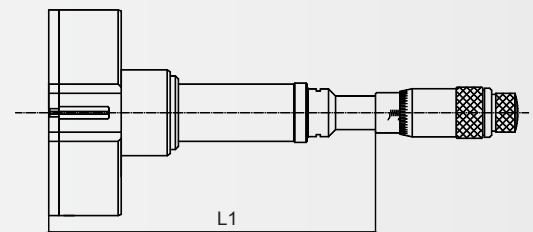
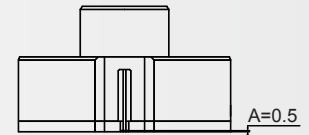


315-10-270

Feature:

- Measurement can be taken closer to the bottom of the blind bore.
- Supplied with setting rings, it is optional over 100mm.
- Carbide-tipped contact points.
- Ratchet stop. Aluminum body.

 Order No.	 Range	 Accuracy	 Setting rings	 L1	 Extension rods
Metric					
315-10-270	50-63mm	0.005mm	Φ62mm	114mm	150mm
315-11-270	62-75mm	0.005mm	Φ62mm	114mm	150mm
315-12-270	75-88mm	0.005mm	Φ87mm	114mm	150mm
315-13-270	87-100mm	0.005mm	Φ87mm	114mm	150mm
315-61-070	100-125mm	0.005mm	Φ100mm	145mm	150mm
315-62-070	125-150mm	0.005mm	Φ150mm	145mm	150mm
315-63-070	150-175mm	0.005mm	Φ150mm	145mm	150mm
315-64-070	175-200mm	0.005mm	Φ200mm	145mm	150mm
315-65-070	200-225mm	0.007mm	Φ200mm	145mm	150mm
315-66-070	225-250mm	0.007mm	Φ250mm	145mm	150mm
315-67-070	250-275mm	0.007mm	Φ250mm	145mm	150mm
315-68-070	275-300mm	0.007mm	Φ275mm	145mm	150mm
Inch					
315-10-271	2-2.5"	0.0002"	2.5"	4.56"	6"
315-11-271	2.5-3"	0.0002"	2.5"	4.56"	6"
315-12-271	3-3.5"	0.0002"	3.5"	4.56"	6"
315-13-271	3.5-4"	0.0002"	3.5"	4.56"	6"
315-61-071	4-5"	0.0002"	4"	5.8"	6"
315-62-071	5-6"	0.0002"	6"	5.8"	6"
315-63-071	6-7"	0.0002"	6"	5.8"	6"
315-64-071	7-8"	0.0002"	8"	5.8"	6"
315-65-071	8-9"	0.00028"	8"	5.8"	6"
315-66-071	9-10"	0.00028"	10"	5.8"	6"
315-67-071	10-11"	0.00028"	10"	5.8"	6"
315-68-071	11-12"	0.00028"	11"	5.8"	6"



Three-point Internal Micrometers Sets

 Order No.	 Individual range	 Setting rings	 A	 Extension rods
Chrome-plated surface(Metric)				
375-22-110	2-2.5,2.5-3mm	Φ2.5mm	/	/
375-33-110	3-4,4-5,5-6mm	Φ4,5,6mm	/	/
315-44-210	6-8,8-10,10-12mm	Φ6,8,10mm	0.5mm	100mm
315-44-110	6-8,8-10,10-12mm	Φ6,8,10mm	1.5mm	100mm
315-46-070	12-16,16-20mm	Φ16mm	0.5mm	150mm
315-47-070	20-25,25-30,30-40mm	Φ25,40mm	0.5mm	150mm
315-48-070	20-25,25-30,30-40,40-50mm	Φ25,40mm	0.5mm	150mm
Chrome-plated surface(Inch)				
375-22-111	0.08-0.1",0.1-0.12"	0.1"	/	/
375-33-111	0.12-0.16",0.16-0.2",0.2-0.24",0.24-0.28"	0.16",0.24"	/	/
315-44-211	0.275-0.35",0.35-0.425",0.425-0.5"	0.275",0.35",0.5"	0.02"	4"
315-44-111	0.275-0.35",0.35-0.425",0.425-0.5"	0.275",0.35",0.5"	0.06"	4"
315-46-071	0.5-0.65",0.65-0.8"	0.65"	0.02"	6"
315-47-071	0.8-1",1-1.2",1.2-1.6"	1",1.6"	0.02"	6"
315-48-071	0.8-1",1-1.2",1.2-1.6",1.6-2"	1",1.6"	0.02"	6"
Painted surface(Metric)				
315-50-270	50-63,62-75,75-88,87-100mm	Φ62,87mm	0.5mm	150mm
Painted surface(Inch)				
315-50-271	2-2.5",2.5-3",3-3.5",3.5-4"	2.5",3.5"	0.02"	6"

Three-point Internal Micrometers

Range:2-6mm/0.08-0.28"

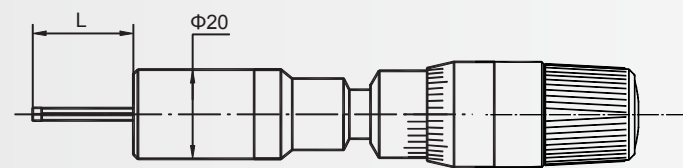
- Feature:
- Measurement can be taken closer to the bottom of the blind bore
 - Carbide-tipped contact points .
 - Ratchet stop. Supplied with setting rings.
 - Range 2-6mm/0.08-0.28" is two point model for small holes.
 - Resolution:0.001mm/0.0001".



375-04-050

 Order No.	 Range	 Accuracy	 Setting rings	 L
Metric				
375-01-050	2-2.5mm	0.004mm	Φ2.5mm	12.5mm
375-02-050	2.5-3mm	0.004mm	Φ2.5mm	12.5mm
375-03-050	3-4mm	0.004mm	Φ4mm	22.5mm
375-04-050	4-5mm	0.004mm	Φ5mm	22.5mm
375-05-050	5-6mm	0.004mm	Φ6mm	22.5mm
Inch				
375-01-051	0.08-0.1"	0.00016"	0.1"	0.5"
375-02-051	0.1-0.12"	0.00016"	0.1"	0.5"
375-03-051	0.12-0.16"	0.00016"	0.16"	0.9"
375-04-051	0.16-0.2"	0.00016"	0.16"	0.9"
375-05-051	0.2-0.24"	0.00016"	0.24"	0.9"
375-06-051	0.24-0.28"	0.00016"	0.24"	0.9"

Expanding two-point measuring head



Three-point Internal Micrometers

Range: 6-12mm/0.275-0.5"

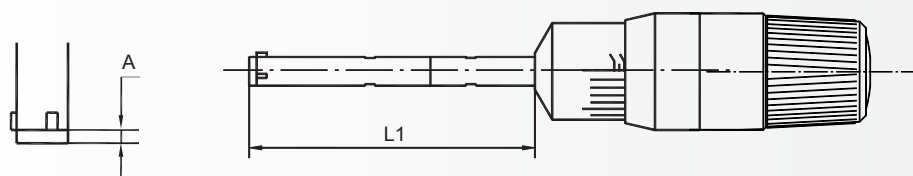
Feature:

- Measurement can be taken closer to the bottom of the blind bore.
- Ratchet stop.
- Supplied with setting rings.
- Resolution: 0.001mm/0.0001".



315-01-250

Order No.	Range	Accuracy	Setting rings	L1	A	Extension rods
Metric						
315-01-250	6-8mm	0.004mm	Φ6mm	53.5mm	0.5mm	100mm
315-02-250	8-10mm	0.004mm	Φ8mm	53.5mm	0.5mm	100mm
315-03-250	10-12mm	0.004mm	Φ10mm	53.5mm	0.5mm	100mm
Inch						
315-01-251	0.275-0.35"	0.00016"	0.275"	2.14"	0.02"	4"
315-02-251	0.35-0.425"	0.00016"	0.35"	2.14"	0.02"	4"
315-03-251	0.425-0.5"	0.00016"	0.5"	2.14"	0.02"	4"



Three-point Internal Micrometers

Range:6-50mm/0.275-2"

- Feature:
- Measurement can be taken closer to the bottom of the blind bore.
 - Carbide-tipped contact points (ex 6-12mm).
 - Ratchet stop. Supplied with setting rings.
 - Resolution: to 12mm/0.5": 0.001mm/0.0001" over 12mm/0.5": 0.005mm/0.0002"

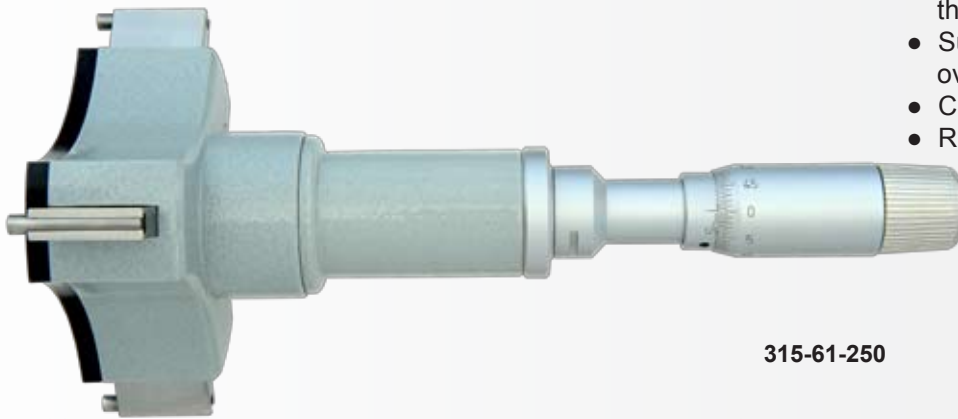


315-06-050

 Order No.	 Range	 Accuracy	 Setting rings	 L1	 A	 Extension rods
Chrome-plated surface						
Metric						
315-01-050	6-8mm	0.004mm	Φ6mm	54.5mm	1.5mm	100mm
315-02-050	8-10mm	0.004mm	Φ8mm	54.5mm	1.5mm	100mm
315-03-050	10-12mm	0.004mm	Φ10mm	54.5mm	1.5mm	100mm
315-04-050	12-16mm	0.004mm	Φ16mm	80mm	0.5mm	150mm
315-05-050	16-20mm	0.004mm	Φ16mm	80mm	0.5mm	150mm
315-06-050	20-25mm	0.004mm	Φ25mm	90mm	0.5mm	150mm
315-07-050	25-30mm	0.004mm	Φ25mm	90mm	0.5mm	150mm
315-08-050	30-40mm	0.004mm	Φ40mm	97mm	0.5mm	150mm
315-09-050	40-50mm	0.005mm	Φ40mm	97mm	0.5mm	150mm
Inch						
315-01-051	0.275-0.35"	0.00016"	0.275"	2.18"	0.06"	4"
315-02-051	0.35-0.425"	0.00016"	0.35"	2.18"	0.06"	4"
315-03-051	0.425-0.5"	0.00016"	0.5"	2.18"	0.06"	4"
315-04-051	0.5-0.65"	0.00016"	0.65"	3.2"	0.02"	6"
315-05-051	0.65-0.8"	0.00016"	0.65"	3.2"	0.02"	6"
315-06-051	0.8-1"	0.00016"	1"	3.6"	0.02"	6"
315-07-051	1-1.2"	0.00016"	1"	3.6"	0.02"	6"
315-08-051	1.2-1.6"	0.00016"	1.6"	3.88"	0.02"	6"
315-09-051	1.6-2"	0.0002"	1.6"	3.88"	0.02"	6"



Three-point Internal Micrometers

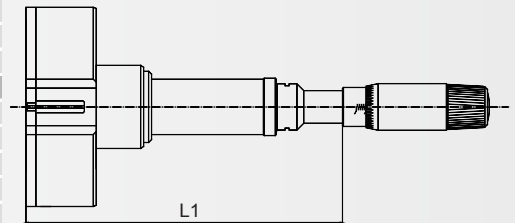
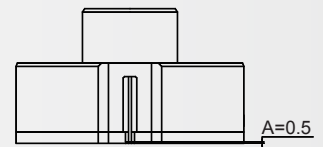


315-61-250

Feature:

- Measurement can be taken closer to the bottom of the blind bore.
- Supplied with setting rings, it is optional over 100mm.
- Carbide-tipped contact points.
- Ratchet stop. Aluminum body.

 Order No.	 Range	 Accuracy	 Setting rings	 L1	 Extension rods
Metric					
315-10-250	50-63mm	0.005mm	Φ62mm	114mm	150mm
315-11-250	62-75mm	0.005mm	Φ62mm	114mm	150mm
315-12-250	75-88mm	0.005mm	Φ87mm	114mm	150mm
315-13-250	87-100mm	0.005mm	Φ87mm	114mm	150mm
315-61-050	100-125mm	0.005mm	Φ100mm	145mm	150mm
315-62-050	125-150mm	0.005mm	Φ150mm	145mm	150mm
315-63-050	150-175mm	0.005mm	Φ150mm	145mm	150mm
315-64-050	175-200mm	0.005mm	Φ200mm	145mm	150mm
315-65-050	200-225mm	0.007mm	Φ200mm	145mm	150mm
315-66-050	225-250mm	0.007mm	Φ250mm	145mm	150mm
315-67-050	250-275mm	0.007mm	Φ250mm	145mm	150mm
315-68-050	275-300mm	0.007mm	Φ275mm	145mm	150mm
Inch					
315-10-251	2-2.5"	0.0002"	2.5"	4.56"	6"
315-11-251	2.5-3"	0.0002"	2.5"	4.56"	6"
315-12-251	3-3.5"	0.0002"	3.5"	4.56"	6"
315-13-251	3.5-4"	0.0002"	3.5"	4.56"	6"
315-61-051	4-5"	0.0002"	4"	5.8"	6"
315-62-051	5-6"	0.0002"	6"	5.8"	6"
315-63-051	6-7"	0.0002"	6"	5.8"	6"
315-64-051	7-8"	0.0002"	8"	5.8"	6"
315-65-051	8-9"	0.00028"	8"	5.8"	6"
315-66-051	9-10"	0.00028"	10"	5.8"	6"
315-67-051	10-11"	0.00028"	10"	5.8"	6"
315-68-051	11-12"	0.00028"	11"	5.8"	6"



Three-point Internal Micrometers Sets

 Order No.	 Individual range	 Setting rings	 A	 Extension rods
Chrome-plated surface(Metric)				
375-22-050	2-2.5, 2.5-3mm	Φ2.5mm	/	/
375-33-050	3-4, 4-5, 5-6mm	Φ4, 5, 6mm	/	/
315-44-250	6-8, 8-10, 10-12mm	Φ6, 8, 10mm	0.5mm	100mm
315-44-050	6-8, 8-10, 10-12mm	Φ6, 8, 10mm	1.5mm	100mm
315-46-050	12-16, 16-20mm	Φ16mm	0.5mm	150mm
315-47-050	20-25, 25-30, 30-40mm	Φ25, 40mm	0.5mm	150mm
315-48-050	20-25, 25-30, 30-40, 40-50mm	Φ25, 40mm	0.5mm	150mm
Chrome-plated surface(Inch)				
375-22-051	0.08-0.1", 0.1-0.12"	0.1"	/	/
375-33-051	0.12-0.16", 0.16-0.2", 0.2-0.24", 0.24-0.28"	0.16", 0.24"	/	/
315-44-251	0.275-0.35", 0.35-0.425", 0.425-0.5"	0.275", 0.35", 0.5"	0.02"	4"
315-44-051	0.275-0.35", 0.35-0.425", 0.425-0.5"	0.275", 0.35", 0.5"	0.06"	4"
315-46-051	0.5-0.65", 0.65-0.8"	0.65"	0.02"	6"
315-47-051	0.8-1", 1-1.2", 1.2-1.6"	1", 1.6"	0.02"	6"
315-48-051	0.8-1", 1-1.2", 1.2-1.6", 1.6-2"	1", 1.6"	0.02"	6"
Painted surface(Metric)				
315-50-250	50-63, 62-75, 75-88, 87-100mm	Φ62, 87mm	0.5mm	150mm
Painted surface(Inch)				
315-50-251	2-2.5", 2.5-3", 3-3.5", 3.5-4"	2.5", 3.5"	0.02"	6"

Electronic Three-point Internal Micrometers

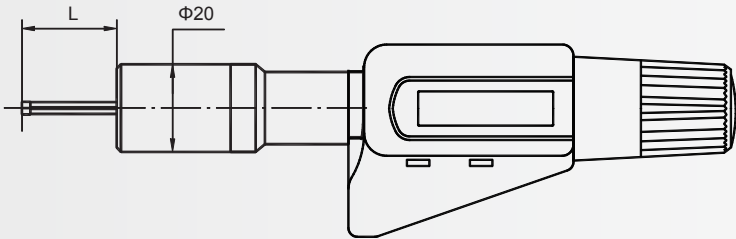
Range:2-6mm/0.08-0.28"

- Feature:
- Measurement can be taken closer to the bottom of the blind bore.
 - Ratchet stop.
 - Supplied with setting rings.
 - Range 2-6mm/0.08-0.28" is two point model for small holes.
 - Protection level IP54.
 - Electronic system same as 132-XX-534 electronic outside micrometers.



385-05-920

 Order No.	 Range	 Accuracy	 Setting rings	 L
Metric				
385-01-920	2-2.5mm	0.004mm	Φ2.5mm	12.5mm
385-02-920	2.5-3mm	0.004mm	Φ2.5mm	12.5mm
385-03-920	3-4mm	0.004mm	Φ4mm	22.5mm
385-04-920	4-5mm	0.004mm	Φ5mm	22.5mm
385-05-920	5-6mm	0.004mm	Φ6mm	22.5mm
Inch				
385-01-921	0.08-0.1"	0.00016"	0.1"	0.5"
385-02-921	0.1-0.12"	0.00016"	0.1"	0.5"
385-03-921	0.12-0.16"	0.00016"	0.16"	0.9"
385-04-921	0.16-0.2"	0.00016"	0.16"	0.9"
385-05-921	0.2-0.24"	0.00016"	0.24"	0.9"
385-06-921	0.24-0.28"	0.00016"	0.24"	0.9"



Electronic Three-point Internal Micrometers

Range:6-12mm/0.275-0.5"

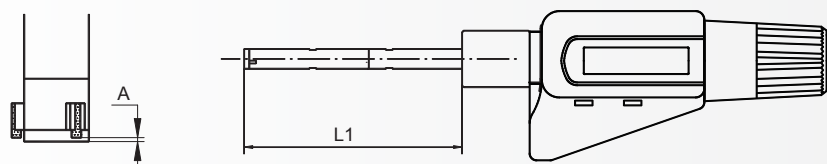
Feature:

- Measurement can be taken closer to the bottom of the blind bore.
- Ratchet stop.
- Supplied with setting rings.
- Protection level IP54.
- Electronic system same as 132-XX-534 electronic outside micrometers.



335-01-820

Order No.	Range	Accuracy	Setting rings	L1	A	Extension rods
Metric						
335-01-820	6-8mm	0.004mm	Φ6mm	53.5mm	0.5mm	100mm
335-02-820	8-10mm	0.004mm	Φ8mm	53.5mm	0.5mm	100mm
335-03-820	10-12mm	0.004mm	Φ10mm	53.5mm	0.5mm	100mm
Inch						
335-01-821	0.275-0.35"	0.00016"	0.275"	2.14"	0.02"	4"
335-02-821	0.35-0.425"	0.00016"	0.35"	2.14"	0.02"	4"
335-03-821	0.425-0.5"	0.00016"	0.5"	2.14"	0.02"	4"



Electronic Three-point Internal Micrometers

Range: 6-50mm/0.275-2"

Feature:

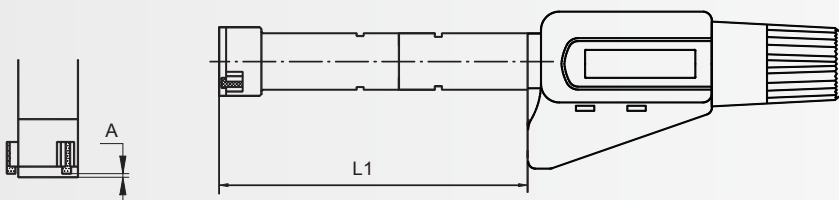
- Measurement can be taken closer to the bottom of the blind bore.
- Carbide-tipped contact points (ex 6-12mm).
- Ratchet stop. Supplied with setting rings.
- Protection level IP54.
- Electronic system same as 132-XX-534 electronic outside micrometers.



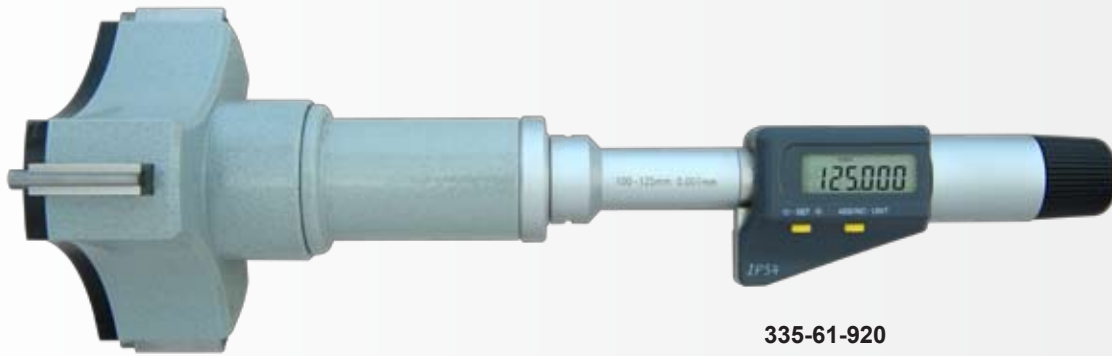
335-07-920



 Order No.	 Range	 Accuracy	 Setting rings	 L1	 A	 Extension rods
Chrome-plated surface						
Metric						
335-01-920	6-8mm	0.004mm	Φ6mm	54.5mm	1.5mm	100mm
335-02-920	8-10mm	0.004mm	Φ8mm	54.5mm	1.5mm	100mm
335-03-920	10-12mm	0.004mm	Φ10mm	54.5mm	1.5mm	100mm
335-04-920	12-16mm	0.004mm	Φ16mm	80mm	0.5mm	150mm
335-05-920	16-20mm	0.004mm	Φ16mm	80mm	0.5mm	150mm
335-06-920	20-25mm	0.004mm	Φ25mm	90mm	0.5mm	150mm
335-07-920	25-30mm	0.004mm	Φ25mm	90mm	0.5mm	150mm
335-08-920	30-40mm	0.004mm	Φ40mm	97mm	0.5mm	150mm
335-09-920	40-50mm	0.005mm	Φ40mm	97mm	0.5mm	150mm
Inch						
335-01-921	0.275-0.35"	0.00016"	0.275"	2.18"	0.06"	4"
335-02-921	0.35-0.425"	0.00016"	0.35"	2.18"	0.06"	4"
335-03-921	0.425-0.5"	0.00016"	0.5"	2.18"	0.06"	4"
335-04-921	0.5-0.65"	0.00016"	0.65"	3.2"	0.02"	6"
335-05-921	0.65-0.8"	0.00016"	0.65"	3.2"	0.02"	6"
335-06-921	0.8-1"	0.00016"	1"	3.6"	0.02"	6"
335-07-921	1-1.2"	0.00016"	1"	3.6"	0.02"	6"
335-08-921	1.2-1.6"	0.00016"	1.6"	3.88"	0.02"	6"
335-09-921	1.6-2"	0.0002"	1.6"	3.88"	0.02"	6"



Electronic Three-point Internal Micrometers



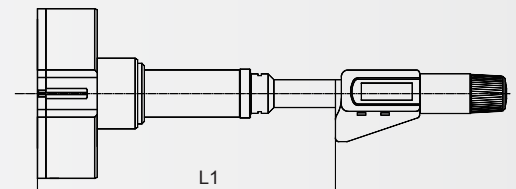
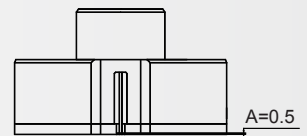
335-61-920



Order No.	Range	Accuracy	Setting rings	L1	Extension rods
Metric					
335-10-820	50-63mm	0.005mm	Φ62mm	114mm	150mm
335-11-820	62-75mm	0.005mm	Φ62mm	114mm	150mm
335-12-820	75-88mm	0.005mm	Φ87mm	114mm	150mm
335-13-820	87-100mm	0.005mm	Φ87mm	114mm	150mm
335-61-920	100-125mm	0.005mm	Φ100mm	150mm	150mm
335-62-920	125-150mm	0.005mm	Φ150mm	150mm	150mm
335-63-920	150-175mm	0.005mm	Φ150mm	150mm	150mm
335-64-920	175-200mm	0.005mm	Φ200mm	150mm	150mm
335-65-920	200-225mm	0.007mm	Φ200mm	150mm	150mm
335-66-920	225-250mm	0.007mm	Φ250mm	150mm	150mm
335-67-920	250-275mm	0.007mm	Φ250mm	150mm	150mm
335-68-920	275-300mm	0.007mm	Φ275mm	150mm	150mm
Inch					
335-10-821	2-2.5"	0.0002"	2.5"	4.56"	6"
335-11-821	2.5-3"	0.0002"	2.5"	4.56"	6"
335-12-821	3-3.5"	0.0002"	3.5"	4.56"	6"
335-13-821	3.5-4"	0.0002"	3.5"	4.56"	6"
335-61-921	4-5"	0.0002"	4"	6"	6"
335-62-921	5-6"	0.0002"	6"	6"	6"
335-63-921	6-7"	0.0002"	6"	6"	6"
335-64-921	7-8"	0.0002"	8"	6"	6"
335-65-921	8-9"	0.00028"	8"	6"	6"
335-66-921	9-10"	0.00028"	10"	6"	6"
335-67-921	10-11"	0.00028"	10"	6"	6"
335-68-921	11-12"	0.00028"	11"	6"	6"

Feature:

- Measurement can be taken closer to the bottom of the blind bore.
- Supplied with setting rings, it is optional over 100mm.
- Carbide-tipped contact points.
- Ratchet stop.
- Aluminum body. Protection level IP54.
- Electronic system same as 132-XX-534 electronic outside micrometers.



Electronic Three-point Internal Micrometers Sets

Order No.	Individual range	Setting rings	A	Extension rods
Chrome-plated surface(Metric)				
385-22-920	2-2.5, 2.5-3mm	Φ2.5mm	/	/
385-33-920	3-4, 4-5, 5-6mm	Φ4, 5, 6mm	/	/
335-44-820	6-8, 8-10, 10-12mm	Φ6, 8, 10mm	0.5mm	100mm
335-44-920	6-8, 8-10, 10-12mm	Φ6, 8, 10mm	1.5mm	100mm
335-46-920	12-16, 16-20mm	Φ16mm	0.5mm	150mm
335-47-920	20-25, 25-30, 30-40mm	Φ25, 40mm	0.5mm	150mm
335-48-920	20-25, 25-30, 30-40, 40-50mm	Φ25, 40mm	0.5mm	150mm
Chrome-plated surface(Inch)				
385-22-921	0.08-0.1", 0.1-0.12"	0.1"	/	/
385-33-921	0.12-0.16", 0.16-0.2", 0.2-0.24", 0.24-0.28"	0.16", 0.24"	/	/
335-44-821	0.275-0.35", 0.35-0.425", 0.425-0.5"	0.275", 0.35", 0.5"	0.02"	4"
335-44-921	0.275-0.35", 0.35-0.425", 0.425-0.5"	0.275", 0.35", 0.5"	0.06"	4"
335-46-921	0.5-0.65", 0.65-0.8"	0.65"	0.02"	6"
335-47-921	0.8-1", 1-1.2", 1.2-1.6"	1", 1.6"	0.02"	6"
335-48-921	0.8-1", 1-1.2", 1.2-1.6", 1.6-2"	1", 1.6"	0.02"	6"
Painted surface(Metric)				
335-50-820	50-63, 62-75, 75-88, 87-100mm	Φ62, 87mm	0.5mm	150mm
Painted surface(Inch)				
335-50-821	2-2.5", 2.5-3", 3-3.5", 3.5-4"	2.5", 3.5"	0.02"	6"

Electronic Three-point Internal Micrometers

Range: 2-6mm/0.08-0.28"



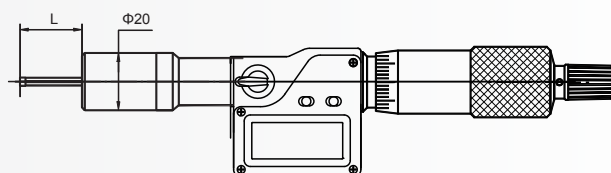
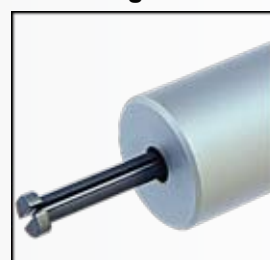
385-05-610

Feature:

- Measurement can be taken closer to the bottom of the blind bore.
- Carbide-tipped contact points (ex 6-12 mm). Ratchet stop.
- Supplied with setting rings, it is optional over 100mm.
- Protection level IP65.
- Electronic system same as 133-XX-416 electronic outside micrometers.

Order No.	Range	Accuracy	Setting rings	L
Metric				
385-01-610	2-2.5mm	0.004mm	Φ2.5mm	12.5mm
385-02-610	2.5-3mm	0.004mm	Φ2.5mm	12.5mm
385-03-610	3-4mm	0.004mm	Φ4mm	22.5mm
385-04-610	4-5mm	0.004mm	Φ5mm	22.5mm
385-05-610	5-6mm	0.004mm	Φ6mm	22.5mm
Inch				
385-01-611	0.08-0.1"	0.00016"	0.1"	0.5"
385-02-611	0.1-0.12"	0.00016"	0.1"	0.5"
385-03-611	0.12-0.16"	0.00016"	0.16"	0.9"
385-04-611	0.16-0.2"	0.00016"	0.16"	0.9"
385-05-611	0.2-0.24"	0.00016"	0.24"	0.9"
385-06-611	0.24-0.28"	0.00016"	0.24"	0.9"

Expanding two-point measuring head

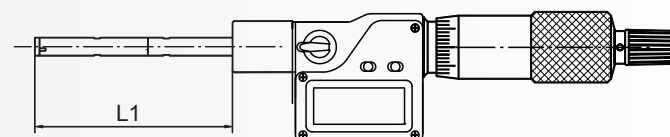
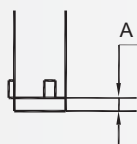


Range: 6-12mm/0.275-0.5"



335-02-510

Order No.	Range	Accuracy	Setting rings	L1	A	Extension rods
Metric						
335-01-510	6-8mm	0.004mm	Φ6mm	54.5mm	0.5mm	100mm
335-02-510	8-10mm	0.004mm	Φ8mm	54.5mm	0.5mm	100mm
335-03-510	10-12mm	0.004mm	Φ10mm	54.5mm	0.5mm	100mm
Inch						
335-01-511	0.275-0.35"	0.00016"	0.275"	2.18"	0.02"	4"
335-02-511	0.35-0.425"	0.00016"	0.35"	2.18"	0.02"	4"
335-03-511	0.425-0.5"	0.00016"	0.5"	2.18"	0.02"	4"



Electronic Three-point Internal Micrometers

Range: 6-50mm/0.275-2"

Feature:

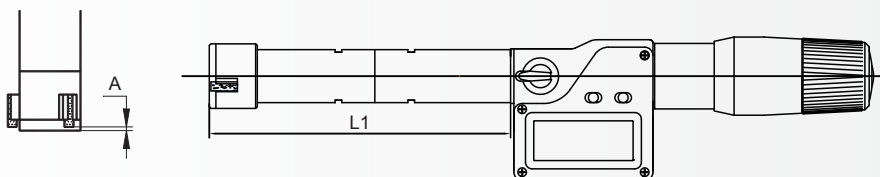
- Measurement can be taken closer to the bottom of the blind bore.
- Ratchet stop.
- Supplied with setting rings, it is optional over 100mm.
- Protection level IP65.
- Electronic system same as 133-XX-416 electronic outside micrometers.



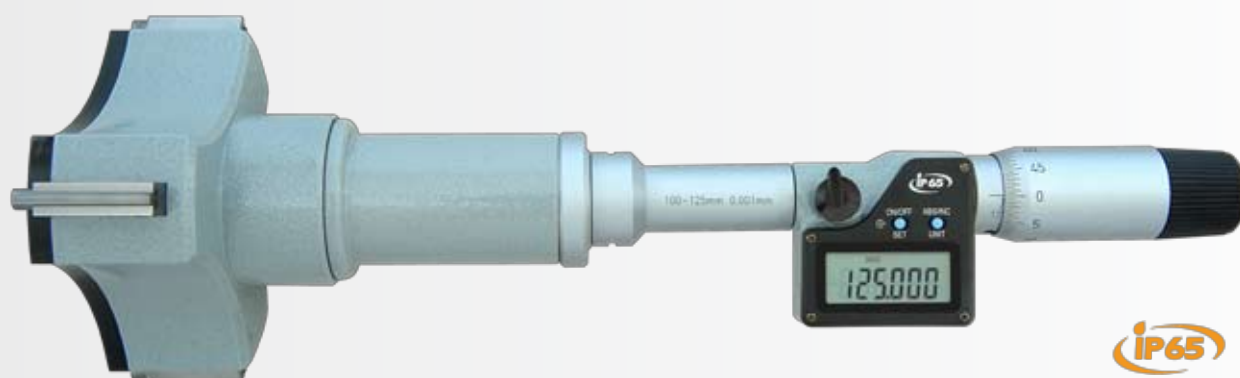
335-06-610



Order No.	Range	Accuracy	Setting rings	L1	A	Extension rods
Chrome-plated surface						
Metric						
335-01-610	6-8mm	0.004mm	Φ6mm	54.5mm	1.5mm	100mm
335-02-610	8-10mm	0.004mm	Φ8mm	54.5mm	1.5mm	100mm
335-03-610	10-12mm	0.004mm	Φ10mm	54.5mm	1.5mm	100mm
335-04-610	12-16mm	0.004mm	Φ16mm	80mm	0.5mm	150mm
335-05-610	16-20mm	0.004mm	Φ16mm	80mm	0.5mm	150mm
335-06-610	20-25mm	0.004mm	Φ25mm	90mm	0.5mm	150mm
335-07-610	25-30mm	0.004mm	Φ25mm	90mm	0.5mm	150mm
335-08-610	30-40mm	0.004mm	Φ40mm	97mm	0.5mm	150mm
335-09-610	40-50mm	0.005mm	Φ40mm	97mm	0.5mm	150mm
Inch						
335-01-611	0.275-0.35"	0.00016"	0.275"	2.18"	0.06"	4"
335-02-611	0.35-0.425"	0.00016"	0.35"	2.18"	0.06"	4"
335-03-611	0.425-0.5"	0.00016"	0.5"	2.18"	0.06"	4"
335-04-611	0.5-0.65"	0.00016"	0.65"	3.2"	0.02"	6"
335-05-611	0.65-0.8"	0.00016"	0.65"	3.2"	0.02"	6"
335-06-611	0.8-1"	0.00016"	1"	3.6"	0.02"	6"
335-07-611	1-1.2"	0.00016"	1"	3.6"	0.02"	6"
335-08-611	1.2-1.6"	0.00016"	1.6"	3.88"	0.02"	6"
335-09-611	1.6-2"	0.0002"	1.6"	3.88"	0.02"	6"



Electronic Three-point Internal Micrometers

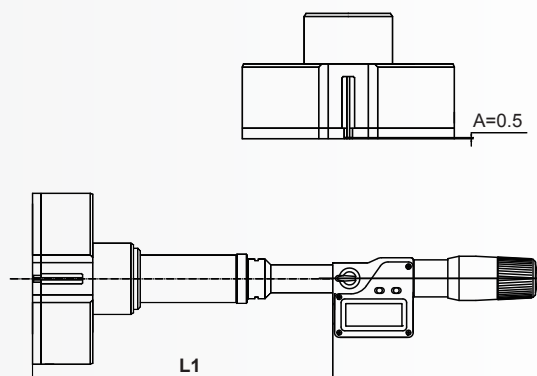


335-61-610

Order No.	Range	Accuracy	Setting rings	L1	Extension rods
Metric					
335-10-610	50-63mm	0.005mm	Φ62mm	114mm	150mm
335-11-610	62-75mm	0.005mm	Φ62mm	114mm	150mm
335-12-610	75-88mm	0.005mm	Φ87mm	114mm	150mm
335-13-610	87-100mm	0.005mm	Φ87mm	114mm	150mm
335-61-610	100-125mm	0.005mm	Φ100mm	150mm	150mm
335-62-610	125-150mm	0.005mm	Φ150mm	150mm	150mm
335-63-610	150-175mm	0.005mm	Φ150mm	150mm	150mm
335-64-610	175-200mm	0.005mm	Φ200mm	150mm	150mm
335-65-610	200-225mm	0.007mm	Φ200mm	150mm	150mm
335-66-610	225-250mm	0.007mm	Φ250mm	150mm	150mm
335-67-610	250-275mm	0.007mm	Φ250mm	150mm	150mm
335-68-610	275-300mm	0.007mm	Φ275mm	150mm	150mm
Inch					
335-10-611	2-2.5"	0.0002"	2.5"	4.56"	6"
335-11-611	2.5-3"	0.0002"	2.5"	4.56"	6"
335-12-611	3-3.5"	0.0002"	3.5"	4.56"	6"
335-13-611	3.5-4"	0.0002"	3.5"	4.56"	6"
335-61-611	4-5"	0.0002"	4"	6"	6"
335-62-611	5-6"	0.0002"	6"	6"	6"
335-63-611	6-7"	0.0002"	6"	6"	6"
335-64-611	7-8"	0.0002"	8"	6"	6"
335-65-611	8-9"	0.00028"	8"	6"	6"
335-66-611	9-10"	0.00028"	10"	6"	6"
335-67-611	10-11"	0.00028"	10"	6"	6"
335-68-611	11-12"	0.00028"	11"	6"	6"

Feature:

- Measurement can be taken closer to the bottom of the blind bore.
- Carbide-tipped contact points .
- Ratchet stop.
- Supplied with setting rings, it is optional over 100mm.
- Protection level IP65.
- Electronic system same as 133-XX-416 electronic outside micrometers.



Electronic Three-point Internal Micrometers Sets

Order No.	Individual range	Setting rings	A	Extension rods
Metric				
385-22-610	2-2.5, 2.5-3mm	Φ2.5mm	/	/
385-33-610	3-4, 4-5, 5-6mm	Φ4, 5, 6mm	/	/
335-44-510	6-8, 8-10, 10-12mm	Φ6, 8, 10mm	0.5mm	100mm
335-44-610	6-8, 8-10, 10-12mm	Φ6, 8, 10mm	1.5mm	100mm
335-46-610	12-16, 16-20mm	Φ16mm	0.5mm	150mm
335-48-610	20-25, 25-30, 30-40, 40-50mm	Φ25, 40mm	0.5mm	150mm
335-50-610	50-63, 62-75, 75-88, 87-100mm	Φ62, 87mm	0.5mm	150mm
Inch				
385-22-611	0.08-0.1", 0.1-0.12"	0.1"	/	/
385-33-611	0.12-0.16", 0.16-0.2", 0.2-0.24", 0.24-0.28"	0.16", 0.24"	/	/
335-44-611	0.275-0.35", 0.35-0.425", 0.425-0.5"	0.275", 0.35", 0.5"	0.02"	4"
335-44-611	0.275-0.35", 0.35-0.425", 0.425-0.5"	0.275", 0.35", 0.5"	0.06"	4"
335-46-611	0.5-0.65", 0.65-0.8"	0.65"	0.02"	6"
335-48-611	0.8-1", 1-1.2", 1.2-1.6", 1.6-2"	1", 1.6"	0.02"	6"
335-50-611	2-2.5", 2.5-3", 3-3.5", 3.5-4"	2.5", 3.5"	0.02"	6"

Electronic Three-point Internal Micrometers

Feature:

- Large measuring range due to the patent structure.
- Measurement can be taken closer to the bottom of the blind bore.
- Carbide-tipped contact points.
- Ratchet stop.
- Supplied with setting rings.
- Protection level IP54.
- Electronic system same as 132-XX-534 electronic outside micrometers.



325-12-920



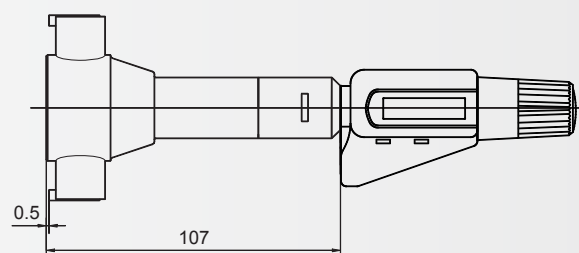
 Order No.	 Range	 Accuracy	 Setting rings
Metric			
325-11-920	50-70mm	0.004mm	Φ50mm
325-12-920	70-100mm	0.004mm	Φ70mm
325-13-920	100-150mm	0.005mm	Φ100mm
325-14-920	150-250mm	0.007mm	Φ150mm
325-15-920	200-300mm	0.007mm	Optional
Inch			
325-11-921	2-2.8"	0.00016"	2"
325-12-921	2.8-4"	0.00016"	2.8"
325-13-921	4-6"	0.00020"	4"
325-14-921	6-10"	0.00028"	6"
325-15-921	8-12"	0.00028"	Optional



Sets



325-50-920

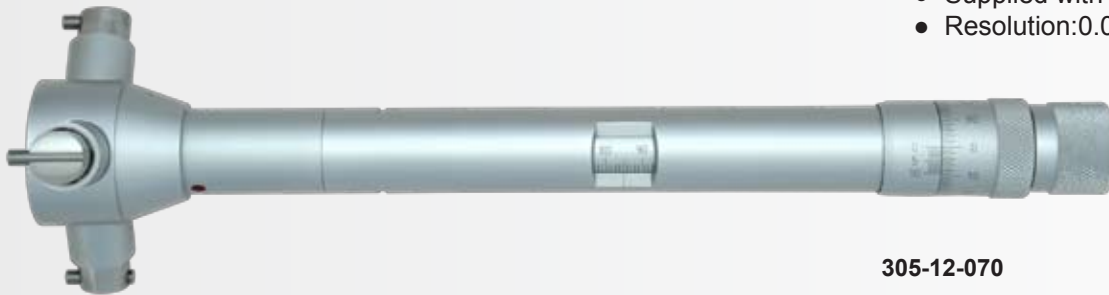


 Order No.	 Range	 Individual range	 Setting rings	 Extension rods
Metric				
325-50-920	50-100mm	50-70, 70-100mm	Φ70mm	150mm
325-60-920	100-250mm	100-150, 150-250mm	Φ150mm	150mm
Inch				
325-50-921	2-4"	2-2.8", 2.8-4"	2.8"	6"
325-60-921	4-10"	4-6", 6-10"	6"	6"

Three-point Internal Micrometers

Feature:

- Large measuring range due to the patent structure.
- Measurement can be taken closer to the bottom of the blind bore.
- Carbide-tipped contact points.
- Ratchet stop.
- Supplied with setting rings.
- Resolution: 0.001mm/0.0001".



305-12-070

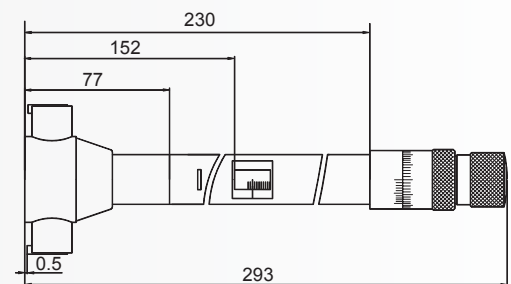
 Order No.	 Range	 Accuracy	 Setting rings
Metric			
305-11-070	50-70mm	0.004mm	Φ50mm
305-12-070	70-100mm	0.004mm	Φ70mm
305-13-070	100-150mm	0.005mm	Φ100mm
305-14-070	150-250mm	0.007mm	Φ150mm
305-15-070	200-300mm	0.007mm	Optional
Inch			
305-11-071	2-2.8"	0.00016"	2"
305-12-071	2.8-4"	0.00016"	2.8"
305-13-071	4-6"	0.00020"	4"
305-14-071	6-10"	0.00028"	6"
305-15-071	8-12"	0.00028"	Optional



Sets



305-50-070



 Order No.	 Range	 Individual range	 Setting rings	 Extension rods
Metric				
305-50-070	50-100mm	50-70, 70-100mm	Φ70mm	150mm
305-60-070	100-250mm	100-150, 150-250mm	Φ150mm	150mm
Inch				
305-50-071	2-4"	2-2.8", 2.8-4"	2.8"	6"
305-60-071	4-10"	4-6", 6-10"	6"	6"

Electronic Three-point Internal Micrometers

Feature:

- Large measuring range due to the patent structure.
- High accuracy interchangeable measuring rods enable that reading does not have to be reset after changing.
- Measurement can be taken closer to the bottom of the blind bore.
- Carbide-tipped contact points.
- Ratchet stop.
- Electronic system same as 132-XX-534 electronic outside micrometers.
- Setting rings are optional.
- Protection level IP54.



325-20-920

Order No.	Range	Accuracy	Setting rings	Interchangeable measuring rods(L)	Extension rods
Metric					
325-20-920	200-500mm	$(1+L/50)\mu\text{m}$	$\Phi 200\text{mm}$	3x50mm, 3x100mm	150mm, 500mm
325-25-920	200-1000mm	$(1+L/50)\mu\text{m}$	$\Phi 200\text{mm}$	3x50mm, 3x100mm, 3x150mm, 3x200mm, 3x250mm, 3x300mm, 3x350mm	150mm, 500mm, 1000mm
Inch					
325-20-921	8-20"	$0.00004 (1+L/2)"$	8"DIA	3x2", 3x4"	6", 20"
325-25-921	8-40"	$0.00004 (1+L/2)"$	8"DIA	3x2", 3x4", 3x6", 3x8", 3x10", 3x12", 3x14"	6", 20", 40"



Pistol-grip Three-point Bore Gages



305-10-000
(Dial indicator is optional)

Feature:

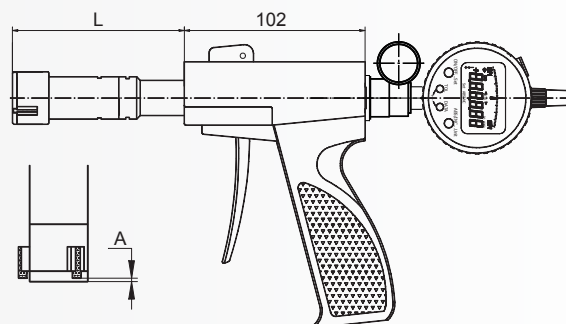
- Easy operating and viewing with right or left hand.
- Self-centering 3-point for accurate bore measuring. Measurement can be taken closer to the bottom of a blind bore.
- Carbide-tipped contact points(ex 6-12mm).
- Supplied with setting rings, it is optional over 100mm.
- Dial indicator is optional. Fixing bore for dial indicator: $\Phi 8\text{mm}$ or $3/8"$ ($\Phi 9.525\text{mm}$).

							
Order No.	Range	Accuracy	Setting rings	L	A	Extension rods	
Metric	Inch						
305-01-000	305-01-001	6-8mm 0.275-0.35"	0.004mm 0.00016"	Φ6mm 0.275"	50mm 2"	1.5mm 0.06"	100mm 4"
305-02-000	305-02-001	8-10mm 0.35-0.425"	0.004mm 0.00016"	Φ8mm 0.35"	50mm 2"	1.5mm 0.06"	100mm 4"
305-03-000	305-03-001	10-12mm 0.425-0.5"	0.004mm 0.00016"	Φ10mm 0.5"	50mm 2"	1.5mm 0.06"	100mm 4"
305-04-000	305-04-001	12-16mm 0.5-0.65"	0.004mm 0.00016"	Φ16mm 0.65"	65mm 2.6"	0.5mm 0.02"	150mm 6"
305-05-000	305-05-001	16-20mm 0.65-0.8"	0.004mm 0.00016"	Φ16mm 0.65"	65mm 2.6"	0.5mm 0.02"	150mm 6"
305-06-000	305-06-001	20-25mm 0.8-1"	0.004mm 0.00016"	Φ25mm 1"	91mm 3.64"	0.5mm 0.02"	150mm 6"
305-07-000	305-07-001	25-30mm 1-1.2"	0.004mm 0.00016"	Φ25mm 1"	91mm 3.64"	0.5mm 0.02"	150mm 6"
305-08-000	305-08-001	30-40mm 1.2-1.6"	0.004mm 0.00016"	Φ40mm 1.6"	97mm 3.88"	0.5mm 0.02"	150mm 6"
305-09-000	305-09-001	40-50mm 1.6-2"	0.005mm 0.0002"	Φ40mm 1.6"	97mm 3.88"	0.5mm 0.02"	150mm 6"
305-10-000	305-10-001	50-63mm 2-2.5"	0.005mm 0.0002"	Φ62mm 2.5"	112mm 4.48"	0.5mm 0.02"	150mm 6"
305-11-000	305-11-001	62-75mm 2.5-3"	0.005mm 0.0002"	Φ62mm 2.5"	112mm 4.48"	0.5mm 0.02"	150mm 6"
305-12-000	305-12-001	75-88mm 3-3.5"	0.005mm 0.0002"	Φ87mm 3.5"	112mm 4.48"	0.5mm 0.02"	150mm 6"
305-13-000	305-13-001	87-100mm 3.5-4"	0.005mm 0.0002"	Φ87mm 3.5"	112mm 4.48"	0.5mm 0.02"	150mm 6"
305-61-000	305-61-001	100-125mm 4-5"	0.005mm 0.0002"	Φ112.5mm 4.5"	130mm 5.2"	0.5mm 0.02"	150mm 6"
305-62-000	305-62-001	125-150mm 5-6"	0.005mm 0.0002"	Φ137.5mm 5.5"	130mm 5.2"	0.5mm 0.02"	150mm 6"
305-63-000	305-63-001	150-175mm 6-7"	0.005mm 0.0002"	Φ162.5mm 6.5"	130mm 5.2"	0.5mm 0.02"	150mm 6"
305-64-000	305-64-001	175-200mm 7-8"	0.005mm 0.0002"	Φ187.5mm 7.5"	130mm 5.2"	0.5mm 0.02"	150mm 6"
305-65-000	305-65-001	200-225mm 8-9"	0.007mm 0.00028"	Φ212.5mm 8.5"	130mm 5.2"	0.5mm 0.02"	150mm 6"
305-66-000	305-66-001	225-250mm 9-10"	0.007mm 0.00028"	Φ237.5mm 9.5"	130mm 5.2"	0.5mm 0.02"	150mm 6"
305-67-000	305-67-001	250-275mm 10-11"	0.007mm 0.00028"	Φ262.5mm 10.5"	130mm 5.2"	0.5mm 0.02"	150mm 6"
305-68-000	305-68-001	275-300mm 11-12"	0.007mm 0.00028"	Φ287.5mm 11.5"	130mm 5.2"	0.5mm 0.02"	150mm 6"

Sets

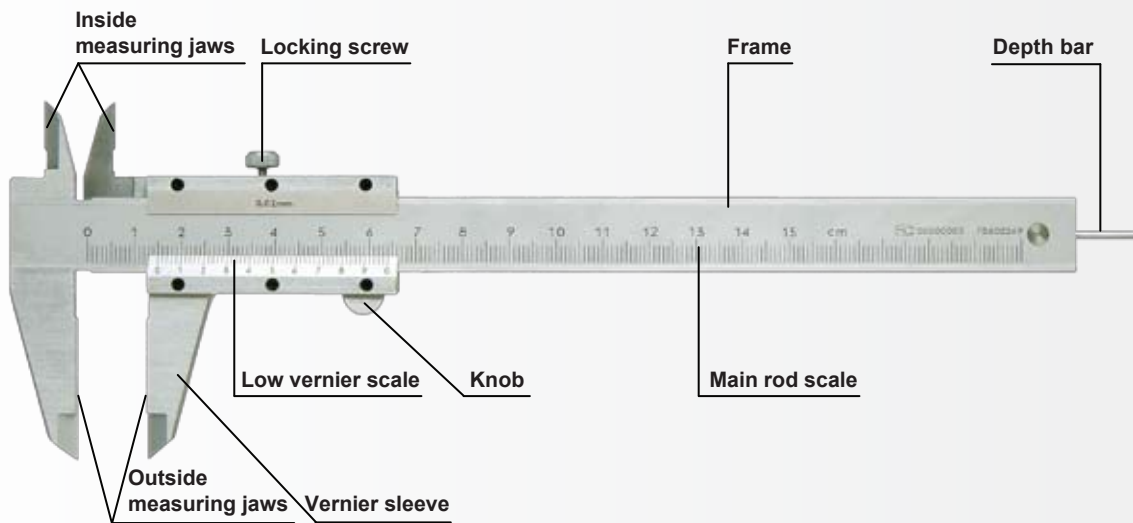


305-48-000
(Dial indicator is optional)

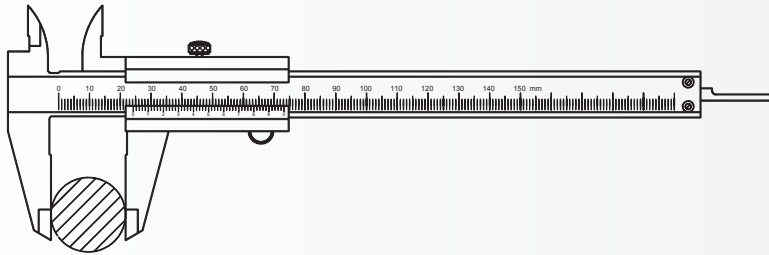


Order No.		Range		Individual range		Setting rings	Extension rods	
Metric	Inch							
305-44-000	305-44-001	6-12mm (A=1.5mm)	0.275-0.5" (A=1.5mm)	6-8,8-10,10-12mm	0.275-0.35",0.35-0.425", 0.425-0.5"	$\Phi 6,8,10\text{mm}$	0.275", 0.35",0.5"	100mm 4"
305-46-000	305-46-001	12-20mm (A=0.5mm)	0.5-0.8" (A=1.5mm)	12-16,16-20mm	0.5-0.65",0.65-0.8"	$\Phi 16\text{mm}$	0.65"	150mm 6"
305-48-000	305-48-001	20-50mm (A=0.5mm)	0.8-2" (A=1.5mm)	20-25,25-30, 30-40,40-50mm	0.8-1",1-1.2", 1.2-1.6",1.6-2"	$\Phi 25,40\text{mm}$	1",1.6"	150mm 6"
305-50-230	305-50-231	50-100mm (A=0.5mm)	2-4" (A=1.5mm)	50-63,62-75, 75-88,87-100mm	2-2.5",2.5-3", 3-3.5",3.5-4"	$\Phi 62,87\text{mm}$	2.5",3.5"	150mm 6"

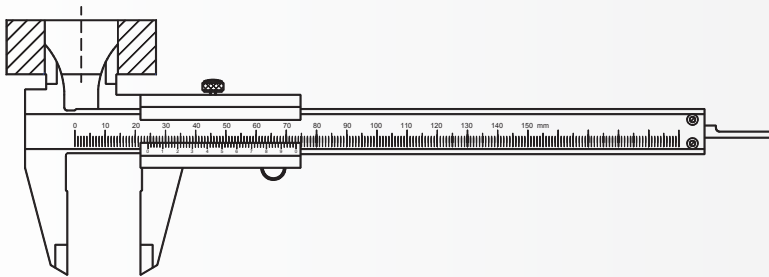
Vernier Calipers



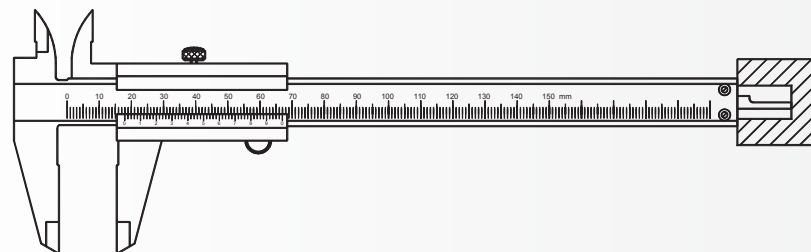
4 Kinds of measuring modes



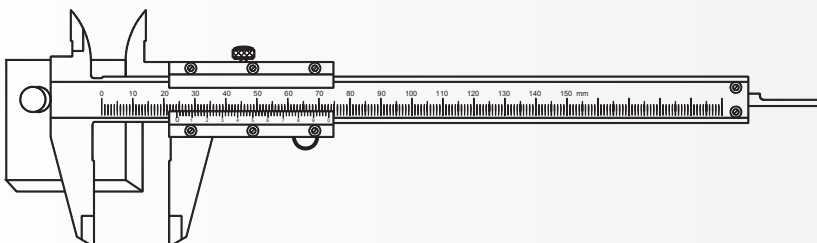
Measurement of external dimensions



Measurement of internal dimensions



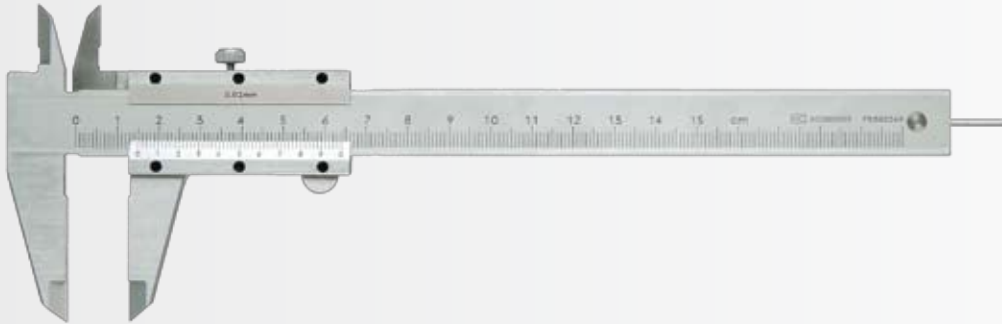
Measurement of depth



Measurement of steps

Vernier Calipers

Reading mode of calipers



Vernier calipers



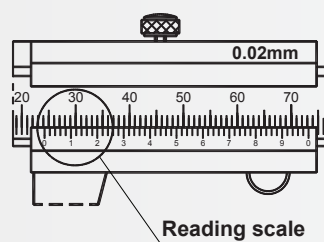
Dial calipers



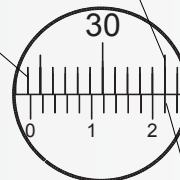
Electronic calipers

Reading of vernier calipers

Resolution: 0.02mm



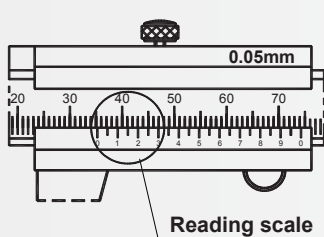
Reading line (24mm) Coincided line



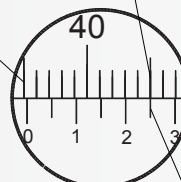
Main rod scale: 24.00mm
+ Low vernier scale: 0.22mm
Reading: 24.22mm

Coincided line (0.22mm)
(0.02mm per graduation,
totally 11 graduation)

Resolution: 0.05mm



Reading line (35mm) Coincided line



Main rod scale: 35.00mm
+ Low vernier scale: 0.25mm
Reading: 35.25mm

Coincided line (0.25mm)
(0.05mm per graduation,
totally 5 graduation)

Electronic Calipers



Feature:

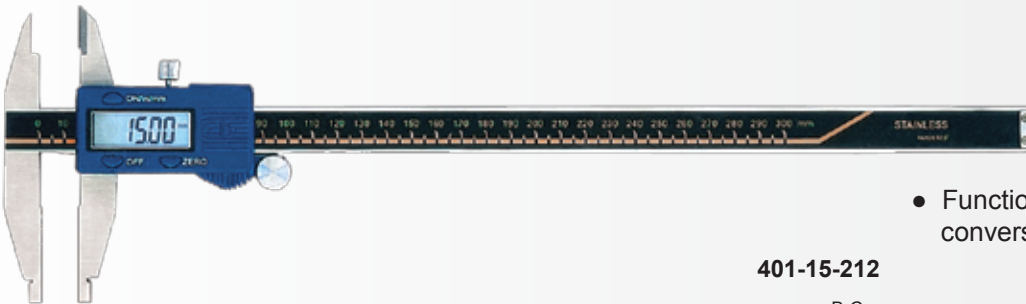
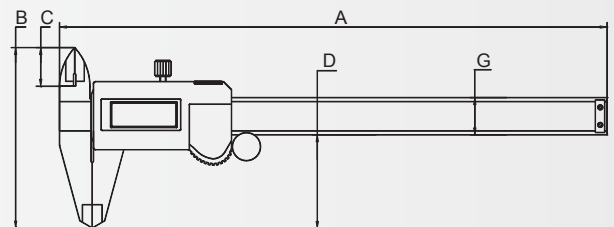
- Range within 200mm/8": with depth bar and can measure the dimensions of outside, inside, depth and steps; Range over 300mm /12": without depth bar and can measure the dimensions of outside and inside.
- Resolution: 0.01mm(Metric); 0.0005"(Inch).
- With RS232 data output.
- One SR44 battery.

401-13-212

- Function: Power switch; Metric-inch conversion; Zero-set at any position.

Order No.	Range	Accuracy
401-11-212	0-100mm/0- 4"	±0.02mm
401-13-212	0-150mm/0- 6"	±0.02mm
401-14-212	0-200mm/0- 8"	±0.03mm

Range	A	B	C	D	G
0-100mm/0- 4"	170mm	60mm	12.3mm	30mm	13mm
0-150mm/0- 6"	234mm	76mm	16.5mm	39mm	16mm
0-200mm/0- 8"	294mm	76mm	16.5mm	39mm	16mm

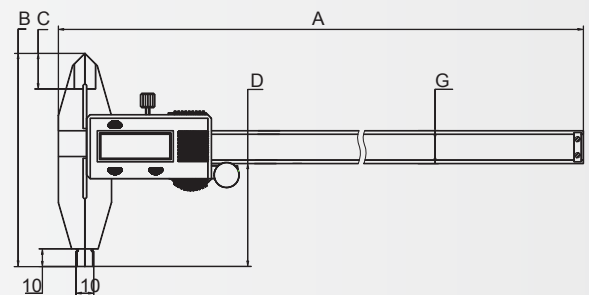


- Function: Power switch; Metric-inch conversion; Zero-set at any position.

401-15-212

Order No.	Range	Accuracy
401-15-212	0-300mm/0-12"	±0.04mm

Range	A	B	C	D	G
0-300mm/0-12"	415mm	120mm	20mm	60mm	18.5mm

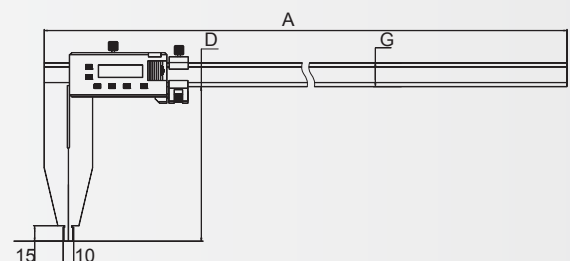


- Function: Power switch; Origin data set; Zero-set at any position.
- Absolute and incremental measurement conversion; Metric-inch conversion.

401-16-212

Order No.	Range	Accuracy
401-16-212	0-500mm/0-20"	±0.05mm
401-16-252	0-500mm/0-20"	±0.05mm

Order No.	A	D	G
401-16-212	660mm	90mm	23mm
401-16-252	660mm	150mm	23mm



Electronic Calipers
(Carbide measuring faces)

- Feature:
- With depth bar and can measure the dimensions of outside, inside, depth and steps.
 - Resolution: 0.01mm(Metric); 0.0005"(Inch). With RS232 data output.
 - One SR44 battery.



- Carbide outside measuring faces.

401-13-222

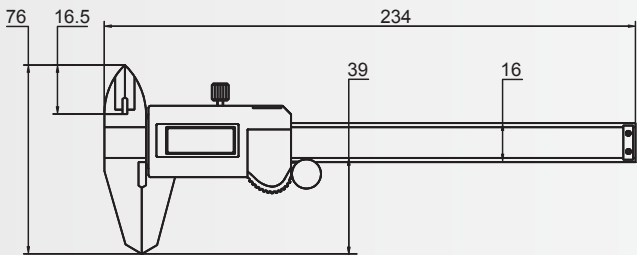
			
Order No.	Range	Accuracy	Depth bar
401-13-222	0-150mm/0- 6"	±0.02mm	✓



- Carbide outside and inside measuring faces.

401-13-232

			
Order No.	Range	Accuracy	Depth bar
401-13-232	0-150mm/0- 6"	±0.02mm	✓



Vernier Calipers (With Metric and Inch Scale)

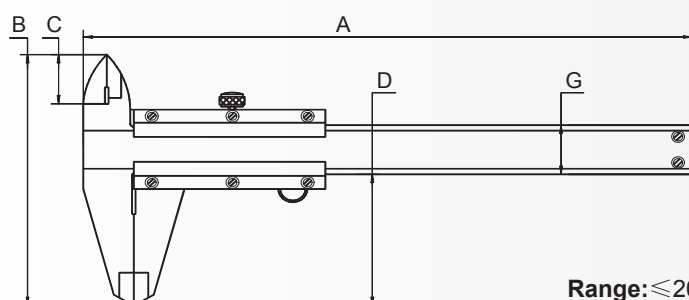
Feature:

- With depth bar and can measure the dimensions of outside, inside, depth and steps.
- Laser engraved graduations with Metric scale (lower) and Inch scale (upper).

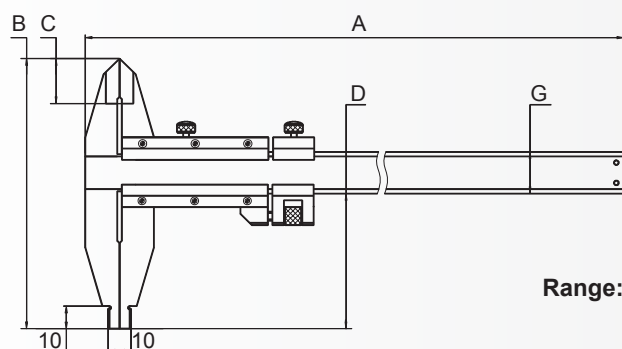


401-13-002

 Order No.	 Range	 Accuracy	 Depth bar
401-12-002	0-125mm/0-5"	±0.02mm	✓
401-13-002	0-150mm/0-6"	±0.02mm	✓
401-14-002	0-200mm/0-8"	±0.03mm	✓
401-15-002	0-300mm/0-12"	±0.04mm	×



Range: ≤200mm/8"



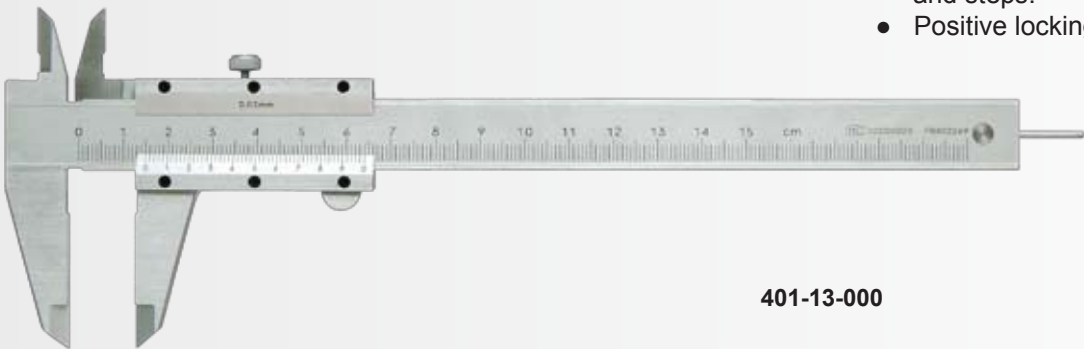
Range: 0-300mm/0-12"

Dimensions

Range	A	B	C	D	G
0-125mm/0-5"	210mm	76mm	16mm	40mm	15mm
0-150mm/0-6"	225mm	76mm	16mm	40mm	15mm
0-200mm/0-8"	280mm	76mm	16mm	40mm	15mm
0-300mm/0-12"	415mm	120mm	20mm	60mm	18.5mm

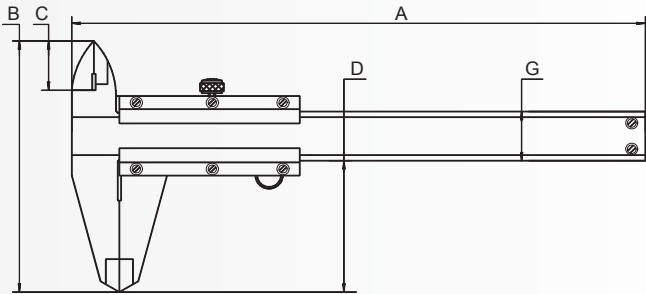
Vernier Calipers

- Feature:**
- Resolution: 0.02mm(Metric); 0.001"(Inch).
 - With depth bar and can measure the dimensions of outside, inside, depth and steps.
 - Positive locking screw.



401-13-000

					
Order No.	Range	Accuracy	Depth bar		
Metric					
401-11-000	0-100mm	±0.02mm	✓		
401-12-000	0-125mm	±0.02mm	✓		
401-13-000	0-150mm	±0.02mm	✓		
401-14-000	0-200mm	±0.03mm	✓		
Inch					
401-11-001	0-4"	±0.0008"	✓		
401-12-001	0-5"	±0.0008"	✓		
401-13-001	0-6"	±0.0008"	✓		
401-14-001	0-8"	±0.0012"	✓		
Dimensions					
Range	A	B	C	D	G
0-100mm/0-4"	165mm	60mm	13mm	30mm	13mm
0-125mm/0-5"	210mm	76mm	16mm	40mm	15mm
0-150mm/0-6"	225mm	76mm	16mm	40mm	15mm
0-200mm/0-8"	280mm	76mm	16mm	40mm	15mm



Vernier Calipers

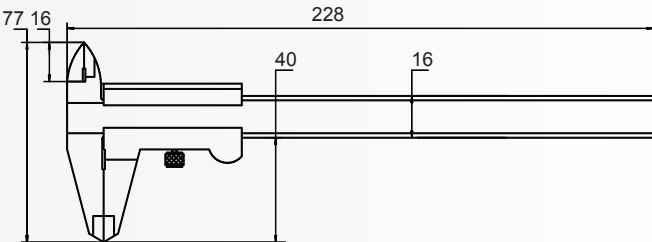
- Feature:**
- Resolution: 0.02mm(Metric); 0.001"(Inch).
 - Positive locking screw.



471-13-004

- With depth bar and can measure the dimensions of outside, inside, depth and steps.

 Order No.	 Range	 Accuracy
Metric		
471-13-000	0-150mm	±0.02mm
Inch		
471-13-004	0-150mm/0- 6"	±0.05mm



Vernier Calipers

Feature:

- Resolution: 0.02mm(Metric); 0.001"(Inch).
- Positive locking screw.

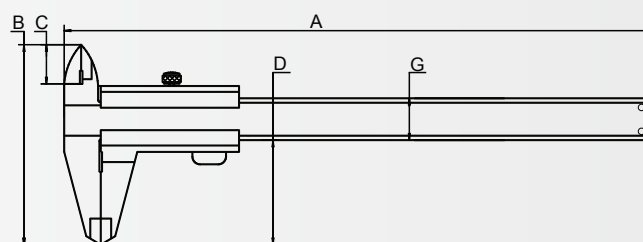


451-13-004

 Order No.	 Range	 Accuracy
Metric		
451-13-000	0-150mm	±0.02mm
451-14-000	0-200mm	±0.03mm
451-15-040	0-300mm	±0.04mm
Inch		
451-13-004	0-150mm/0-6"	±0.05mm
451-14-004	0-200mm/0-8"	±0.05mm
451-15-044	0-300mm/0-12"	±0.06mm

Dimensions

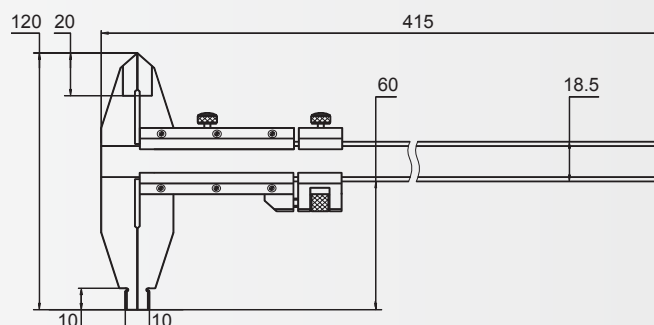
Range	A	B	C	D	G
0-150mm/0-6"	228mm	77mm	16.5mm	40mm	16mm
0-200mm/0-8"	290mm	90.5mm	19mm	50mm	17mm
0-300mm/0-12"	403mm	111.5mm	22mm	64mm	20mm



- Without depth bar and can measure the dimensions of outside and inside.

401-15-000

 Order No.	 Range	 Accuracy
Metric		
401-15-000	0-300mm	±0.04mm
Inch		
401-15-001	0-12"	±0.0016"



Vernier Calipers

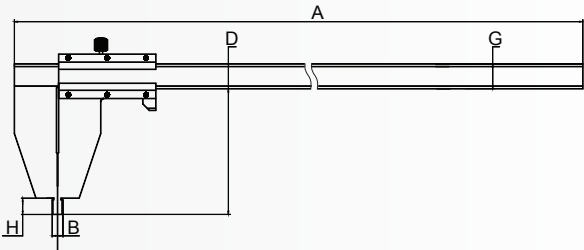
- Feature:
- Resolution: 0.02mm(Metric); 0.001"(Inch).
 - Without depth bar and can measure the dimensions of outside and inside.
 - Positive locking screw.



425-31-009

 Order No.	 Range	 Accuracy
425-31-009	0-300mm/0-12"	±0.04mm
425-37-009	0-450mm/0-18"	±0.05mm
425-19-009	0-500mm/0-20"	±0.05mm
425-40-009	0-600mm/0-24"	±0.07mm
425-47-009	0-750mm/0-30"	±0.07mm
425-63-009	0-1000mm/0-40"	±0.07mm

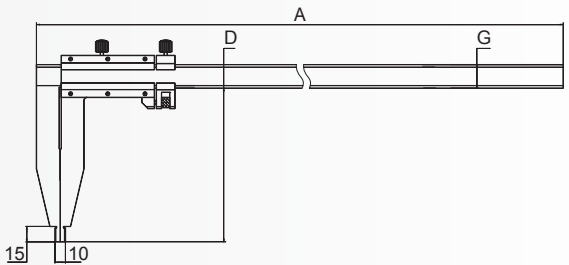
Range	A	D	G	H	B
0-300mm/0-12"	445mm	75mm	20mm	12mm	10mm
0-450mm/0-18"	632mm	100mm	24mm	18mm	20mm
0-500mm/0-20"	700mm	200mm	28mm	18mm	20mm
0-600mm/0-24"	770mm	100mm	25mm	18mm	20mm
0-750mm/0-30"	950mm	200mm	32mm	18mm	20mm
0-1000mm/0-40"	1240mm	140mm	32mm	24mm	20mm



401-16-000

 Order No.	 Range	 Accuracy
Metric		
401-16-000	0-500mm	±0.05mm
401-16-040	0-500mm	±0.05mm
Inch		
401-16-001	0-20"	±0.0020"
401-16-041	0-20"	±0.0020"

Dimensions			
Order No.	A	D	G
Metric			
401-16-000	660mm	90mm	23mm
401-16-040	660mm	150mm	23mm
Inch			
401-16-001	660mm	90mm	23mm
401-16-041	660mm	150mm	23mm



Dial Calipers



431-13-500

Feature:

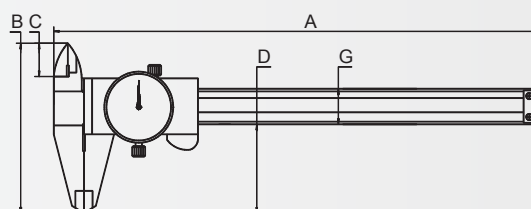
- Criterion: GB/T1214.2、DIN862.
- Made of stainless steel.
- Manufactured with modern technology for quick and error-free reading.
- With depth bar and can measure the dimensions of outside, inside, depth and steps.

- Dial caliper-shock-protected in both directions.

 Order No.	 Range	 Resolution	 Accuracy
Metric			
431-11-400	0-100mm	0.01mm	$\pm 0.02\text{mm}$
431-13-400	0-150mm	0.01mm	$\pm 0.02\text{mm}$
431-14-400	0-200mm	0.01mm	$\pm 0.03\text{mm}$
431-11-500	0-100mm	0.02mm	$\pm 0.02\text{mm}$
431-13-500	0-150mm	0.02mm	$\pm 0.02\text{mm}$
431-14-500	0-200mm	0.02mm	$\pm 0.03\text{mm}$
Inch			
431-11-501	0-4"	0.001"	$\pm 0.0008"$
431-13-501	0-6"	0.001"	$\pm 0.0008"$
431-14-501	0-8"	0.001"	$\pm 0.0012"$

Dimensions

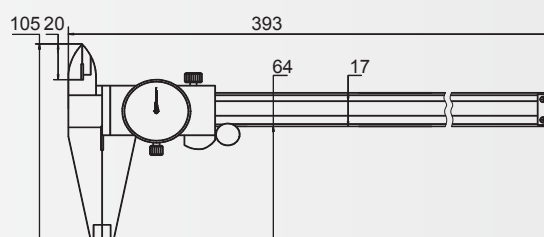
Range	A	B	C	D	G
0-100mm/0-4"	160mm	60mm	12.5mm	30mm	13mm
0-150mm/0-6"	234mm	77mm	16mm	40mm	16mm
0-200mm/0-8"	290mm	90.5mm	19mm	50mm	17mm



431-15-500

- Dial caliper-shock-protected in both directions.

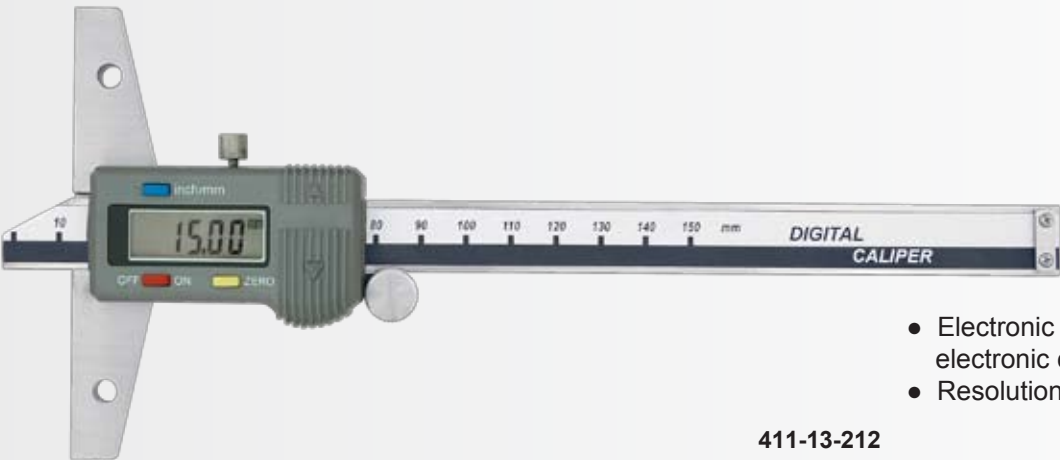
 Order No.	 Range	 Resolution	 Accuracy
Metric			
431-15-500	0-300mm	0.02mm	$\pm 0.04\text{mm}$
431-15-600	0-300mm	0.05mm	$\pm 0.06\text{mm}$
Inch			
431-15-501	0-12"	0.001"	$\pm 0.0016"$



Depth Calipers

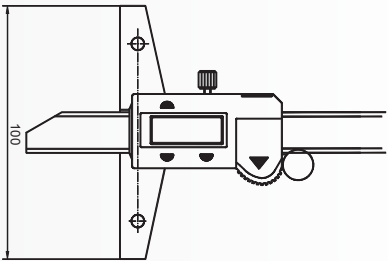
Electronic Depth Calipers

- Feature:**
- Hardened base and measuring face for measuring depth dimensions.

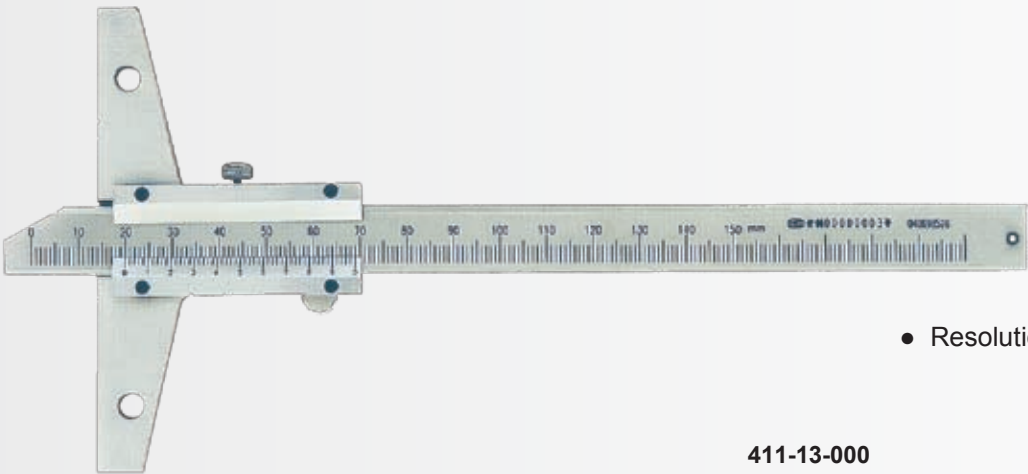


411-13-212

 Order No.	 Range	 Accuracy
411-13-212	0-150mm/0- 6"	±0.02mm
411-14-212	0-200mm/0- 8"	±0.03mm
411-15-212	0-300mm/0-12"	±0.04mm



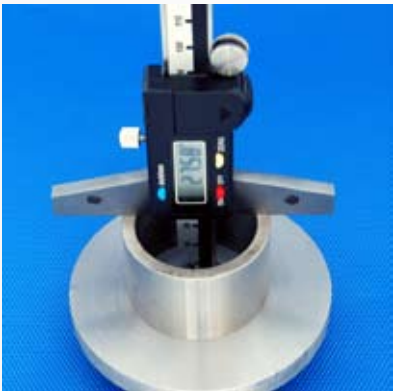
Depth Calipers



411-13-000

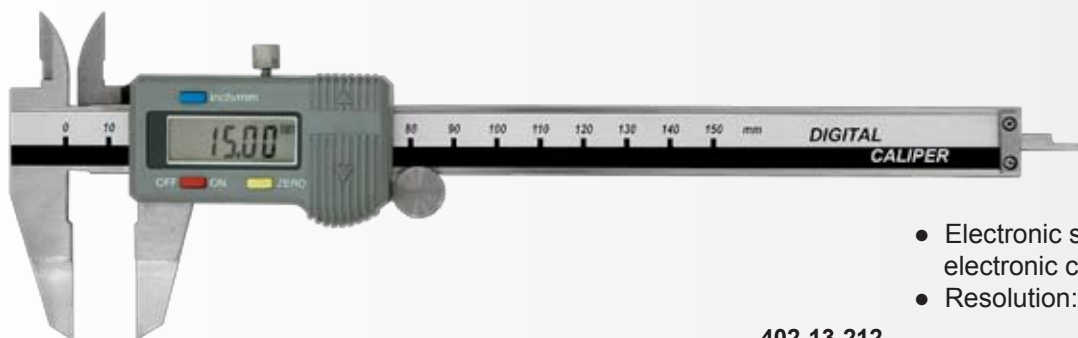
- Resolution: 0.02mm(Metric); 0.001"(Inch).

 Order No.	 Range	 Accuracy
Metric		
411-13-000	0-150mm	±0.02mm
411-14-000	0-200mm	±0.03mm
411-15-000	0-300mm	±0.04mm
Inch		
411-13-001	0- 6"	±0.0008"
411-14-001	0- 8"	±0.0012"
411-15-001	0-12"	±0.0016"



Blade Calipers

Electronic Blade Calipers



Feature:

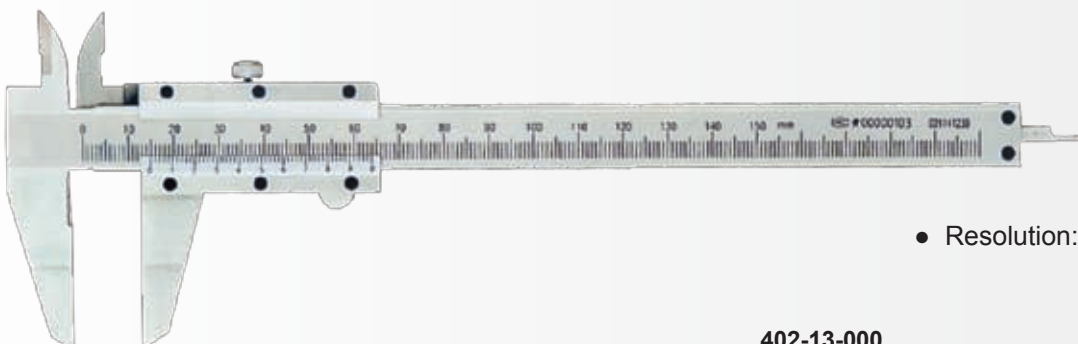
- The thin blade jaws fit into small grooves and hard-to-reach dimensions.

- Electronic system same as 401-13-212 electronic calipers.
- Resolution: 0.01mm(Metric); 0.0005"(Inch).

402-13-212

 Order No.	 Range	 Accuracy	 Depth bar
402-13-212	0-150mm/0- 6"	±0.02mm	✓
402-14-212	0-200mm/0- 8"	±0.03mm	✓
402-15-212	0-300mm/0-12"	±0.04mm	×

Blade Calipers



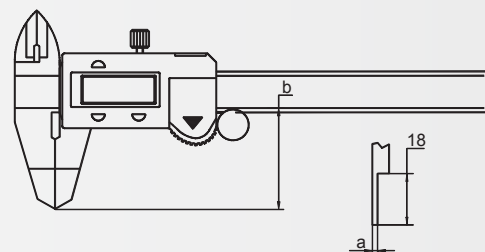
- Resolution: 0.02mm(Metric); 0.001"(Inch).

402-13-000

 Order No.	 Range	 Accuracy	 Depth bar
Metric			
402-13-000	0-150mm	±0.02mm	✓
402-14-000	0-200mm	±0.03mm	✓
402-15-000	0-300mm	±0.04mm	×
Inch			
402-13-001	0- 6"	±0.0008"	✓
402-14-001	0- 8"	±0.0012"	✓
402-15-001	0-12"	±0.0016"	×

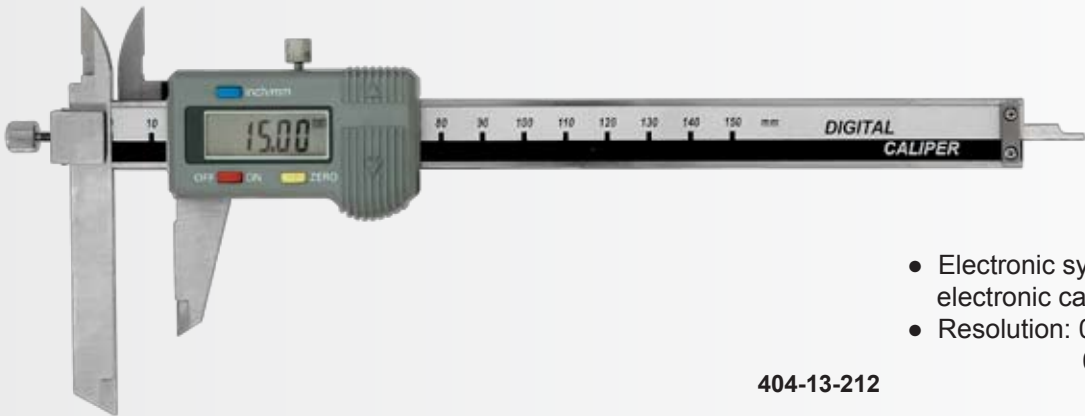
Dimensions

Range	a	b
0-150mm/0- 6"	0.75mm	39mm
0-200mm/0- 8"	0.75mm	39mm
0-300mm/0-12"	1mm	60mm



Offset Calipers

Electronic Offset Calipers



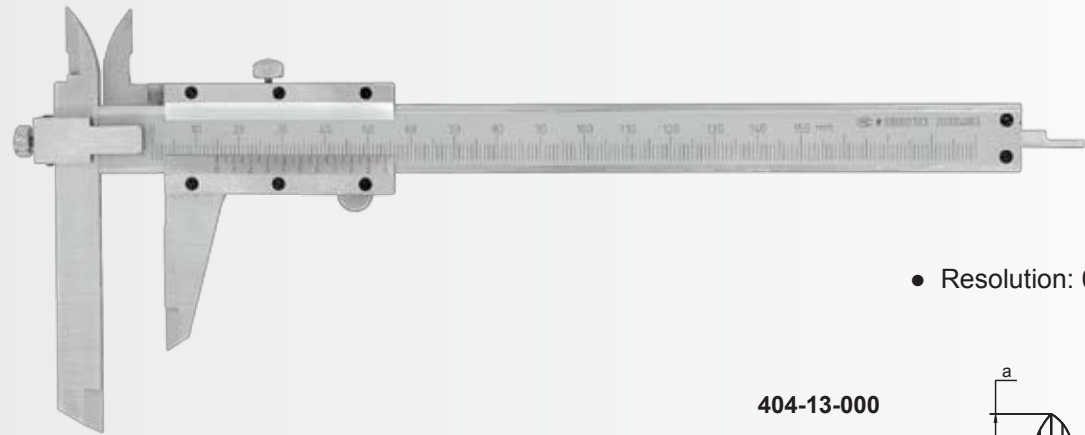
- Feature:**
- Main scale jaw can slide up and down to facilitate the measurement of stepped sections and hard-to-reach dimensions.

- Electronic system same as 401-13-212 electronic calipers.
- Resolution: 0.01mm(Metric); 0.0005"(Inch).

404-13-212

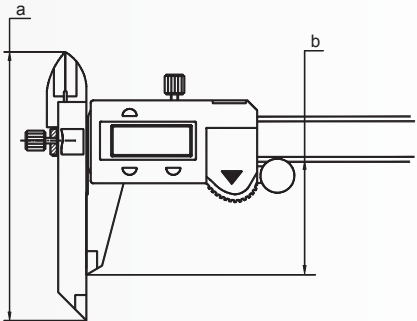
 Order No.	 Range	 Accuracy	 Depth bar
404-13-212	0-150mm/0- 6"	±0.03mm	✓
404-14-212	0-200mm/0- 8"	±0.03mm	✓
404-15-212	0-300mm/0-12"	±0.04mm	×

Offset Calipers



404-13-000

- Resolution: 0.05mm(Metric); 0.002"(Inch).



 Order No.	 Range	 Accuracy	 Depth bar
Metric			
404-13-000	0-150mm	±0.05mm	✓
404-14-000	0-200mm	±0.05mm	✓
404-15-000	0-300mm	±0.08mm	×
Inch			
404-13-001	0- 6"	±0.002"	✓
404-14-001	0- 8"	±0.002"	✓
404-15-001	0-12"	±0.0031"	×

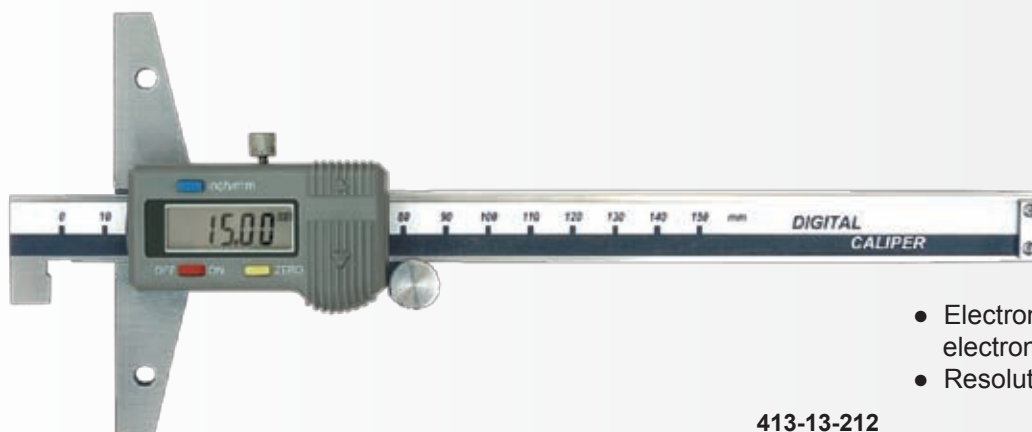
Dimensions

Range	a	b
0-150mm/0- 6"	95mm	40mm
0-200mm/0- 8"	95mm	40mm
0-300mm/0-12"	135mm	64mm



Vernier Depth Gages (Hook Type)

Electronic Depth Gages (Hook Type)



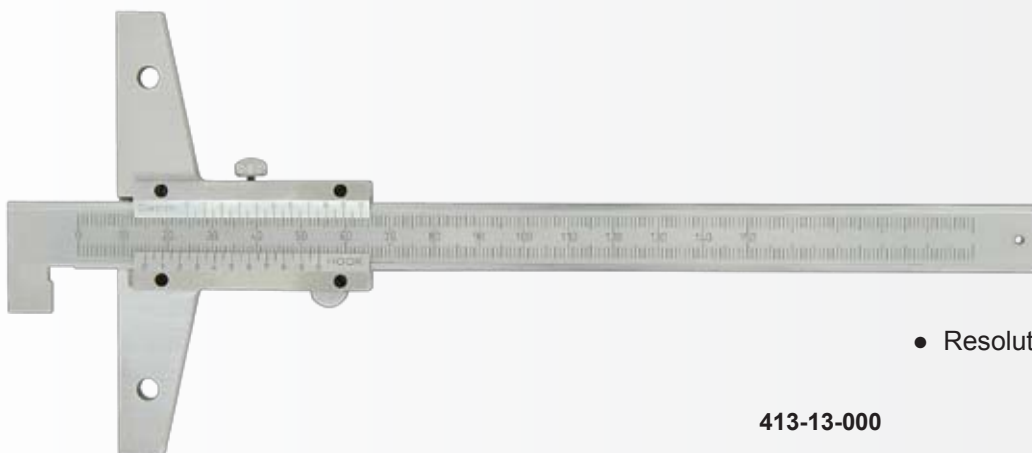
Feature:

- The end of the main scale is hook-shaped to measure depth and thickness of a projected portion or lip in a hole.

- Electronic system same as 401-13-212 electronic calipers.
- Resolution: 0.01mm(Metric); 0.0005"(Inch).

 Order No.	 Range	 Accuracy
413-13-212	0-150mm/0-6"	±0.02mm
413-14-212	0-200mm/0-8"	±0.03mm
413-15-212	0-300mm/0-12"	±0.04mm

Vernier Depth Gages (Hook Type)

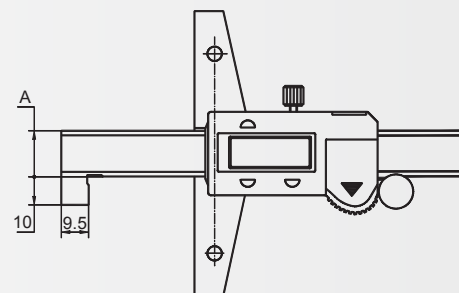


- Resolution: 0.05mm(Metric); 0.001"(Inch).

 Order No.	 Range	 Accuracy
Metric		
413-13-000	0-150mm	±0.05mm
413-14-000	0-200mm	±0.05mm
413-15-000	0-300mm	±0.08mm
Inch		
413-13-001	0- 6"	±0.002"
413-14-001	0- 8"	±0.002"
413-15-001	0-12"	±0.0031"

Dimensions

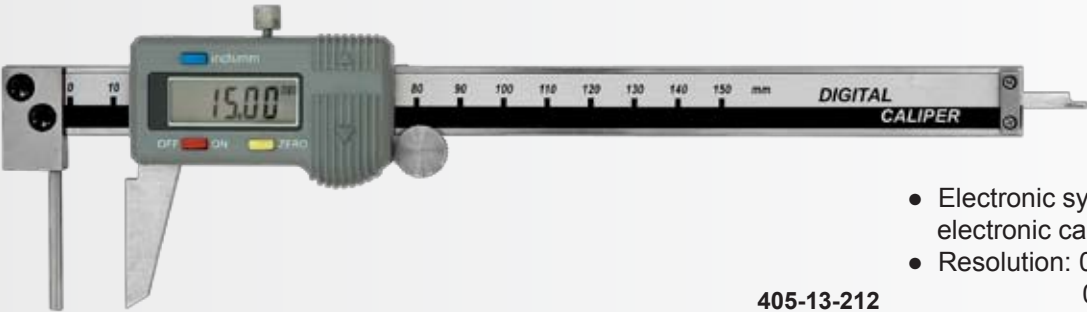
Order No.	A
413-1X-212	16mm
413-1X-000	15mm



Tube Calipers

Electronic Tube Calipers

- Feature:
- The main jaw is a cylinder bar for measuring tube wall thickness.
 - Min diameter of measuring rod: $\Phi 3$.



- Electronic system same as 401-13-212 electronic calipers.
- Resolution: 0.01mm(Metric); 0.0005"(Inch).

			
Order No. 405-13-212	Range 0-150mm/0- 6"	Accuracy $\pm 0.03\text{mm}$	Depth bar ✓

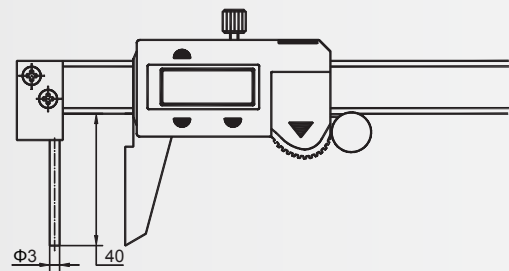
Tube Calipers



- Resolution: 0.02mm(Metric); 0.001"(Inch).

405-13-000

			
Order No.	Range	Accuracy	Depth bar
Metric			
405-13-000	0-150mm	$\pm 0.02\text{mm}$	✓
Inch			
405-13-001	0-6"	$\pm 0.0008"$	✓

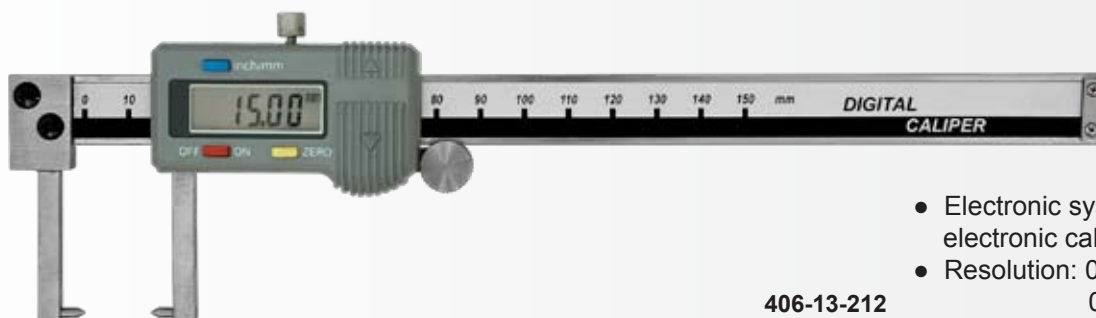


Outside Point Calipers

Electronic Outside Point Calipers

Feature:

- 60° Pointed jaws for measuring wall thickness, external grooves and other hard-to-reach outside dimensions.



406-13-212

- Electronic system same as 401-13-212 electronic calipers.
- Resolution: 0.01mm(Metric); 0.0005"(Inch).

Order No.	Range	Accuracy
406-13-212	0-150mm/0-6"	±0.03mm

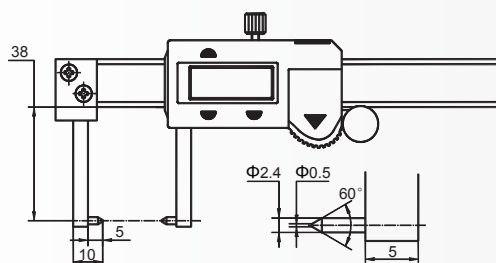
Outside Point Calipers



406-13-000

- Resolution: 0.02mm(Metric); 0.001"(Inch).

Order No.	Range	Accuracy
Metric		
406-13-000	0-150mm	±0.03mm
Inch		
406-13-001	0-6"	±0.0012"



Inside Point Calipers

Electronic Inside Point Calipers



- Feature:**
- 60° Pointed jaws for internal grooves and other hard-to-reach inside dimensions.

407-23-212

- Electronic system same as 401-13-212 electronic calipers.
- Resolution: 0.01mm(Metric); 0.0005"(Inch).

		
Order No.	Range	Accuracy
407-23-212	20-170mm/0.8-6.8"	±0.03mm

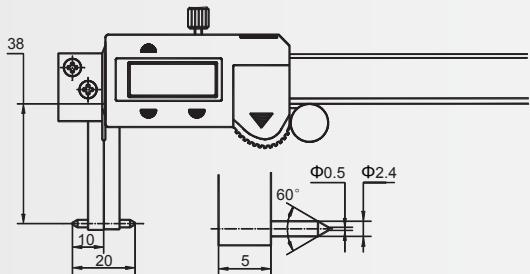
Inside Point Calipers



- Resolution: 0.02mm(Metric); 0.001"(Inch).

407-23-000

		
Order No.	Range	Accuracy
Metric		
407-23-000	20-170mm	±0.03mm
Inch		
407-23-001	0.8-6.8"	±0.0012"



Electronic Indicator Technology Information

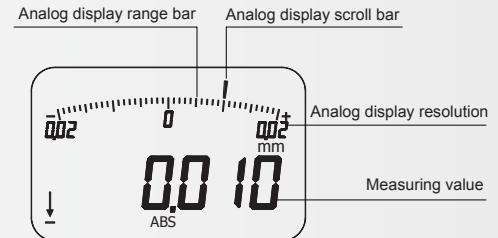


SPECIFICATION:

Display:	LCD display.
Function:	Power on/off, Absolute and incremental measurement conversion, Metric-inch conversion, Tolerance set, Measuring direction conversion, Origin data set, SPC data output, Power off automatically.
Protection level:	IP54.
Battery:	One CR2032 battery.

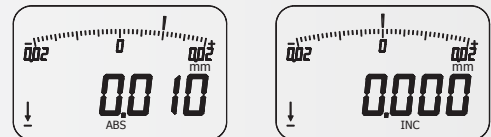
- Patented production.
- Analog display on LCD. Analog display range: ± 20 Graduation.

Analog display:



Analog display scroll bar: Convenient for observing display data of measurement.
Analog display resolution: With display of analog display scroll bar, change display data automatically and accordingly.

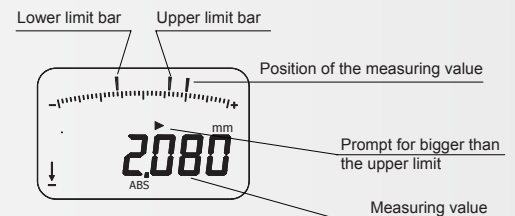
Measuring mode:



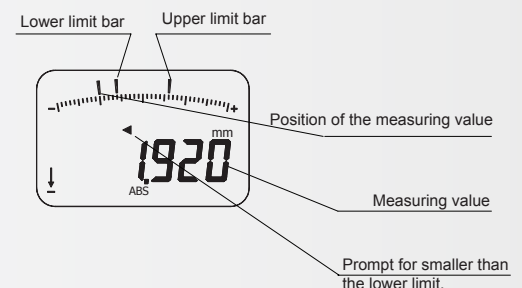
- Absolute measuring mode: "ABS"
- Incremental measuring mode: "INC"

Tolerance set:

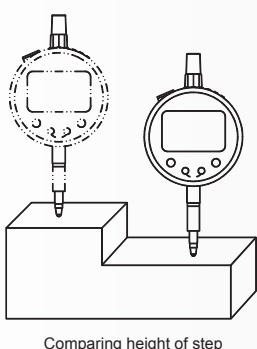
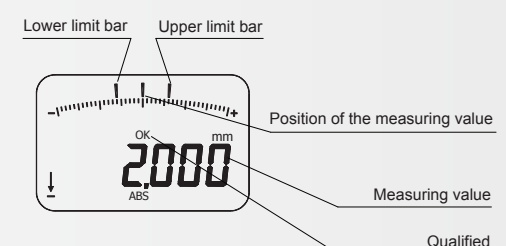
- Measuring value bigger than the upper limit display:



- Measuring value smaller than lower limit:

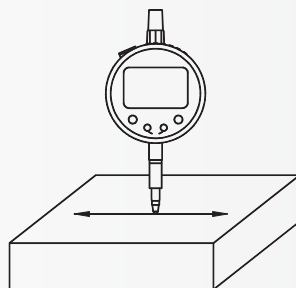


- Qualified:

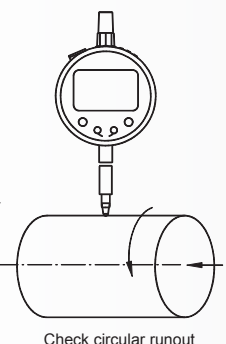
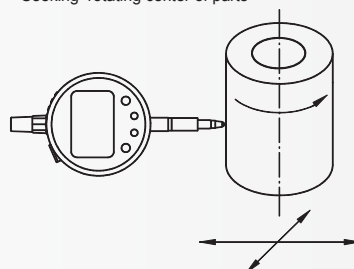


Comparing height of step

Check straightness of surface



Seeking rotating center of parts



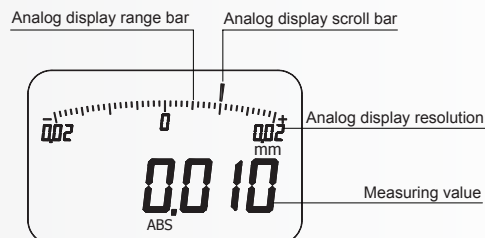
Check circular runout

Caliper Gauges Technology Information

- Patented productions.
- Analog display on LCD. Analog display range: ± 20 Graduation.
- 4 Kinds of measuring mode for quick reading.



Analog display:



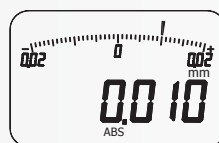
- Analog display scroll bar: Convenient for observing display data of measurement.
- Analog display resolution: With display of analog display scroll bar, change display data automatically and accordingly.

SPECIFICATION:

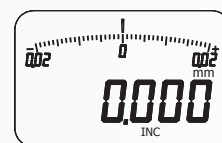
Display:	LCD display.
Function:	Power on/off, Absolute and incremental measurement conversion, Metric-inch conversion, Tolerance set, Measuring direction conversion, Origin data set, SPC data output, Power off automatically.
Protection level:	IP54.
Battery:	One CR2032 battery.

4 Kinds of measuring mode:

- Normal measuring mode:

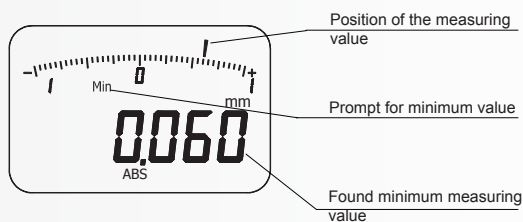


Absolute measuring mode:
"ABS"

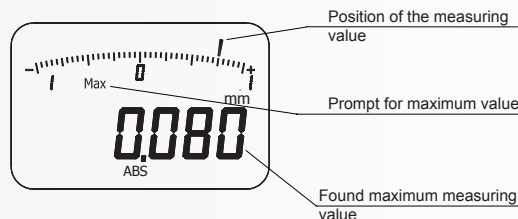


Incremental measuring mode:
"INC"

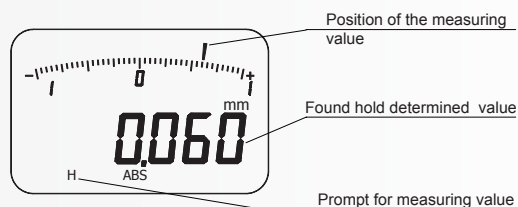
- Find minimum value automatically:



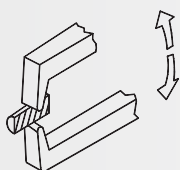
- Find maximum value automatically:



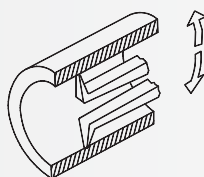
- Hold determined value automatically:



"Min" mode is for finding optimal value in directions shown as below drawings when measuring inside and outside dimensions.

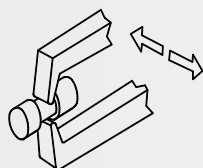


Outside measurement

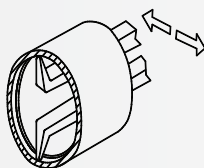


Inside measurement

"Max" mode is for finding optimal value in directions shown as below drawings when measuring inside and outside dimensions.



Outside measurement



Inside measurement

"Hold" mode is for hold data found during "Max" mode, "Min" mode and normal measurement.

Electronic Indicators



IP54

502-01-122

Resolution:
0.001mm/0.00005"

IP54



501-01-322

Resolution:
0.005mm / 0.0002"

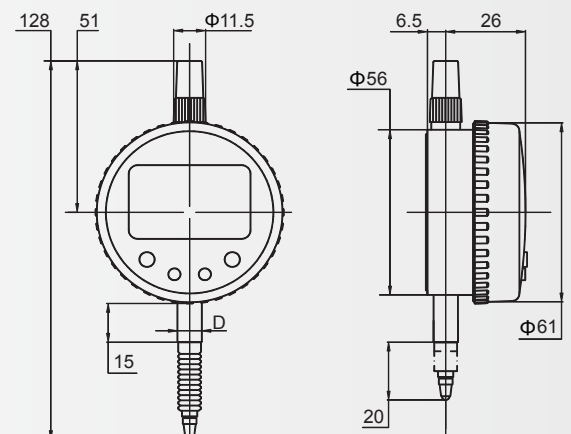
Feature:

- Protection level **IP54**, Criterion DIN40050/IEC529.
- Large LCD 43X28mm, can be rotated $\pm 170^\circ$ for easy reading.
- Digital display and analog display on LCD, automatic switch over.
- Analog display range: ± 20 Graduation.

Power ON/OFF	✓
Abs. and Inc. conversion	✓
Metric-inch conversion	✓
Data output	✓
Origin data set	✓
Tolerance set	✓
Measuring direction conversion	✓
Measuring range conversion	✓
Battery	CR2032
Automatic power off	✓
Connecting cable(Optional)	P1502,P1505



					
Order No.	Range	Accuracy	Digital resolution	Analog resolution	D
Metric					
502-01-122	0-12.7mm	0.005mm	0.001mm	0.001; 0.002;0.01;	Φ8h6
502-01-222	0-12.7mm	0.010mm	0.001mm	0.02;0.05mm	
501-01-322	0-12.7mm	0.020mm	0.005mm	0.005;0.01; 0.02;0.05mm	
Inch					
502-01-123	0-0.5"	0.0002"	0.00005"	0.00005";0.0001"; 0.0005";0.001";	Φ3/8"
502-01-223	0-0.5"	0.001"	0.00005"	0.005";0.01";0.05"	
501-01-323	0-0.5"	0.002"	0.0002"	0.0002";0.001"; 0.002";0.01"; 0.02";0.05"	



Indicators

0-3mm 0-5mm/0-0.2"

- Feature:
- With lug-on-center back.
 - Criterion: DIN878.



557-01-090

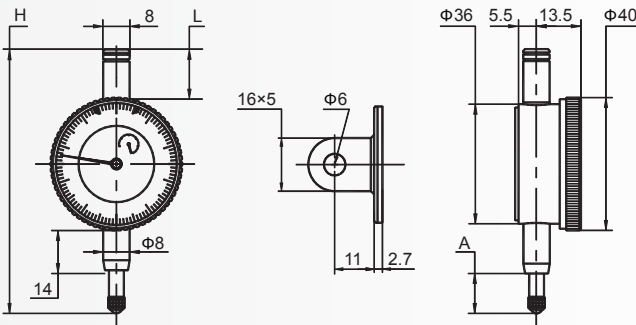


557-03-090

 Order No.	 Order No.	 Range	 Range/Cycle	 Accuracy
				
Metric				
557-01-090	556-01-090	0-3mm	1mm	0.012mm
557-03-090	556-03-090	0-5mm	1mm	0.012mm
Inch				
557-03-091	556-03-091	0-0.2"	0.05"	0.0005"

-  6 Jewels
-  Without jewel

				
Order No.	Order No.	H	A	L
Metric				
557-01-090	556-01-090	70mm	10mm	11.5mm
557-03-090	556-03-090	72mm	12mm	14mm
Inch				
557-03-091	556-03-091	72mm	12mm	14mm



Indicators

0-4mm

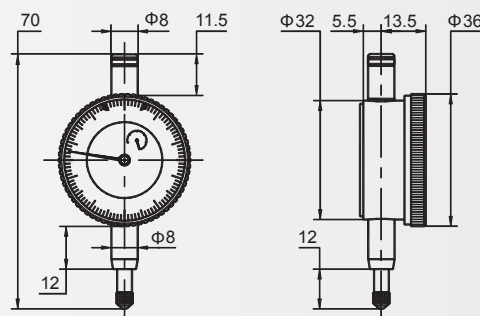


557-02-000

Order No.	Range	Range/Cycle	Accuracy	Type
557-02-000	0-4mm	1mm	0.012mm	

Feature:

- For use of limited space with smaller face diameter ($\Phi 36\text{mm}$).
- Without lug-on-center back.
- Criterion: DIN878.



6 Jewels

0-10mm

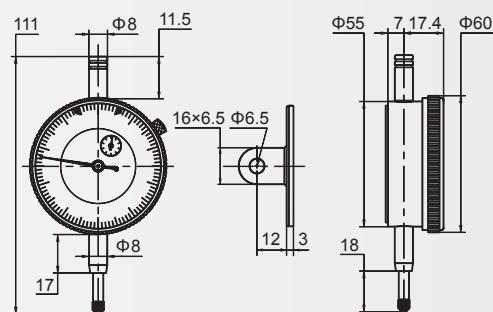


542-04-090

Order No.	Range	Range/Cycle	Accuracy	Type
542-04-090	0-10mm	1mm	0.014mm	
540-04-090	0-10mm	1mm	0.014mm	
544-04-090	0-10mm	1mm	0.014mm	

Feature:

- With lug-on-center back.
- Criterion: DIN878.



6 Jewels



Without jewel



With 6 jewels and shockproof

Indicators

Range ≥20mm/0.8" series

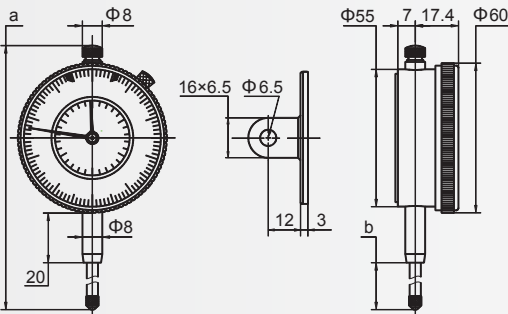


540-05-090

- Feature:
- With lug-on-center back.
 - Criterion: DIN878.

				
Order No.	Range	Range/Cycle	Accuracy	Type
Metric series				
540-05-090	0-20mm	1mm	0.02mm	
540-06-090	0-25mm	1mm	0.02mm	
540-07-090	0-30mm	1mm	0.02mm	
Inch series				
Order No.	Range	Resolution	Accuracy	Type
544-04-091	0-0.5"	0.0005"	0.0006"	
540-06-091	0-1"	0.001"	0.0008"	
544-06-091	0-1"	0.001"	0.0008"	
Inch & Metric				
540-06-093	0-25mm /0-1"	0.01mm/ 0.001"	0.0008"	

-  Without jewel
-  With 6 jewels and shockproof



Order No.	a	b
540-05-090	115.5mm	28.5mm
540-06-090	120.5mm	33.5mm
540-07-090	125.5mm	38.5mm

Electronic Caliper Gauges for Inside Measurement

Feature:

- Electronic inside caliper gauges are suited for measuring bores, internal groove, and other hard-to-reach inside dimension.
- Dial rotates $\pm 170^\circ$ for use at versions angles.
- Display data is origin data of absolute measurement after changing battery.
- Digital display and analog display on LCD, automatic switch over.
- Analog display range: ± 20 graduation.



506-11-012

Travel 10mm

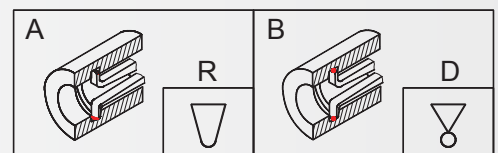
Order No.	Range	Order No.	Range	Accuracy	Measuring contact forms
Metric		Inch			
506-11-012	5-15mm	506-11-013	0.2-0.6"	0.02mm	Type A
506-12-012	10-20mm	506-12-013	0.4-0.8"	0.02mm	
506-13-012	20-30mm	506-13-013	0.8-1.2"	0.02mm	
506-14-012	30-40mm	506-14-013	1.2-1.6"	0.02mm	
506-15-012	40-50mm	506-15-013	1.6-2.0"	0.02mm	
506-12-112	10-20mm	506-12-113	0.4-0.8"	0.02mm	Type B
506-13-112	20-30mm	506-13-113	0.8-1.2"	0.02mm	
506-14-112	30-40mm	506-14-113	1.2-1.6"	0.02mm	
506-15-112	40-50mm	506-15-113	1.6-2.0"	0.02mm	

Power ON/OFF	√
Abs. and Inc. conversion	√
Metric-inch conversion	√
Data output	√
Origin data set	√
Remember data of Max. and Min. or hold display data	√
Tolerance set	√
Battery	CR2032
Automatic power off	√
Connecting cable (Optional)	P1502,P1505

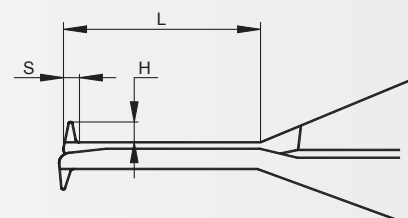
Travel 20mm

Order No.	Range	Order No.	Range	Accuracy	Measuring contact forms
Metric		Inch			
506-22-012	5-25mm	506-22-013	0.2-1.0"	0.03mm	Type A
506-23-012	10-30mm	506-23-013	0.4-1.2"	0.03mm	
506-24-012	20-40mm	506-24-013	0.8-1.6"	0.03mm	
506-25-012	30-50mm	506-25-013	1.2-2.0"	0.03mm	
506-26-012	40-60mm	506-26-013	1.6-2.4"	0.03mm	
506-23-112	10-30mm	506-23-113	0.4-1.2"	0.03mm	Type B
506-24-112	20-40mm	506-24-113	0.8-1.6"	0.03mm	
506-25-112	30-50mm	506-25-113	1.2-2.0"	0.03mm	
506-26-112	40-60mm	506-26-113	1.6-2.4"	0.03mm	

Measuring contact forms



Range		L	S	H	Remarks	
Metric	Inch				A (R)	B (D)
Travel 10mm						
5-15mm	0.2-0.6"	20mm	1.0mm	1.5mm	0.3mm	/
10-20mm	0.4-0.8"	25mm	1.5mm	3.0mm	0.3mm	Φ1.5mm
20-30mm	0.8-1.2"	30mm	2.0mm	6.5mm	0.5mm	Φ1.5mm
30-40mm	1.2-1.6"	30mm	2.5mm	9.0mm	0.5mm	Φ1.5mm
40-50mm	1.6-2.0"	30mm	2.5mm	9.0mm	0.5mm	Φ1.5mm
Travel 20mm						
5-25mm	0.2-1.0"	35mm	1mm	1.5mm	0.3mm	/
10-30mm	0.4-1.2"	55mm	2mm	3.5mm	0.5mm	Φ1.5mm
20-40mm	0.8-1.6"	80mm	3mm	6.5mm	0.5mm	Φ1.5mm
30-50mm	1.2-2.0"	80mm	3mm	8.5mm	0.5mm	Φ1.5mm
40-60mm	1.6-2.4"	80mm	3mm	8.5mm	0.5mm	Φ1.5mm



Electronic Caliper Gauges for Outside Measurement



Feature:

- Electronic outside caliper gauges are suited for measuring grooves and other hard-to-read outside dimension.
- Dial rotates $\pm 170^\circ$ for use at various angles.
- Display data is origin data of absolute measurement after changing battery.
- Digital display and analog display on LCD, automatic switch over.
- Analog display range: ± 20 graduation.

Travel 10mm

507-11-012

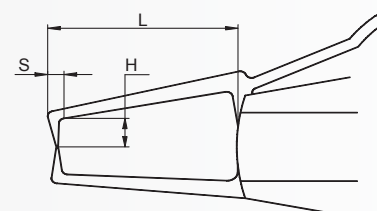
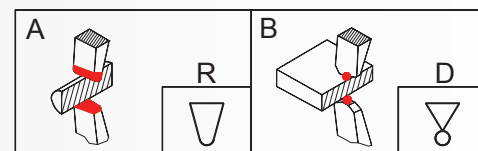
Order No.	Range	Order No.	Range	Accuracy	Measuring contact forms
Metric	Inch				
507-11-012	0-10mm	507-11-013	0-0.8"	0.02mm	Type A
507-12-012	10-20mm	507-12-013	0.4-0.8"	0.02mm	
507-13-012	20-30mm	507-13-013	0.8-1.2"	0.02mm	
507-14-012	30-40mm	507-14-013	1.2-1.6"	0.02mm	
507-15-012	40-50mm	507-15-013	1.6-2.0"	0.02mm	
507-11-112	0-10mm	507-11-113	0-0.8"	0.02mm	Type B
507-12-112	10-20mm	507-12-113	0.4-0.8"	0.02mm	
507-13-112	20-30mm	507-13-113	0.8-1.2"	0.02mm	
507-14-112	30-40mm	507-14-113	1.2-1.6"	0.02mm	
507-15-112	40-50mm	507-15-113	1.6-2.0"	0.02mm	

Power ON/OFF	✓
Abs. and Inc. conversion	✓
Metric-inch conversion	✓
Data output	✓
Origin data set	✓
Remember data of Max. and Min or hold display data.	✓
Tolerance set	✓
Battery	CR2032
Automatic power off	✓
Connecting cable (Optional)	P1502,P1505

Travel 20mm

Order No.	Range	Order No.	Range	Accuracy	Measuring contact forms
Metric	Inch				
507-22-012	0-20mm	507-22-013	0-0.8"	0.03mm	Type A
507-23-012	10-30mm	507-23-013	0.4-1.2"	0.03mm	
507-24-012	20-40mm	507-24-013	0.8-1.6"	0.03mm	
507-25-012	30-50mm	507-25-013	1.2-2.0"	0.03mm	
507-26-012	40-60mm	507-26-013	1.6-2.4"	0.03mm	
507-22-112	0-20mm	507-22-113	0-0.8"	0.03mm	Type B
507-23-112	10-30mm	507-23-113	0.4-1.2"	0.03mm	
507-24-112	20-40mm	507-24-113	0.8-1.6"	0.03mm	
507-25-112	30-50mm	507-25-113	1.2-2.0"	0.03mm	
507-26-112	40-60mm	507-26-113	1.6-2.4"	0.03mm	

Measuring contact forms



Range		L	S	H	Remarks	
Metric	Inch				A (R)	B (D)
Travel 10mm						
0-10mm	0-0.8"	40mm	3mm	8mm	0.5mm	Φ1.5mm
10-20mm	0.4-0.8"	40mm	3mm	8mm	0.5mm	Φ1.5mm
20-30mm	0.8-1.2"	40mm	3mm	8mm	0.5mm	Φ1.5mm
30-40mm	1.2-1.6"	40mm	3mm	8mm	0.5mm	Φ1.5mm
40-50mm	1.6-2.0"	40mm	3mm	8mm	0.5mm	Φ1.5mm
Travel 20mm						
0-20mm	0-0.8"	80mm	6.5mm	25mm	0.75mm	Φ1.5mm
10-30mm	0.4-1.2"	80mm	6.5mm	25mm	0.75mm	Φ1.5mm
20-40mm	0.8-1.6"	80mm	6.5mm	25mm	0.75mm	Φ1.5mm
30-50mm	1.2-2.0"	80mm	6.5mm	25mm	0.75mm	Φ1.5mm
40-60mm	1.6-2.4"	80mm	6.5mm	25mm	0.75mm	Φ1.5mm

Caliper Gauges for Inside Measurement



510-11-000

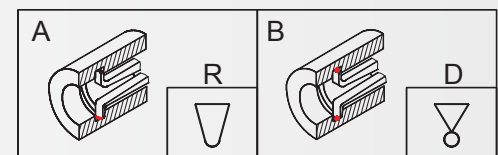
Feature:

- Inside caliper gauges are suited for measuring bores, internal groove, and other hard-to-reach inside dimension.

Travel 10mm

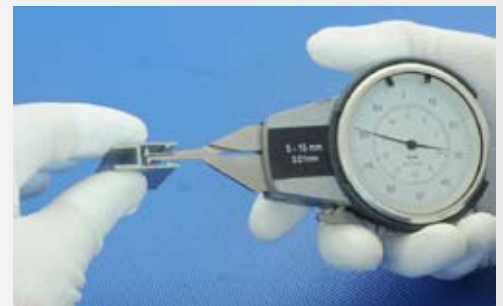
					Measuring contact forms
Order No.	Range	Order No.	Range	Accuracy	
Metric		Inch			
510-11-000	5-15mm	510-11-001	0.2-0.6"	0.02mm	Type A
510-12-000	10-20mm	510-12-001	0.4-0.8"	0.02mm	
510-13-000	20-30mm	510-13-001	0.8-1.2"	0.02mm	
510-14-000	30-40mm	510-14-001	1.2-1.6"	0.02mm	
510-15-000	40-50mm	510-15-001	1.6-2.0"	0.02mm	
510-12-100	10-20mm	510-12-101	0.4-0.8"	0.02mm	Type B
510-13-100	20-30mm	510-13-101	0.8-1.2"	0.02mm	
510-14-100	30-40mm	510-14-101	1.2-1.6"	0.02mm	
510-15-100	40-50mm	510-15-101	1.6-2.0"	0.02mm	

Measuring contact forms

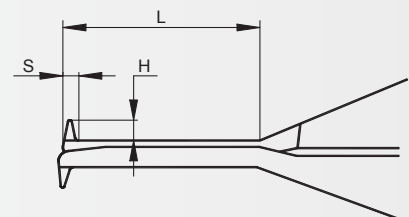


Travel 20mm

					Measuring contact forms
Order No.	Range	Order No.	Range	Accuracy	
Metric		Inch			
510-22-000	5-25mm	510-22-001	0.2-1.0"	0.03mm	Type A
510-23-000	10-30mm	510-23-001	0.4-1.2"	0.03mm	
510-24-000	20-40mm	510-24-001	0.8-1.6"	0.03mm	
510-25-000	30-50mm	510-25-001	1.2-2.0"	0.03mm	
510-26-000	40-60mm	510-26-001	1.6-2.4"	0.03mm	
510-23-100	10-30mm	510-23-101	0.4-1.2"	0.03mm	Type B
510-24-100	20-40mm	510-24-101	0.8-1.6"	0.03mm	
510-25-100	30-50mm	510-25-101	1.2-2.0"	0.03mm	
510-26-100	40-60mm	510-26-101	1.6-2.4"	0.03mm	



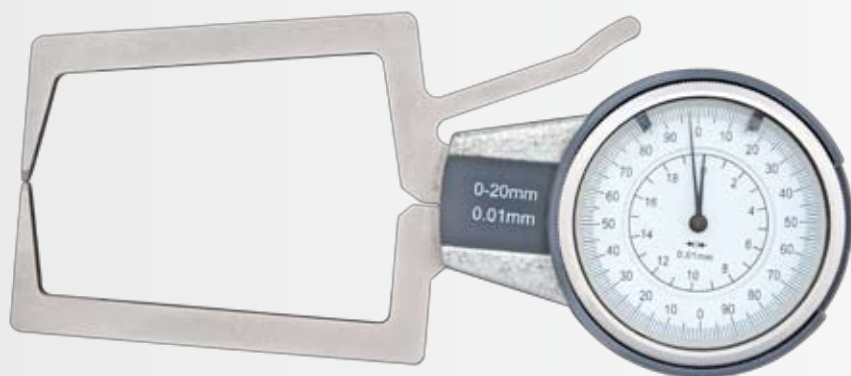
Range		L	S	H	Remarks	
Metric	Inch				A (R)	B (D)
Travel 10mm						
5-15mm	0.2-0.6"	20mm	1.0mm	1.5mm	0.3mm	/
10-20mm	0.4-0.8"	25mm	1.5mm	3.0mm	0.3mm	Φ1.5mm
20-30mm	0.8-1.2"	30mm	2.0mm	6.5mm	0.5mm	Φ1.5mm
30-40mm	1.2-1.6"	30mm	2.5mm	9.0mm	0.5mm	Φ1.5mm
40-50mm	1.6-2.0"	30mm	2.5mm	9.0mm	0.5mm	Φ1.5mm
Travel 20mm						
5-25mm	0.2-1.0"	35mm	1mm	1.5mm	0.3mm	/
10-30mm	0.4-1.2"	55mm	2mm	3.5mm	0.5mm	Φ1.5mm
20-40mm	0.8-1.6"	80mm	3mm	6.5mm	0.5mm	Φ1.5mm
30-50mm	1.2-2.0"	80mm	3mm	8.5mm	0.5mm	Φ1.5mm
40-60mm	1.6-2.4"	80mm	3mm	8.5mm	0.5mm	Φ1.5mm



Caliper Gauges for Outside Measurement

Feature:

- Outside caliper gauges are suited for measuring grooves and other hard-to-read outside dimension.

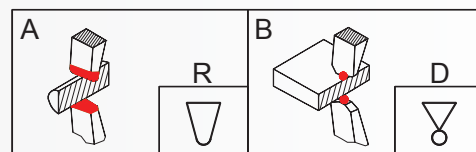


511-22-000

Travel 10mm

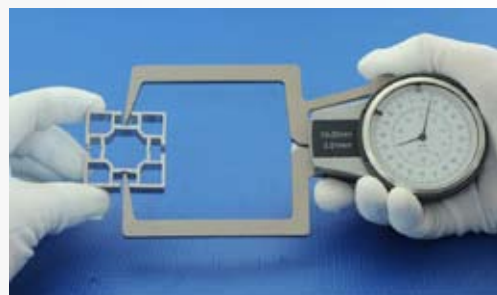
Order No.	Range	Order No.	Range	Accuracy	Measuring contact forms
Metric		Inch			
511-11-000	0-10mm	511-11-001	0-0.4"	0.02mm	Type A
511-12-000	10-20mm	511-12-001	0.4-0.8"	0.02mm	
511-13-000	20-30mm	511-13-001	0.8-1.2"	0.02mm	
511-14-000	30-40mm	511-14-001	1.2-1.6"	0.02mm	
511-15-000	40-50mm	511-15-001	1.6-2.0"	0.02mm	
511-11-100	0-10mm	511-11-101	0-0.4"	0.02mm	Type B
511-12-100	10-20mm	511-12-101	0.4-0.8"	0.02mm	
511-13-100	20-30mm	511-13-101	0.8-1.2"	0.02mm	
511-14-100	30-40mm	511-14-101	1.2-1.6"	0.02mm	
511-15-100	40-50mm	511-15-101	1.6-2.0"	0.02mm	

Measuring contact forms

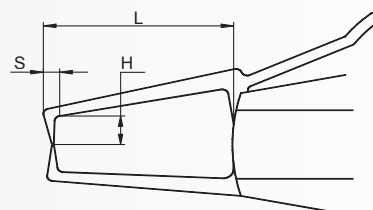


Travel 20mm

Order No.	Range	Order No.	Range	Accuracy	Measuring contact forms
Metric		Inch			
511-22-000	0-20mm	511-22-001	0-0.8"	0.03mm	Type A
511-23-000	10-30mm	511-23-001	0.4-1.2"	0.03mm	
511-24-000	20-40mm	511-24-001	0.8-1.6"	0.03mm	
511-25-000	30-50mm	511-25-001	1.2-2.0"	0.03mm	
511-26-000	40-60mm	511-26-001	1.6-2.4"	0.03mm	
511-22-100	0-20mm	511-22-101	0-0.8"	0.03mm	Type B
511-23-100	10-30mm	511-23-101	0.4-1.2"	0.03mm	
511-24-100	20-40mm	511-24-101	0.8-1.6"	0.03mm	
511-25-100	30-50mm	511-25-101	1.2-2.0"	0.03mm	
511-26-100	40-60mm	511-26-101	1.6-2.4"	0.03mm	



Range		L	S	H	Remarks	
Metric	Inch				A (R)	B (D)
Travel 10mm						
0-10mm	0-0.8"	40mm	3mm	8mm	0.5mm	Φ1.5mm
10-20mm	0.4-0.8"	40mm	3mm	8mm	0.5mm	Φ1.5mm
20-30mm	0.8-1.2"	40mm	3mm	8mm	0.5mm	Φ1.5mm
30-40mm	1.2-1.6"	40mm	3mm	8mm	0.5mm	Φ1.5mm
40-50mm	1.6-2.0"	40mm	3mm	8mm	0.5mm	Φ1.5mm
Travel 20mm						
0-20mm	0-0.8"	80mm	6.5mm	25mm	0.75mm	Φ1.5mm
10-30mm	0.4-1.2"	80mm	6.5mm	25mm	0.75mm	Φ1.5mm
20-40mm	0.8-1.6"	80mm	6.5mm	25mm	0.75mm	Φ1.5mm
30-50mm	1.2-2.0"	80mm	6.5mm	25mm	0.75mm	Φ1.5mm
40-60mm	1.6-2.4"	80mm	6.5mm	25mm	0.75mm	Φ1.5mm



Dial Bore Gages

Common

Feature:

- These bore gages measuring diameter of holes.
- Optional extension rods can be attached to measuring deep holes.



512-03-210



512-03-210

A*: 50mm/2" Extension anvil.
B*: 75mm/3" Extension anvil.

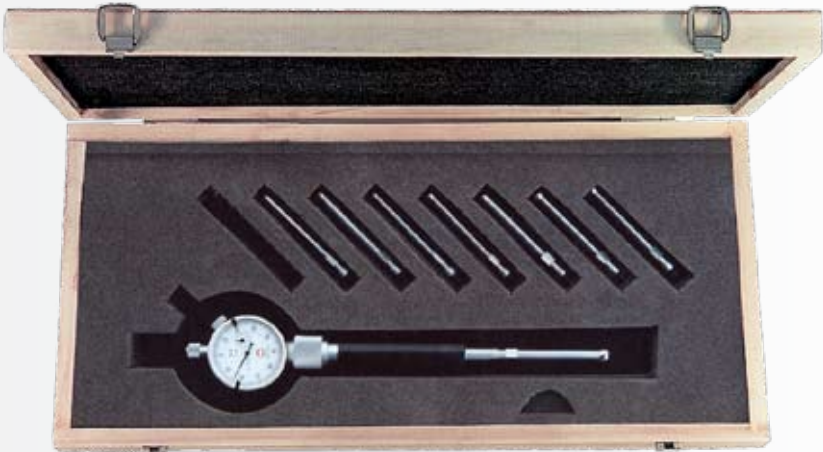
 Order No.	 Range	 Order No.	 Range	 Resolution	 Probe depth	 Anvils (pc.)	 Dial indicator (Optional)
Metric		Inch					
512-01-200	18-35mm	512-01-201	0.7-1.4"		100mm	9	Dial indicator is supplied by user
512-02-200	35-60mm	512-02-201	1.4-2.5"		150mm	6	
512-03-200	50-100mm	512-03-201	2-4"		150mm	11	
512-04-200	50-150mm	512-04-201	2-6"		150mm	11+A*	
512-05-200	100-160mm	512-05-201	4-6.5"		150mm	13	
512-06-200	160-250mm	512-06-201	6.5-10"		250mm	6	
512-07-200	250-400mm	512-07-201	10-16"		250mm	5+B*	
512-01-210	18-35mm	512-01-211	0.7-1.4"	0.001mm	100mm	9	Electronic Indicator (Resolution 0.001mm/0.00001")
512-02-210	35-60mm	512-02-211	1.4-2.5"	0.001mm	150mm	6	
512-03-210	50-100mm	512-03-211	2-4"	0.001mm	150mm	11	
512-04-210	50-150mm	512-04-211	2-6"	0.001mm	150mm	11+A*	
512-05-210	100-160mm	512-05-211	4-6.5"	0.001mm	150mm	13	
512-06-210	160-250mm	512-06-211	6.5-10"	0.001mm	250mm	6	
512-07-210	250-400mm	512-07-211	10-16"	0.001mm	250mm	5+B*	
512-01-220	18-35mm	512-01-221	0.7-1.4"	0.01mm	100mm	9	Indicator (Resolution 0.01mm/0.0005")
512-02-220	35-60mm	512-02-221	1.4-2.5"	0.01mm	150mm	6	
512-03-220	50-100mm	512-03-221	2-4"	0.01mm	150mm	11	
512-04-220	50-150mm	512-04-221	2-6"	0.01mm	150mm	11+A*	
512-05-220	100-160mm	512-05-221	4-6.5"	0.01mm	150mm	13	
512-06-220	160-250mm	512-06-221	6.5-10"	0.01mm	250mm	6	
512-07-220	250-400mm	512-07-221	10-16"	0.01mm	250mm	5+B*	
512-01-230	18-35mm	512-01-231	0.7-1.4"	0.001mm	100mm	9	Indicator (Resolution 0.001mm/0.00001")
512-02-230	35-60mm	512-02-231	1.4-2.5"	0.001mm	150mm	6	
512-03-230	50-100mm	512-03-231	2-4"	0.001mm	150mm	11	
512-04-230	50-150mm	512-04-231	2-6"	0.001mm	150mm	11+A*	
512-05-230	100-160mm	512-05-231	4-6.5"	0.001mm	150mm	13	
512-06-230	160-250mm	512-06-231	6.5-10"	0.001mm	250mm	6	
512-07-230	250-400mm	512-07-231	10-16"	0.001mm	250mm	5+B*	
512-01-240	18-35mm	512-01-241	0.7-1.4"	0.005mm	100mm	9	Electronic Indicator (Resolution 0.005mm/0.0002")
512-02-240	35-60mm	512-02-241	1.4-2.5"	0.005mm	150mm	6	
512-03-240	50-100mm	512-03-241	2-4"	0.005mm	150mm	11	
512-04-240	50-150mm	512-04-241	2-6"	0.005mm	150mm	11+A*	
512-05-240	100-160mm	512-05-241	4-6.5"	0.005mm	150mm	13	
512-06-240	160-250mm	512-06-241	6.5-10"	0.005mm	250mm	6	
512-07-240	250-400mm	512-07-241	10-16"	0.005mm	250mm	5+B*	

Dial Bore Gages
For Measuring Small Holes

- Feature:
- These bore gages measuring diameter of holes.
 - Optional extension rods can be attached to measuring deep holes.



512-01-130



512-01-130



 No		 No			 UI		
Order No.	Range	Order No.	Range	Resolution	Probe depth	Anvils (pc.)	Dial indicator (Optional)
Metric				Inch			
512-01-100	6-10mm	512-01-101	0.24-0.4"		40/56mm	8	Dial indicator is supplied by user
512-02-100	10-18mm	512-02-101	0.4-0.7"		70mm	8	
512-01-110	6-10mm	512-01-111	0.24-0.4"	0.001mm	40/56mm	8	Elec. Indicator (0.001mm/0.00001")
512-02-110	10-18mm	512-02-111	0.4-0.7"	0.001mm	70mm	8	
512-01-120	6-10mm	512-01-121	0.24-0.4"	0.01mm	40/56mm	8	Indicator (0.01mm /0.0005")
512-02-120	10-18mm	512-02-121	0.4-0.7"	0.01mm	70mm	8	
512-01-130	6-10mm	512-01-131	0.24-0.4"	0.001mm	40/56mm	8	Indicator (0.001mm/0.00001")
512-02-130	10-18mm	512-02-131	0.4-0.7"	0.001mm	70mm	8	
512-01-140	6-10mm	512-01-141	0.24-0.4"	0.005mm	40/56mm	8	Elec. Indicator (0.005mm/0.0002")
512-02-140	10-18mm	512-02-141	0.4-0.7"	0.005mm	70mm	8	

Dial Bore Gages

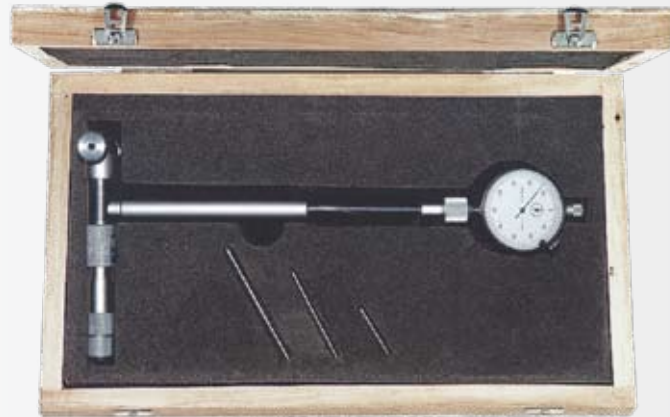
With Micrometer Head

Feature:

- These bore gages measuring diameter of holes.
- Optional extension rods can be attached to measuring deep holes.



512-04-320



512-04-320

 Order No.	 Range	 Order No.	 Range	 Resolution	 Probe depth	 Anvils (pc.)	 Dial indicator (Optional)
Metric		Inch					
512-01-300	35-60mm	512-01-301	1.4-2.5"		150mm	4	Dial indicator is supplied by user
512-02-300	60-100mm	512-02-301	2.5-4"		150mm	3	
512-03-300	100-160mm	512-03-301	4-6.5"		150mm	4	
512-04-300	150-250mm	512-04-301	6-10"		250mm	3	
512-05-300	250-400mm	512-05-301	10-16"		250mm	2	
512-01-310	35-60mm	512-01-311	1.4-2.5"	0.001mm	150mm	4	Electronic Indicator (Resolution 0.001mm /0.00001")
512-02-310	60-100mm	512-02-311	2.5-4"	0.001mm	150mm	3	
512-03-310	100-160mm	512-03-311	4-6.5"	0.001mm	150mm	4	
512-04-310	150-250mm	512-04-311	6-10"	0.001mm	250mm	3	
512-05-310	250-400mm	512-05-311	10-16"	0.001mm	250mm	2	
512-01-320	35-60mm	512-01-321	1.4-2.5"	0.01mm	150mm	4	Indicator (Resolution 0.01mm /0.0005")
512-02-320	60-100mm	512-02-321	2.5-4"	0.01mm	150mm	3	
512-03-320	100-160mm	512-03-321	4-6.5"	0.01mm	150mm	4	
512-04-320	150-250mm	512-04-321	6-10"	0.01mm	250mm	3	
512-05-320	250-400mm	512-05-321	10-16"	0.01mm	250mm	2	
512-01-330	35-60mm	512-01-331	1.4-2.5"	0.001mm	150mm	4	Indicator (Resolution 0.001mm /0.00001")
512-02-330	60-100mm	512-02-331	2.5-4"	0.001mm	150mm	3	
512-03-330	100-160mm	512-03-331	4-6.5"	0.001mm	150mm	4	
512-04-330	150-250mm	512-04-331	6-10"	0.001mm	250mm	3	
512-05-330	250-400mm	512-05-331	10-16"	0.001mm	250mm	2	
512-01-340	35-60mm	512-01-341	1.4-2.5"	0.005mm	150mm	4	Electronic Indicator (Resolution 0.005mm /0.0002")
512-02-340	60-100mm	512-02-341	2.5-4"	0.005mm	150mm	3	
512-03-340	100-160mm	512-03-341	4-6.5"	0.005mm	150mm	4	
512-04-340	150-250mm	512-04-341	6-10"	0.005mm	250mm	3	
512-05-340	250-400mm	512-05-341	10-16"	0.005mm	250mm	2	

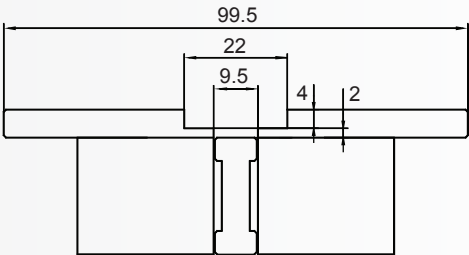
Dial Bore Gages

Feature:

- Used to calibrate zero position for bore gages.
- High accuracy and stable performance.
- Interchangeable supporting block is for zero setting for various bore gages.



F1502



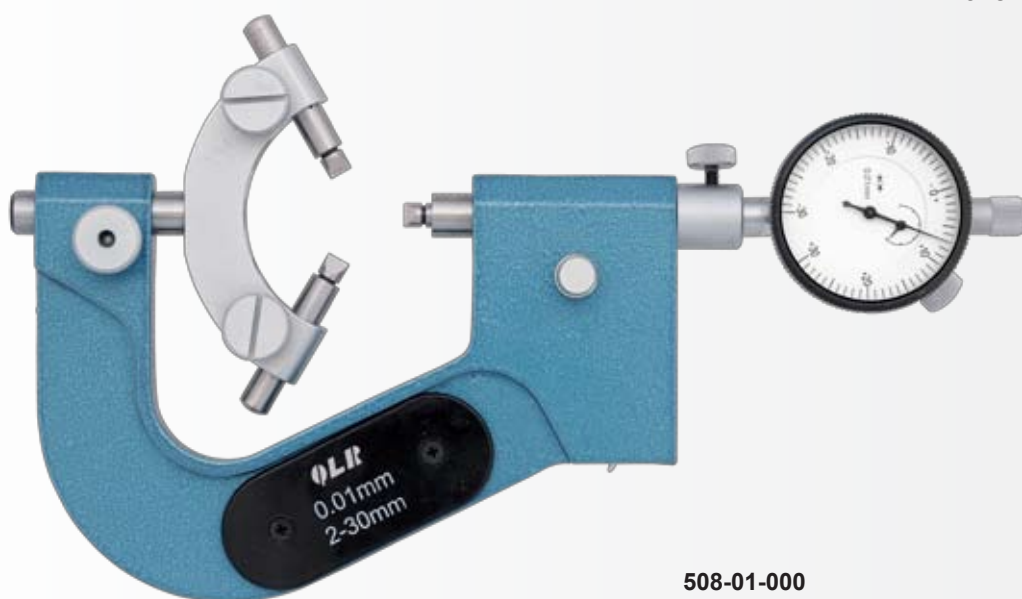
 Order No.	 Range	
	Metric	Inch
F1502	18-400mm	0.7-16"



Pitch Diameter Comparators

Feature:

- For measuring the pitch diameter of thread.
- Dimensions of anvil-tail: $\Phi 5 \times 15 \text{mm}$.
- Travel of dial indicator: 5mm.



508-01-000

 Order No.	 Range	 Pitch	 Accuracy	 Resolution	 Supplied with anvils
Metric					
508-01-000	2-30mm	0.4-5mm	0.01mm	0.01mm	F0101~F0105
508-02-000	30-70mm	0.6-7mm	0.01mm	0.01mm	(seeing page D30)
508-01-100	2-30mm	0.4-5mm	0.01mm	0.01mm	F0501~F0507
508-02-100	30-70mm	0.6-7mm	0.01mm	0.01mm	(seeing page D35)
Inch					
508-01-001	0.08-1.2"	64-5TPI	0.0005"	0.0005"	F0101~F0105
508-02-001	1.2-2.8"	44-3.5TPI	0.0005"	0.0005"	(seeing page D30)
508-01-101	0.08-1.2"	64-5TPI	0.0005"	0.0005"	F0501~F0507
508-02-101	1.2-2.8"	44-3.5TPI	0.0005"	0.0005"	(seeing page D35)

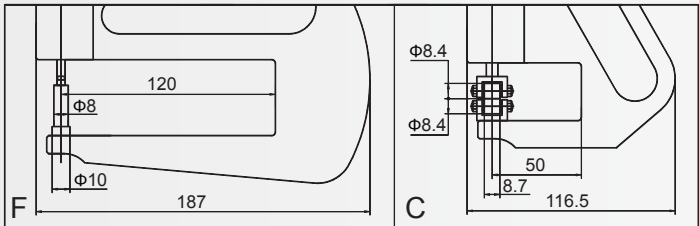
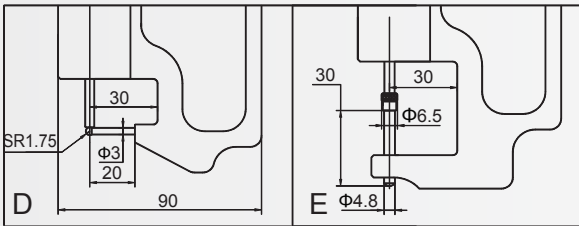
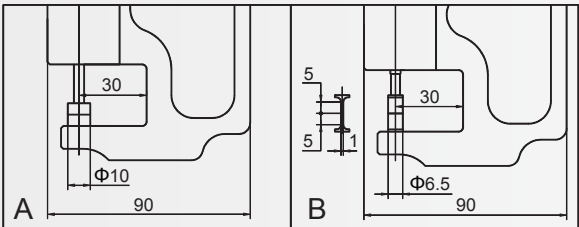


Electronic Thickness Gages



532-21-020

- Feature:**
- Various anvils for measuring depth of diversiform material. Special anvils can be supplied on request.
 - Travel of indicator: 12mm.
 - The feature of the indicator refers to that of 501-01-322.



		
Order No.	Travel	Type
532-21-020	10mm	A
532-31-020	10mm	B
532-41-020	5mm	C
532-51-020	10mm	D
532-61-020	10mm	E
532-71-020	10mm	F



Dial Snap Gauges



Feature:

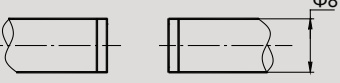
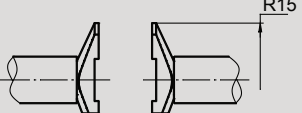
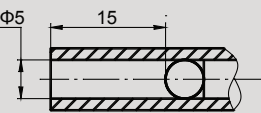
- Suitable for measuring mass-produced parts.
- High precision of dial indicator is optional.
- Travel of moving anvil: 3mm.

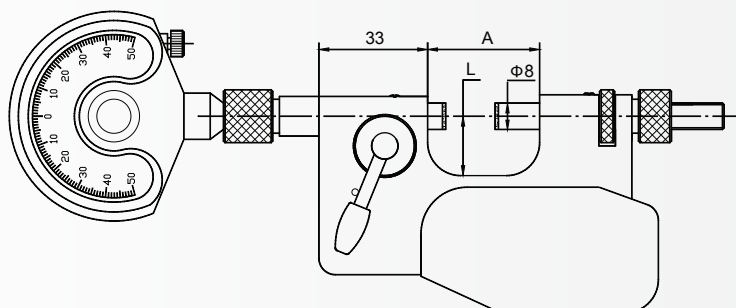
509-01-100

(Dial indicator is optional)

Dial indicators (Optional)

Range	Error	Resolution	Install dimension
±0.025mm	0.5μm	0.001mm	Φ8H7
±0.050mm	1μm		

 Order No.	 Range	 Type
509-01-100	0-25mm	Type A 
509-02-100	0-50mm	
509-03-100	50-100mm	
509-04-100	100-150mm	
509-05-100	150-200mm	
509-01-200	0-40mm	Type B 
509-02-200	40-90mm	
509-03-200	90-140mm	
509-04-200	140-190mm	
509-01-300	0-40mm	Type D 
509-02-300	40-90mm	
509-03-300	90-140mm	
509-04-300	140-190mm	



Range	A	L
0-25mm	34mm	18mm
0-50mm	62mm	32mm
50-100mm	112mm	62mm
100-150mm	162mm	85mm
150-200mm	212mm	110mm

Interchangeable anvils for type D (Optional)

 Order No.	 Remark
F0501~F0507	Universal interchangeable anvils (seeing page D35)
F0101~F0106	60°V-shaped and knife-edged interchangeable anvils (seeing page D30)
F0701~F0710	Steel-ball-tipped interchangeable anvils (seeing page D24)



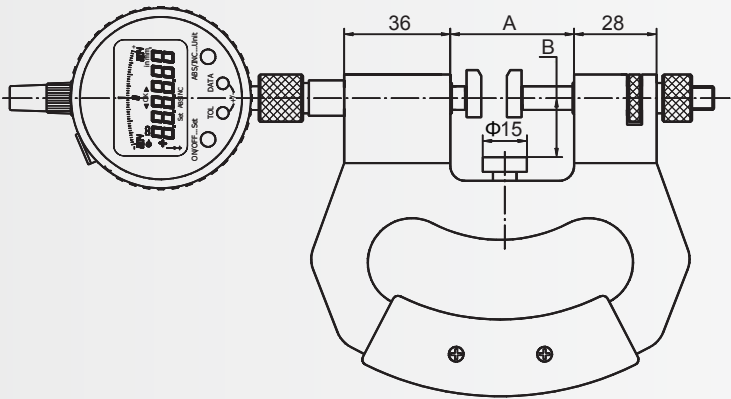
Dial Snap Gauges(Portable)

- Feature:
- Suitable for measuring diameters of mass-produced cylinders and shafts.
 - High precision of dial indicator (Order No. 502-01-122) is optional. Installing dimension is $\Phi 8\text{mm}$.
 - Travel of moving anvil: 3mm.
 - Angles in the ends of the two anvils for easy inserting works.
 - Dimension of measuring face: 14x11mm.



509-01-150
(Dial indicator is optional)

 Order No.	 Range	 Order No.	 Range	 A	 B
Metric		Inch			
509-01-150	0-25mm	509-01-151	0-1"	42mm	20.0mm
509-02-150	25-50mm	509-02-151	1-2"	69mm	32.5mm
509-03-150	50-75mm	509-03-151	2-3"	94mm	45.0mm
509-04-150	75-100mm	509-04-151	3-4"	119mm	57.5mm
509-05-150	100-125mm	509-05-151	4-5"	144mm	70.0mm
509-06-150	125-150mm	509-06-151	5-6"	169mm	82.5mm
509-07-150	150-175mm	509-07-151	6-7"	194mm	95.0mm
509-08-150	175-200mm	509-08-151	7-8"	219mm	107.5mm
509-09-150	200-225mm	509-09-151	8-9"	244mm	120.0mm
509-10-150	225-250mm	509-10-151	9-10"	269mm	132.5mm
509-11-150	250-275mm	509-11-151	10-11"	294mm	145.0mm
509-12-150	275-300mm	509-12-151	11-12"	319mm	157.5mm



USB COM data acquisition cable



P1502

- Waterproof data acquisition cable.
- With earplug connectors, securely plugged.
- USB COM data acquisition cable: USB interface converted into a serial Interface (COM), communicating with digital measuring instruments; by USB HUB, several measuring instruments can be connected at the same time.
- P1501 three-core cable.
P1502 four-core cable. Optional with P1601 waterproof button or P1602 pedal switch, more convenient for data acquisition.
- Cable length: 1.8m.

USB KEY data acquisition cable



P1504

- Waterproof data acquisition cable.
- With earplug connectors, securely plugged.
- USB KEY data acquisition cable: By connecting with USB connector, measurements data converted into keyboard signals and directly input into editing software, such as EXCEL, WORD and NOTEPAD etc. Need not driver and can be connected one measuring instrument.
- P1503 three-core cable.
P1504 four-core cable. Optional with P1601 waterproof button or P1602 pedal switch, more convenient for data acquisition.
- Cable length: 1.8m.

Waterproof button, Pedal switches



P1601



P1602

- Interlinking four-core data acquisition cable, push the pedal to start data acquisition.

SPC Connecting Cables

- Feature:
- SPC cable: The electronic micrometer can be connected to computer by SPC connecting cables, transferring data to computer.

Measuring Type	USB COM		USB KEY	
 Electronic measure of Series 130-XX-4XX  Electronic measure of Series 13X-XX-5XX	 P1501		 P1503	
 Electronic measure of Series 142-XX-43X  Electronic measure of Series 13X-XX-0X0  Electronic indicators of Series 50X-01-X2X	 P1502		 P1504 (1200bps)	 P1505 (2400bps)
	Optional: Waterproof button P1601 Pedal switches P1602			
Measuring Type	Interface (COM)			
 Electronic measure of Series 19X-XX-6XX	 P1101			

Software for Acquisition Data

- Transfer data to QLR software. Real-Time data can be sent to Microsoft[®] Office Excel.[®]

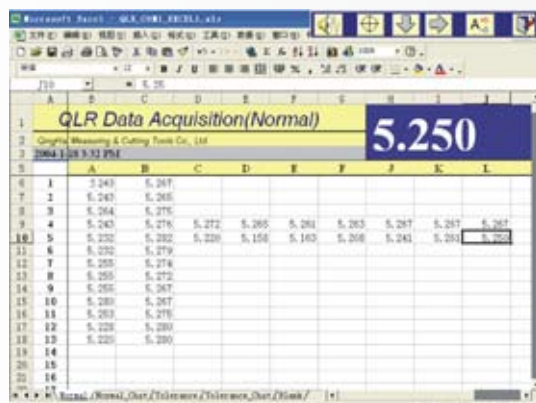
- Transfer data to HyperTerminal (Microsoft[®]).



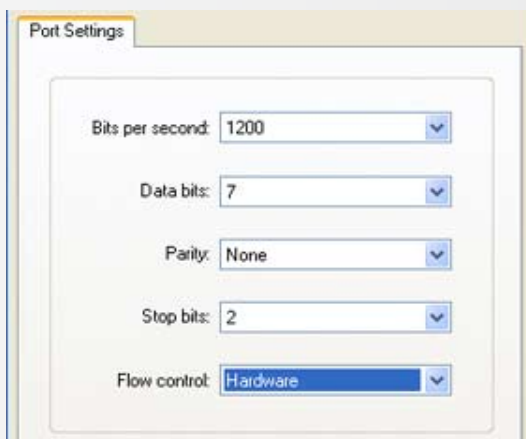
Analog Display



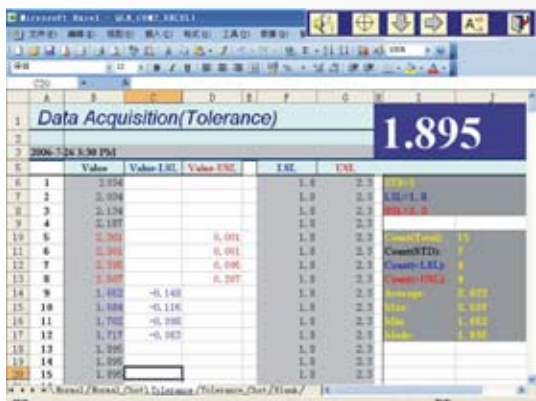
HyperTerminal (Microsoft[®])



Transfer data to MS-EXCEL[®]



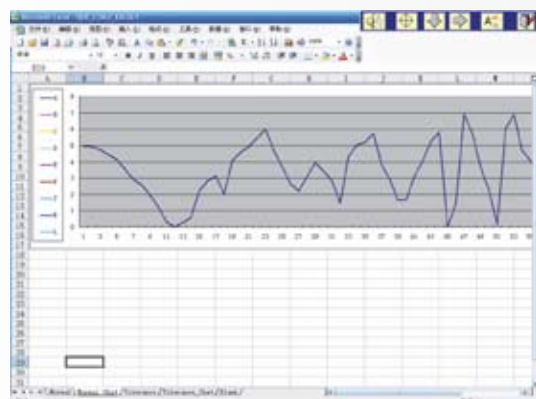
Port Settings



GO/±NG Analyzer



Transfer data to HyperTerminal (Microsoft[®]).



Process Analyzer

3-Wire Individual Holders

Feature:

- For clamping 3-wire for measuring the pitch diameter of screw threads.

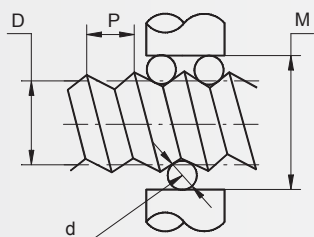


F1003



F3500

Supporter diameter $\Phi 6.5\text{mm}$				Supporter diameter $\Phi 8\text{mm}$			
Without 3-wire							
Order No.		3-Wire diameter		Order No.		3-Wire diameter	
F1001		$\Phi 0.17\sim\Phi 0.30$		F1101		$\Phi 0.17\sim\Phi 0.30$	
F1002		$\Phi 0.30\sim\Phi 0.50$		F1102		$\Phi 0.30\sim\Phi 0.50$	
F1003		$\Phi 0.50\sim\Phi 0.80$		F1103		$\Phi 0.50\sim\Phi 0.80$	
F1004		$\Phi 0.80\sim\Phi 1.10$		F1104		$\Phi 0.80\sim\Phi 1.10$	
F1005		$\Phi 1.20\sim\Phi 1.50$		F1105		$\Phi 1.20\sim\Phi 1.50$	
F1006		$\Phi 1.60\sim\Phi 2.00$		F1106		$\Phi 1.60\sim\Phi 2.00$	
F1007		$\Phi 2.30\sim\Phi 2.60$		F1107		$\Phi 2.30\sim\Phi 2.60$	
F1008		$\Phi 2.80\sim\Phi 3.20$		F1108		$\Phi 2.80\sim\Phi 3.20$	
Sets F1000				Sets F1100			
With 3-wire							
Order No.		3-Wire diameter		Order No.		3-Wire diameter	
F3501		$\Phi 0.17$		F3510		$\Phi 0.62$	
F3502		$\Phi 0.195$		F3511		$\Phi 0.725$	
F3503		$\Phi 0.22$		F3512		$\Phi 0.895$	
F3504		$\Phi 0.25$		F3513		$\Phi 1.1$	
F3505		$\Phi 0.29$		F3514		$\Phi 1.35$	
F3506		$\Phi 0.335$		F3515		$\Phi 1.65$	
F3507		$\Phi 0.39$		F3516		$\Phi 2.05$	
F3508		$\Phi 0.455$		F3517		$\Phi 2.55$	
F3509		$\Phi 0.53$		F3518		$\Phi 3.2$	
Sets F3500				Sets F3600			



$$D = M - 3d + 0.866025P$$

Where

D = Pitch diameter
P = Screw thread pitch
d = Diameter of wire
M = Measured length



Setting Rings



Feature:

- Used for zero setting of inside micrometers and three-point internal micrometers.

A: Uncertainty of marked diameter

B: Cylindricity

C: Error between actual size and nominal value

D: Order No. conforming with criterion DIN 2250(1)

Order No.	Size	A	B	C	D
Metric					
M130	2.5mm	±0.0015mm	0.0010mm	±0.01mm	M134
M150	4mm	±0.0015mm	0.0010mm	±0.01mm	M154
M170	5mm	±0.0015mm	0.0010mm	±0.01mm	M174
M190	6mm	±0.0015mm	0.0010mm	±0.01mm	M194
M220	8mm	±0.0015mm	0.0010mm	±0.01mm	M224
M230	10mm	±0.0015mm	0.0010mm	±0.01mm	M234
M250	12mm	±0.0015mm	0.0010mm	±0.01mm	M254
M260	16mm	±0.0015mm	0.0010mm	±0.01mm	M264
M270	20mm	±0.0015mm	0.0010mm	±0.01mm	M274
M290	25mm	±0.0015mm	0.0010mm	±0.01mm	M294
M300	30mm	±0.0015mm	0.0010mm	±0.01mm	M304
M320	40mm	±0.0015mm	0.0010mm	±0.01mm	M324
M340	50mm	±0.0015mm	0.0015mm	±0.02mm	M344
M360	62mm	±0.0015mm	0.0015mm	±0.02mm	M364
M370	70mm	±0.0015mm	0.0015mm	±0.02mm	M374
M380	75mm	±0.0015mm	0.0015mm	±0.02mm	M384
M400	87mm	±0.0015mm	0.0015mm	±0.02mm	M404
M420	100mm	±0.0015mm	0.0020mm	±0.02mm	M424
M440	150mm	±0.0025mm	0.0020mm	±0.02mm	M444
M460	200mm	±0.0025mm	0.0020mm	±0.02mm	M464
M480	225mm	±0.0025mm	0.0020mm	±0.02mm	M484
M500	250mm	±0.0025mm	0.0020mm	±0.02mm	M504
M520	275mm	±0.0025mm	0.0020mm	±0.02mm	M524
M540	300mm	±0.0025mm	0.0020mm	±0.02mm	M544

Order No.	Size	A	B	C	D
Inch					
M151	0.16"	±.00006"	.00004"	±.0004"	M155
M171	0.2"	±.00006"	.00004"	±.0004"	M175
M191	0.275"	±.00006"	.00004"	±.0004"	M195
M221	0.35"	±.00006"	.00004"	±.0004"	M225
M231	0.425"	±.00006"	.00004"	±.0004"	M235
M251	0.5"	±.00006"	.00004"	±.0004"	M255
M261	0.65"	±.00006"	.00004"	±.0004"	M265
M271	0.8"	±.00006"	.00004"	±.0004"	M275
M291	1"	±.00006"	.00004"	±.0004"	M295
M301	1.2"	±.00006"	.00004"	±.0004"	M305
M321	1.6"	±.00006"	.00004"	±.0004"	M325
M341	2"	±.00006"	.00006"	±.0008"	M345
M361	2.5"	±.00006"	.00006"	±.0008"	M365
M371	2.8"	±.00006"	.00006"	±.0008"	M375
M381	3"	±.00006"	.00006"	±.0008"	M385
M401	3.5"	±.00006"	.00006"	±.0008"	M405
M421	4"	±.00006"	.00008"	±.0008"	M425
M441	6"	±.00010"	.00008"	±.0008"	M445
M461	8"	±.00010"	.00008"	±.0008"	M465

Standard Collars



G1102

Feature:

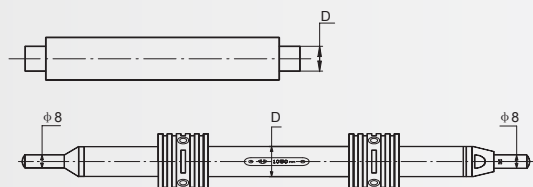
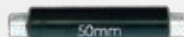
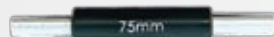
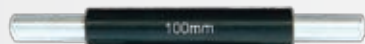
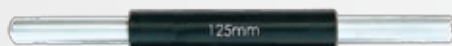
- Used for adjusting measuring range of series 104-XX-0XX, 104-XX-1XX micrometers.

Order No.	Spec.	Order No.	Spec.	Accuracy	Parallel	Dimension	
Metric		Inch				In	Out
G1101	25mm	G2101	1"	±0.001mm	0.001mm	Φ10mm	Φ15mm
G1102	50mm	G2102	2"	±0.001mm	0.001mm	Φ10mm	Φ15mm
G1201	50mm	G2201	2"	±0.002mm	0.002mm	Φ12mm	Φ20mm
G1202	100mm	G2202	4"	±0.002mm	0.002mm	Φ12mm	Φ20mm

Setting Standards

Feature:

- For calibrating zero position of outside micrometers.
- With heat insulating handle to prevent heat expansion.
- Criterion: DIN863/1.



Flat measuring face.



Spherical measuring face.

Order No.	Size	Accuracy	D	Measuring faces
Inch				
A011	1"	±0.00008"	Φ7mm	
A021	2"	±0.00008"	Φ7mm	
A031	3"	±0.00008"	Φ7mm	
A041	4"	±0.00012"	Φ8mm	
A051	5"	±0.00016"	Φ8mm	
A061	6"	±0.00016"	Φ8mm	
A071	7"	±0.00020"	Φ8mm	
A081	8"	±0.00020"	Φ8mm	
A091	9"	±0.00024"	Φ8mm	
A101	10"	±0.00024"	Φ8mm	
A111	11"	±0.00028"	Φ8mm	
A123	12"	±0.00016"	Φ16mm	
A133	13"	±0.00016"	Φ16mm	
A143	14"	±0.00016"	Φ16mm	
A153	15"	±0.00016"	Φ16mm	
A163	16"	±0.00020"	Φ16mm	
A173	17"	±0.00020"	Φ16mm	
A183	18"	±0.00020"	Φ16mm	
A193	19"	±0.00020"	Φ16mm	
A203	20"	±0.00024"	Φ16mm	
A213	21"	±0.00024"	Φ16mm	
A233	23"	±0.00024"	Φ16mm	
A253	25"	±0.00028"	Φ16mm	
A273	27"	±0.00028"	Φ16mm	
A293	29"	±0.00032"	Φ16mm	
A313	31"	±0.00032"	Φ16mm	
A333	33"	±0.00035"	Φ16mm	
A353	35"	±0.00035"	Φ16mm	
A373	37"	±0.00040"	Φ16mm	
A393	39"	±0.00040"	Φ16mm	

Order No.	Size	Accuracy	D	Measuring faces
Metric				
A010	25mm	±0.0012mm	Φ7mm	
A020	50mm	±0.0012mm	Φ7mm	
A030	75mm	±0.0015mm	Φ7mm	
A040	100mm	±0.0020mm	Φ8mm	
A050	125mm	±0.0025mm	Φ8mm	
A060	150mm	±0.0025mm	Φ8mm	
A070	175mm	±0.0025mm	Φ8mm	
A080	200mm	±0.0035mm	Φ8mm	
A090	225mm	±0.0035mm	Φ8mm	
A100	250mm	±0.0035mm	Φ8mm	
A110	275mm	±0.0040mm	Φ8mm	
A120	300mm	±0.0040mm	Φ16mm	
A130	325mm	±0.0045mm	Φ16mm	
A140	350mm	±0.0045mm	Φ16mm	
A150	375mm	±0.0045mm	Φ16mm	
A160	400mm	±0.0045mm	Φ16mm	
A170	425mm	±0.0050mm	Φ16mm	
A180	450mm	±0.0050mm	Φ16mm	
A190	475mm	±0.0050mm	Φ16mm	
A200	500mm	±0.0050mm	Φ16mm	
A212	525mm	±0.0055mm	Φ16mm	
A232	575mm	±0.0055mm	Φ16mm	
A252	625mm	±0.0055mm	Φ16mm	
A272	675mm	±0.0065mm	Φ16mm	
A292	725mm	±0.0065mm	Φ16mm	
A312	775mm	±0.0065mm	Φ16mm	
A332	825mm	±0.0075mm	Φ16mm	
A352	875mm	±0.0075mm	Φ16mm	
A372	925mm	±0.0075mm	Φ16mm	
A392	975mm	±0.0075mm	Φ16mm	
A412	1050mm	±0.0090mm	Φ23mm	
A432	1150mm	±0.0090mm	Φ23mm	
A452	1250mm	±0.0090mm	Φ23mm	
A472	1350mm	±0.0105mm	Φ23mm	
A492	1450mm	±0.0105mm	Φ23mm	
A512	1550mm	±0.0105mm	Φ23mm	
A532	1650mm	±0.0125mm	Φ23mm	
A552	1750mm	±0.0125mm	Φ23mm	
A572	1850mm	±0.0125mm	Φ23mm	
A592	1950mm	±0.0125mm	Φ23mm	
A612	2050mm	±0.0150mm	Φ34mm	
A632	2150mm	±0.0150mm	Φ34mm	
A652	2250mm	±0.0150mm	Φ34mm	
A672	2350mm	±0.0150mm	Φ34mm	
A692	2450mm	±0.0150mm	Φ34mm	
A712	2550mm	±0.0180mm	Φ34mm	
A732	2650mm	±0.0180mm	Φ34mm	
A752	2750mm	±0.0180mm	Φ34mm	
A772	2850mm	±0.0180mm	Φ34mm	
A792	2950mm	±0.0180mm	Φ34mm	

Standards for Thread Micrometers

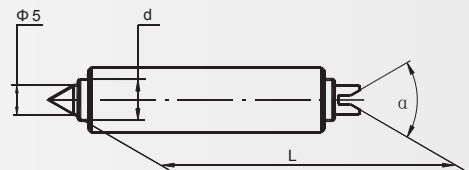


J1102

Feature:

- Used for zero setting for thread micrometers.
- With heat insulating handle to prevent heat expansion.

Order No.	Size LX α	Order No.	Size LX α	Accuracy	d
Metric		Inch			
J1101	25mmX60°	J2101	1"X60°	$\pm 0.0030\text{mm}$	$\Phi 7$
J1102	50mmX60°	J2102	2"X60°	$\pm 0.0035\text{mm}$	$\Phi 7$
J1103	75mmX60°	J2103	3"X60°	$\pm 0.0040\text{mm}$	$\Phi 8$
J1104	100mmX60°	J2104	4"X60°	$\pm 0.0045\text{mm}$	$\Phi 8$
J1105	125mmX60°	J2105	5"X60°	$\pm 0.0050\text{mm}$	$\Phi 8$
J1106	150mmX60°	J2106	6"X60°	$\pm 0.0055\text{mm}$	$\Phi 8$
J1107	175mmX60°	J2107	7"X60°	$\pm 0.0060\text{mm}$	$\Phi 8$
J1108	200mmX60°	J2108	8"X60°	$\pm 0.0060\text{mm}$	$\Phi 8$
J1201	25mmX55°	J2201	1"X55°	$\pm 0.0030\text{mm}$	$\Phi 7$
J1202	50mmX55°	J2202	2"X55°	$\pm 0.0035\text{mm}$	$\Phi 7$
J1203	75mmX55°	J2203	3"X55°	$\pm 0.0040\text{mm}$	$\Phi 8$
J1204	100mmX55°	J2204	4"X55°	$\pm 0.0045\text{mm}$	$\Phi 8$
J1205	125mmX55°	J2205	5"X55°	$\pm 0.0050\text{mm}$	$\Phi 8$
J1206	150mmX55°	J2206	6"X55°	$\pm 0.0055\text{mm}$	$\Phi 8$
J1207	175mmX55°	J2207	7"X55°	$\pm 0.0060\text{mm}$	$\Phi 8$
J1208	200mmX55°	J2208	8"X55°	$\pm 0.0060\text{mm}$	$\Phi 8$



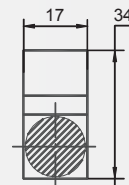
Standards for Inside Micrometers



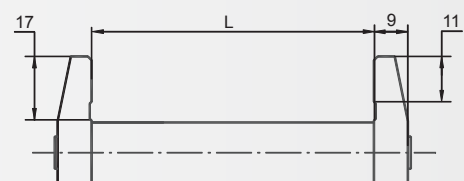
K1102

Feature:

- Used for zero setting of inside micrometers.



Order No.	L	Order No.	L	Accuracy	Parallel
Metric		Inch			
K1102	50mm	K2102	2"	$\pm 0.002\text{mm}$	0.002mm
K1103	75mm	K2103	3"	$\pm 0.003\text{mm}$	0.003mm
K1104	100mm	K2104	4"	$\pm 0.004\text{mm}$	0.004mm
K1106	150mm	K2106	6"	$\pm 0.004\text{mm}$	0.004mm
K1108	200mm	K2108	8"	$\pm 0.004\text{mm}$	0.004mm
K1110	250mm	K2110	10"	$\pm 0.004\text{mm}$	0.004mm
K1111	275mm	K2111	11"	$\pm 0.004\text{mm}$	0.004mm



Standards for V-anvil Micrometers



B1105

Feature:

- Used for zero setting of V-anvil micrometers.

					
Order No.	Spec.	Order No.	Spec.	Accuracy	Cylindricity
Metric		Inch			
B1101	5mm	B2101	0.2"	±0.0010mm	0.00040mm
B1104	20mm	B2104	0.8"	±0.0015mm	0.00040mm
B1105	25mm	B2105	1"	±0.0015mm	0.00045mm
B1107	35mm	B2107	1.4"	±0.0020mm	0.00050mm
B1109	45mm	B2109	1.8"	±0.0025mm	0.00055mm
B1110	50mm	B2110	2"	±0.0025mm	0.00060mm
B1113	65mm	B2113	2.6"	±0.0025mm	0.00070mm
B1116	80mm	B2116	3.2"	±0.0030mm	0.00080mm
B1117	85mm	B2117	3.4"	±0.0030mm	0.00080mm

Interchangeable Spherical Anvils



F1201(Φ6.5mm)

Feature:

- Steel ball diameter Φ5mm.
- Install dimension Φ6.5mm.
- Used for measuring tube thickness.



Detectors



F1500

Feature:

- Supplied with extension rods, for testing the measuring-force of outside micrometers with various ranges.
- Range of measuring-force: 5-12N.

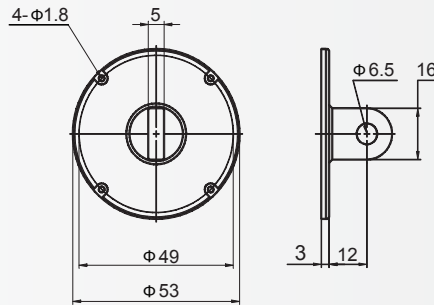
Back Covers with Ear

Feature:

- Used to install dial indicators.



F3201



Indicator Lifters

Feature:

- Lifting height: 10mm.



F3101



Dial Holders

Feature:

- Measuring depth with a dial indicator.



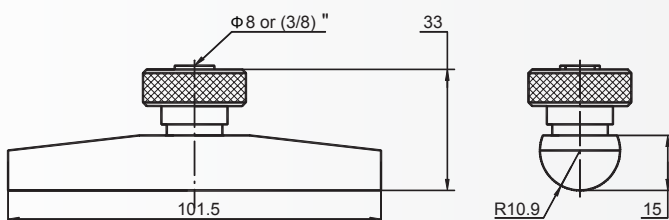
F1402



Order No.	Range	Dimensions of base	Measuring rods No.
F1401	0-30mm	63×17 mm	3
F1402	0-30mm	101.5×17 mm	3



F1412



Axis Lifting Wires

Feature:

- Cable length: 250mm.
- Lifting height: 10mm.



F3301



Micrometer Holders

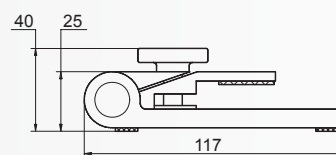
Feature:

- It is a portable holder with folded structure.
- Clamp range: Outside micrometers 100mm.
- Clamp opening: 5-15mm.



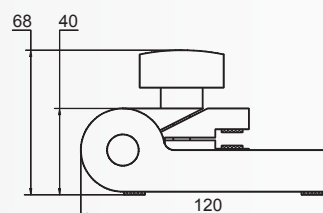
F1301

Folded dimension



F1302

Folded dimension



Measuring Tables

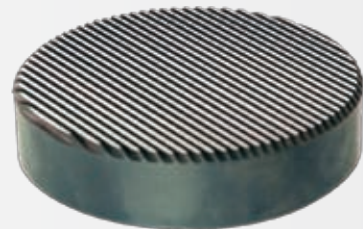
Measuring Tables (With Fine Cast Base)

Feature:

- The flatness of the measuring surface is conforming with DIN 876/00.
- Column diameter: $\Phi 35\text{mm}$.
- Quadrate and round measuring blocks are optional.



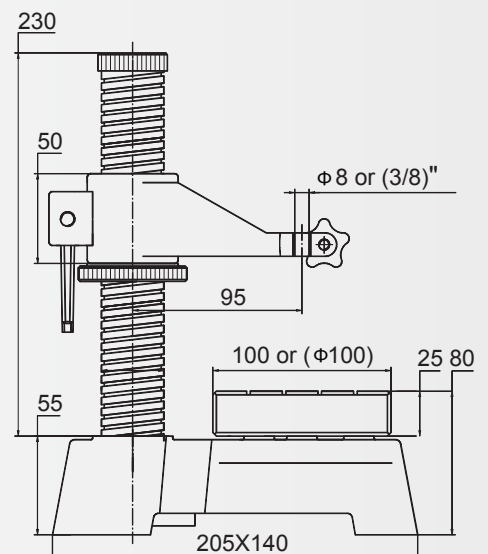
F1930



F1930-2
Round measuring blocks



F1931
Adjustable



Measuring Tables

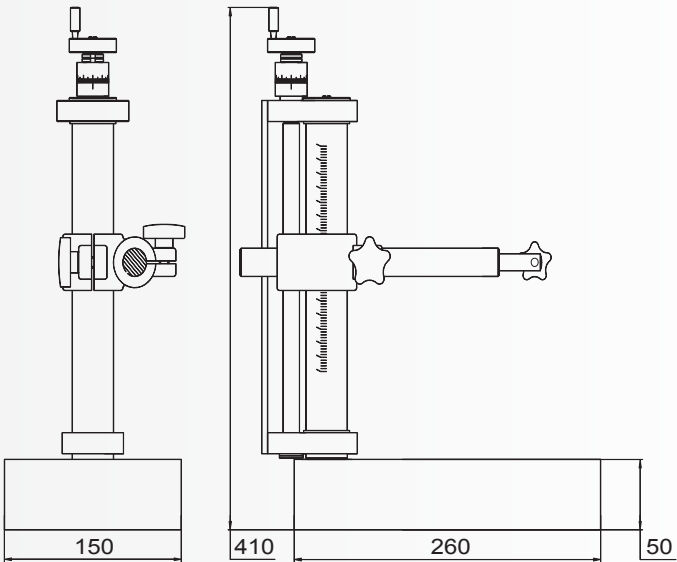
Measuring Tables (With Granite Base)



- Feature:**
- The base of measuring tables is made up of natural granite. The measuring surface is corrosion-free, anti-magnetic and harder than steel.
 - The flatness of the measuring surface is according to DIN 876/00.
 - Measuring tables with a precision-threaded spindle and graduation (resolution: 0.01mm) for easy lift or drop of column of the cross arm.

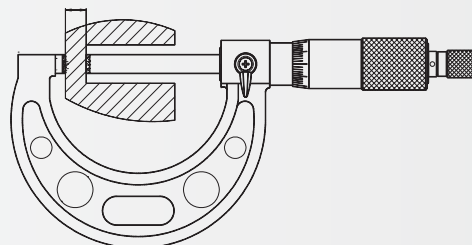
Order No.	F1921
Measuring range	0-160mm
Overhang	200mm
Measuring area	150X250mm
Column diameter	Φ35mm
Column diameter of the cross arm	Φ20mm
Adapter hole for dial gauge	Φ8mm(3/8)"

F1921

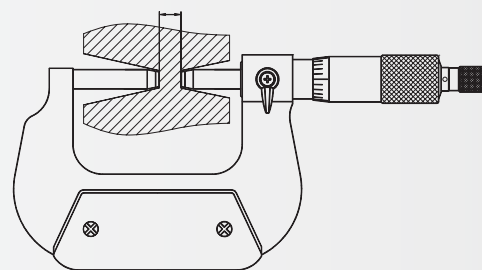


Special Micrometers

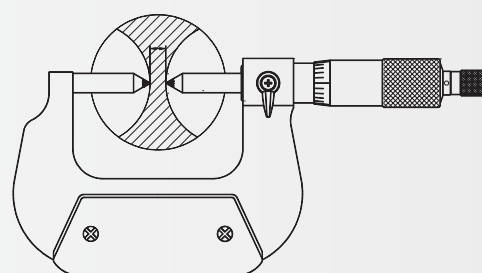
- Long spindle for thickness measurements.



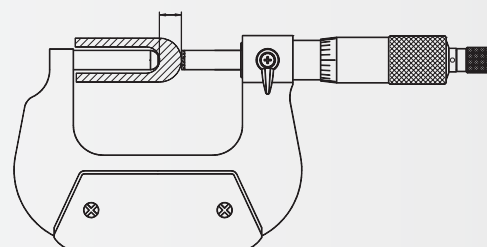
- Long anvil and cone-shaped measuring faces for thickness measurements.



- Long anvil and pointed measuring faces for tube thickness measurements.

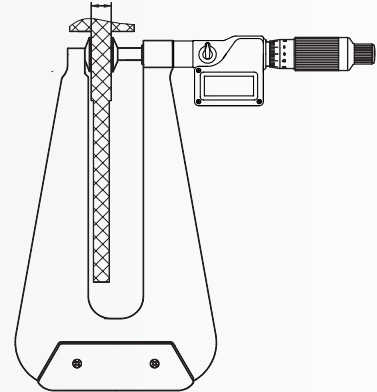


- Long anvil and spherical measuring face for tube thickness measurements.

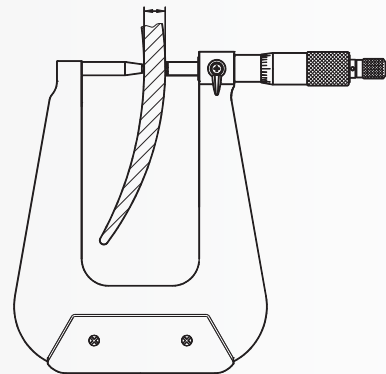


Special Micrometers

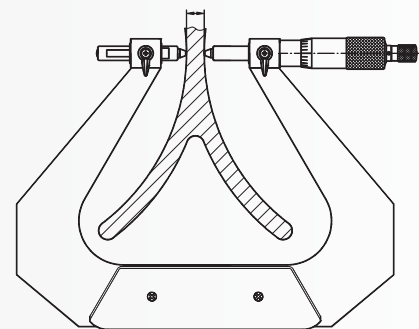
- Deep throat frame and discal measuring faces for thickness measurements.



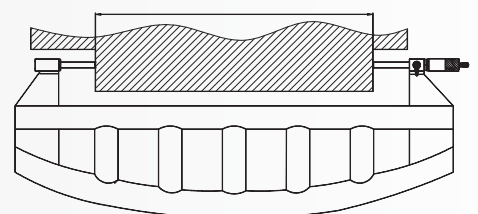
- Long anvil, spherical measuring face and deep frame for thickness measurements.



- Special frame and spherical measuring faces for thickness measurements.

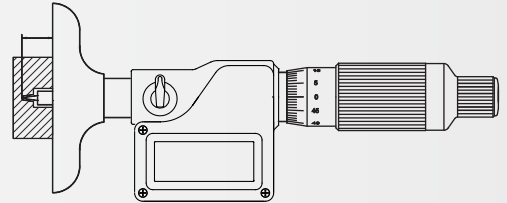


- Rectangle frame and long anvil for king-sized length measurements.

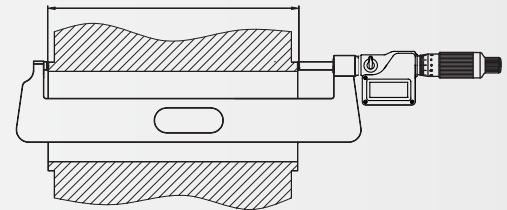
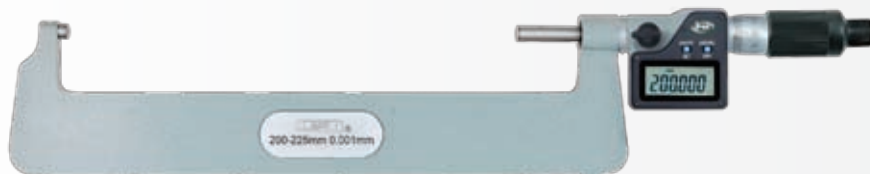


Special Micrometers

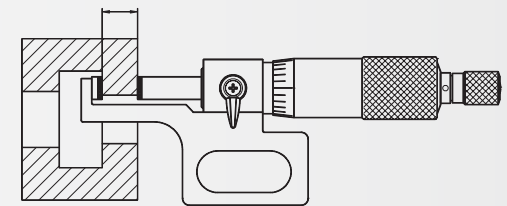
- Cone-shaped measuring faces for measuring depth of special holes and grooves.



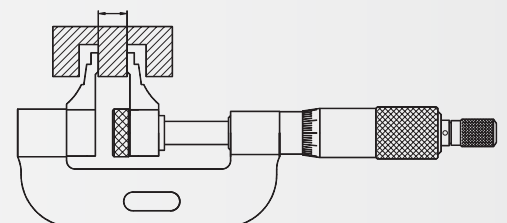
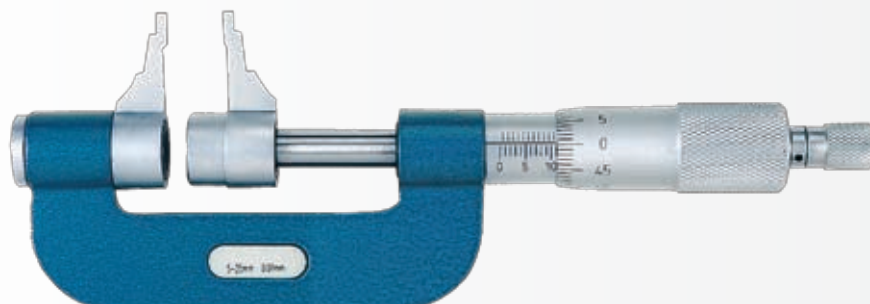
- Special frame for measuring bosses of blocks with holes inside.



- Special frame for measuring shoulder-edge distances.

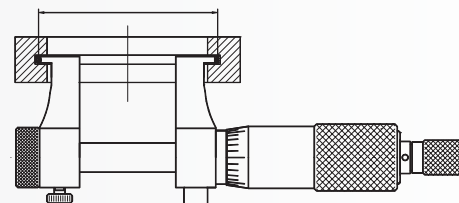


- Special measuring faces for measuring width of inside bosses.

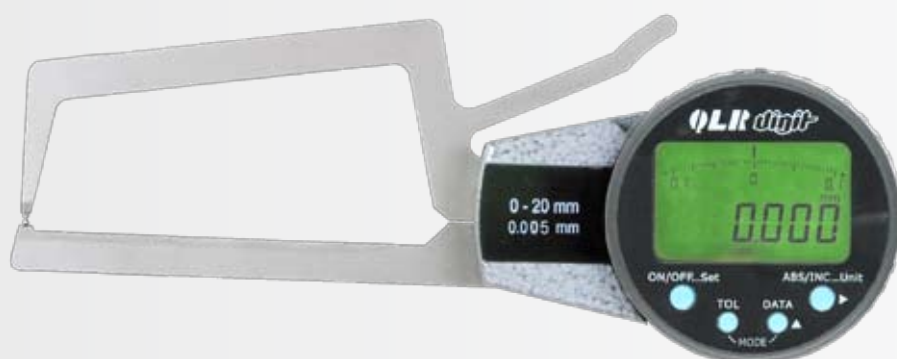
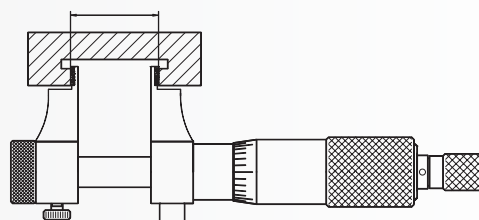


Special Micrometers

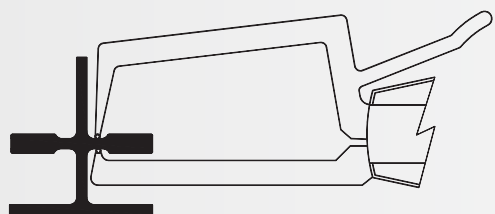
- Special measuring faces for measuring undercuts in bores and other hard-to-reach dimensions.



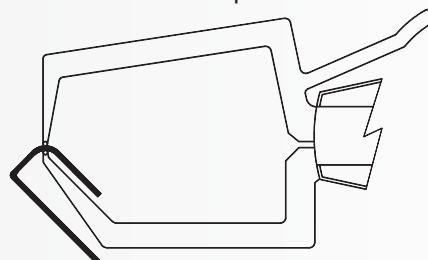
- Flat measuring faces for measuring inside width.



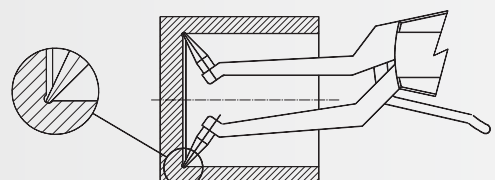
- Used for measuring hard-to-reach root dimensions.



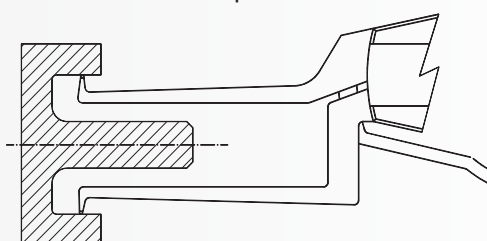
- Used for measuring wall thickness at hard-to-reach places.



- Used for measuring hard-to-reach undercuts in the bottom of the blind hole.

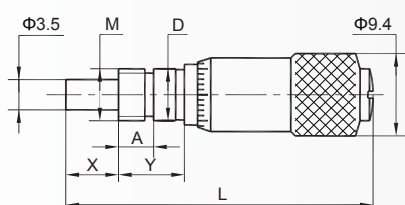


- Used for measuring diameter and width at hard-to-reach places.



Special Micrometer Heads

0-5mm



Range
0-5mm



Accuracy
0.005mm



Resolution
0.01mm

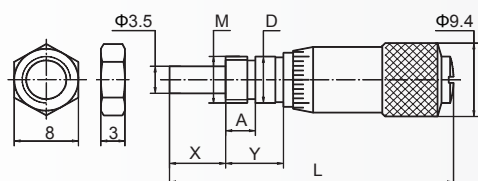
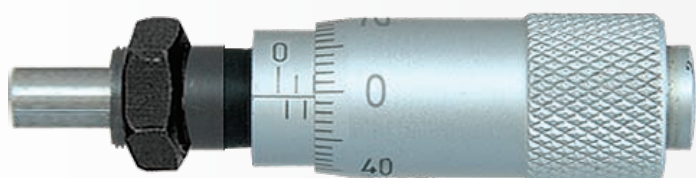
Parameter

Preference data or ordered

X	6-9mm		
Y	6mm、6.5mm、6.35mm、7.5mm		
A	0、4mm、Y		
D	Φ6mm	Φ6.5mm	Φ6.35mm
M	M6X0.5	M6.35X0.635	

L: 23.5+X+Y

0-6.5mm



Range
0-6.5mm



Accuracy
0.005mm



Resolution
0.01mm

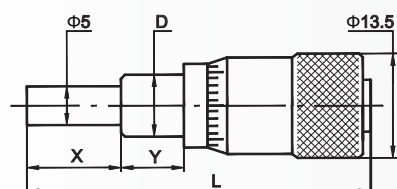
Parameter

Preference data or ordered

X	7.5-9mm		
Y	6mm、6.5mm、6.35mm		
A	0、4mm、Y		
D	Φ6mm	Φ6.5mm	Φ6.35mm
M	M6X0.5	M6.35X0.635	

L: 23.5+X+Y

0-10mm



Range
0-10mm



Accuracy
0.005mm



Resolution
0.01mm

Parameter

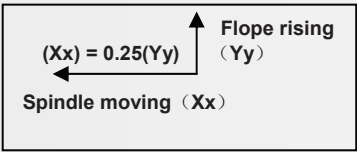
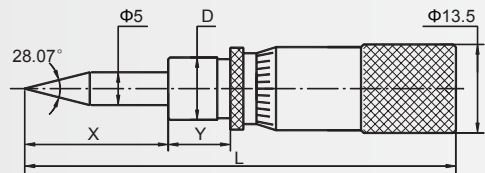
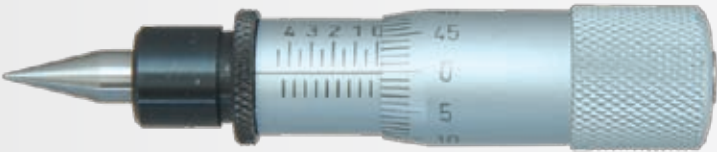
Preference data or ordered

X	10-29mm		
Y	8mm、9.5mm、9.525mm、10mm		
D	Φ8mm、Φ9.5mm、Φ9.525mm、Φ10mm		
SR	SR4 or tipped with a steel ball of Φ3.5		

L: 23.5+X+Y

Special Micrometer Heads

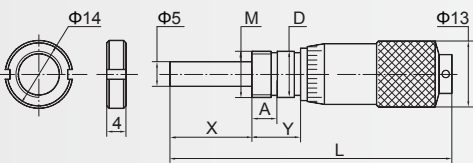
Smm



		
Range Smm	Accuracy 0.005mm	Resolution 0.01mm

Parameter	Preference data or ordered
S	3mm、4.5mm、7.5mm
X	19-21mm
Y	9.5mm、9.525mm
D	Φ9.5mm、Φ9.525mm
L: 23.5+X+Y	

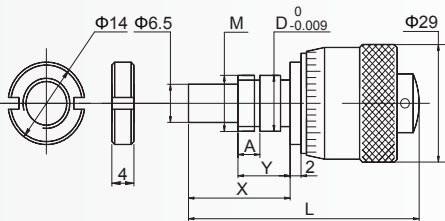
0-13mm



		
Range 0-13mm	Accuracy 0.005mm	Resolution 0.01mm

Parameter	Preference data or ordered
X	17-19mm
Y	9.5mm、9.525mm
A	0、4mm、Y
D	Φ9.5mm Φ9.525mm
M	M9.5X0.5 M9.525X0.635 M9.525X0.794
L: 32+X+Y	

0-13mm Large Diameter Thimble

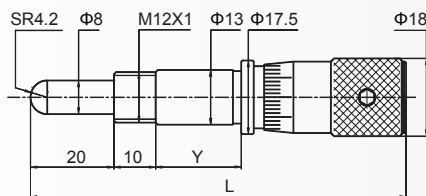


		
Range 0-13mm	Accuracy 0.005mm	Resolution 0.01mm

Parameter	Preference data or ordered
X	24.5-26.5mm
Y	9.5mm、9.525mm
A	0、4mm、Y
D	Φ9.5mm Φ9.525mm
M	M9.5X0.5 M9.525X0.635 M9.525X0.794
L: 30+X	

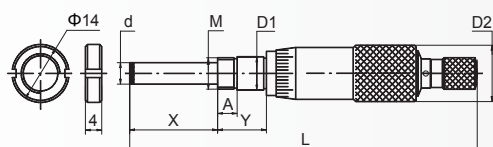
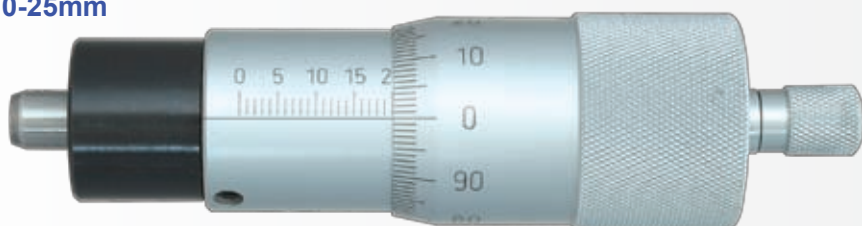
Special Micrometer Heads

0-15mm



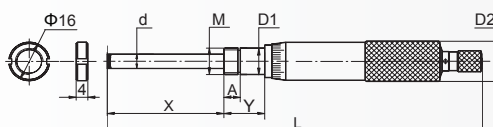
Range	Accuracy	Resolution
0-15mm	0.01mm	0.01mm
Parameter	Preference data or ordered	
Y	20.5mm、70.5mm	
	L: 69.5+Y	

0-25mm



Range	Accuracy	Resolution
0-25mm	0.004mm	0.01mm
Parameter	Preference data or ordered	
X	27-34mm	
Y	10mm、16.5mm、19mm、29mm	
A	0、4mm、Y	
d	Φ6.5mm、Φ8mm	
D1	Φ9.5mm、Φ9.525mm、Φ11mm、Φ12.7mm、Φ21mm	
D2	Φ18mm、Φ21mm、Φ29mm	
M	M9.5X0.5 M9.525X0.635 M10X0.5	
SR	SR5 or tipped with a steel ball of Φ4.5	
	L: 65 +X+Y	

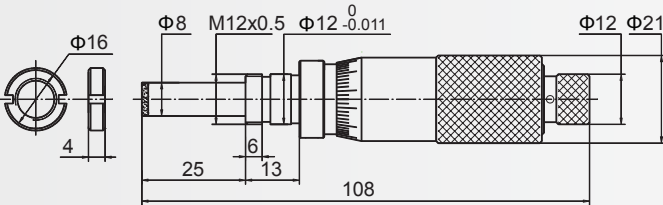
0-50mm



Range	Accuracy	Resolution
0-50mm	0.005mm	0.01mm
Parameter	Preference data or ordered	
X	50-65mm	
Y	14mm、29mm、35.5mm	
A	0、4mm、Y	
d	Φ6.5mm、Φ8mm	
D1	Φ9.5mm、Φ9.525mm、Φ14mm、Φ22mm	
D2	Φ18mm、Φ21mm、Φ29mm	
M	M9.5X0.5 M9.525X0.635 M10X0.5	
SR	SR5 or tipped with a steel ball of Φ4.5	
	L: 92.5 +X+Y	

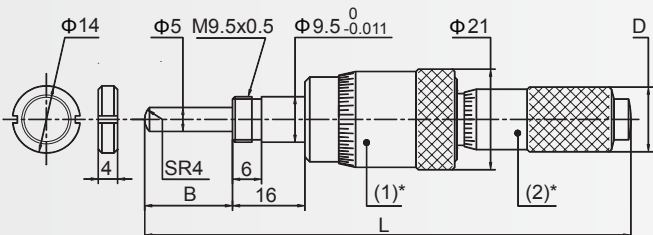
Special Micrometer Heads

0-2.5mm Fine Adjusting



Accuracy	Resolution	
	Full length	Within 0.05mm
0.001mm	0.005mm	0.0015mm
	0.007mm	0.0030mm
0.0001mm	0.005mm	0.0015mm
	0.007mm	0.0030mm

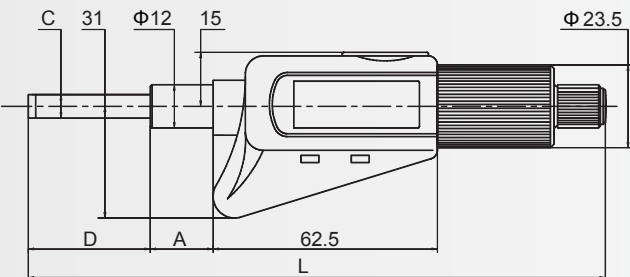
Fine Reading



(1)*: Fine-feed thimble;
(2)*: Coarse-feed thimble.

Range	D	B	L
0-13mm	Φ 13mm	17mm	103.5mm
0-25mm	Φ 18mm	28.5mm	133.5mm

0-50mm Double Display Digital Micrometers Heads



A	C	D	L
17.5mm	Φ 6.5mm	34mm	159mm
20.5mm	Φ 8.0mm	34mm	162mm
35.5mm	Φ 6.5mm	53mm	196mm

Twist Drills

Straight Shank Twist Drills



Metric							
Order No.	Diameter	Order No.	Diameter	Order No.	Diameter	Order No.	Diameter
Z23004-10	1.00mm	Z23004-46	2.80mm	Z23004-82	6.1mm	Z23004-118	9.7mm
Z23004-11	1.05mm	Z23004-47	2.85mm	Z23004-83	6.2mm	Z23004-119	9.8mm
Z23004-12	1.10mm	Z23004-48	2.90mm	Z23004-84	6.3mm	Z23004-120	9.9mm
Z23004-13	1.15mm	Z23004-49	2.95mm	Z23004-85	6.4mm	Z23004-121	10.0mm
Z23004-14	1.20mm	Z23004-50	3.00mm	Z23004-86	6.5mm	Z23004-122	10.1mm
Z23004-15	1.25mm	Z23004-51	3.1mm	Z23004-87	6.6mm	Z23004-123	10.2mm
Z23004-16	1.30mm	Z23004-52	3.15mm	Z23004-88	6.7mm	Z23004-124	10.3mm
Z23004-17	1.35mm	Z23004-53	3.2mm	Z23004-89	6.8mm	Z23004-125	10.4mm
Z23004-18	1.40mm	Z23004-54	3.3mm	Z23004-90	6.9mm	Z23004-126	10.5mm
Z23004-19	1.45mm	Z23004-55	3.4mm	Z23004-91	7.0mm	Z23004-127	10.6mm
Z23004-20	1.50mm	Z23004-56	3.5mm	Z23004-92	7.1mm	Z23004-128	10.7mm
Z23004-21	1.55mm	Z23004-57	3.6mm	Z23004-93	7.2mm	Z23004-129	10.8mm
Z23004-22	1.60mm	Z23004-58	3.7mm	Z23004-94	7.3mm	Z23004-130	10.9mm
Z23004-23	1.65mm	Z23004-59	3.8mm	Z23004-95	7.4mm	Z23004-131	11.0mm
Z23004-24	1.70mm	Z23004-60	3.9mm	Z23004-96	7.5mm	Z23004-132	11.1mm
Z23004-25	1.75mm	Z23004-61	4.0mm	Z23004-97	7.6mm	Z23004-133	11.2mm
Z23004-26	1.80mm	Z23004-62	4.1mm	Z23004-98	7.7mm	Z23004-134	11.3mm
Z23004-27	1.85mm	Z23004-63	4.2mm	Z23004-99	7.8mm	Z23004-135	11.4mm
Z23004-28	1.90mm	Z23004-64	4.3mm	Z23004-100	7.9mm	Z23004-136	11.5mm
Z23004-29	1.95mm	Z23004-65	4.4mm	Z23004-101	8.0mm	Z23004-137	11.6mm
Z23004-30	2.00mm	Z23004-66	4.5mm	Z23004-102	8.1mm	Z23004-138	11.7mm
Z23004-31	2.05mm	Z23004-67	4.6mm	Z23004-103	8.2mm	Z23004-139	11.8mm
Z23004-32	2.10mm	Z23004-68	4.7mm	Z23004-104	8.3mm	Z23004-140	11.9mm
Z23004-33	2.15mm	Z23004-69	4.8mm	Z23004-105	8.4mm	Z23004-141	12.0mm
Z23004-34	2.20mm	Z23004-70	4.9mm	Z23004-106	8.5mm	Z23004-142	12.1mm
Z23004-35	2.25mm	Z23004-71	5.0mm	Z23004-107	8.6mm	Z23004-143	12.2mm
Z23004-36	2.30mm	Z23004-72	5.1mm	Z23004-108	8.7mm	Z23004-144	12.3mm
Z23004-37	2.35mm	Z23004-73	5.2mm	Z23004-109	8.8mm	Z23004-145	12.4mm
Z23004-38	2.40mm	Z23004-74	5.3mm	Z23004-110	8.9mm	Z23004-146	12.5mm
Z23004-39	2.45mm	Z23004-75	5.4mm	Z23004-111	9.0mm	Z23004-147	12.6mm
Z23004-40	2.50mm	Z23004-76	5.5mm	Z23004-112	9.1mm	Z23004-148	12.7mm
Z23004-41	2.55mm	Z23004-77	5.6mm	Z23004-113	9.2mm	Z23004-149	12.8mm
Z23004-42	2.60mm	Z23004-78	5.7mm	Z23004-114	9.3mm	Z23004-150	12.9mm
Z23004-43	2.65mm	Z23004-79	5.8mm	Z23004-115	9.4mm	Z23004-151	13.0mm
Z23004-44	2.70mm	Z23004-80	5.9mm	Z23004-116	9.5mm		
Z23004-45	2.75mm	Z23004-81	6.0mm	Z23004-117	9.6mm		

Inch	
Order No.	Diameter
ZC23004-04	1/16"
ZC23004-05	5/64"
ZC23004-06	3/32"
ZC23004-07	7/64"
ZC23004-08	1/8"
ZC23004-09	9/64"
ZC23004-10	5/32"
ZC23004-11	11/64"
ZC23004-12	3/16"
ZC23004-13	13/64"
ZC23004-14	7/32"
ZC23004-15	15/64"
ZC23004-16	1/4"
ZC23004-17	17/64"
ZC23004-18	9/32"
ZC23004-19	19/64"
ZC23004-20	5/16"
ZC23004-21	21/64"
ZC23004-22	11/32"
ZC23004-23	23/64"
ZC23004-24	3/8"
ZC23004-25	25/64"
ZC23004-26	13/32"
ZC23004-27	27/64"
ZC23004-28	7/16"
ZC23004-29	29/64"
ZC23004-30	15/32"
ZC23004-31	31/64"
ZC23004-32	1/2"

Straight Shank Twist Drill Sets

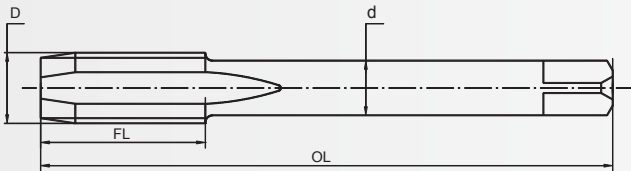
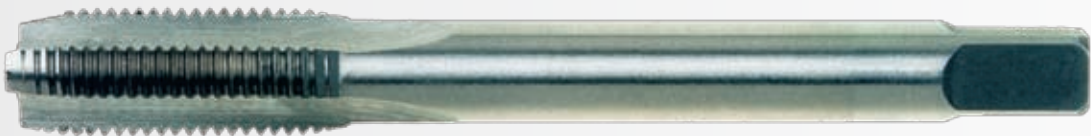
Order No.	Pieces	Diameter
Metric		
A-13	13	1.5, 2.0, 2.5, 3.0, 3.2, 3.5, 4.0, 4.5, 4.8, 5.0, 5.5, 6.0, 6.5mm
A-19	19	1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 7.5, 8.0, 8.5, 9.0, 9.5, 10.0mm
A-25	25	1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 7.5, 8.0, 8.5, 9.0, 9.5, 10.0, 10.5, 11.0, 11.5, 12.0, 12.5, 13.0mm
Inch		
C-13	13	1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 11/64", 3/16", 13/64", 7/32", 15/64", 1/4"
C-21	21	1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 11/64", 3/16", 13/64", 7/32", 15/64", 1/4", 17/64", 9/32", 19/64", 5/16", 21/64", 11/32", 23/64", 3/8"
C-29	29	1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 11/64", 3/16", 13/64", 7/32", 15/64", 1/4", 17/64", 9/32", 19/64", 5/16", 21/64", 11/32", 23/64", 3/8", 25/64", 13/32", 27/64", 7/16", 29/64", 15/32", 31/64", 1/2"



A-19

Taps

Criterion: GB/T3464.1-94



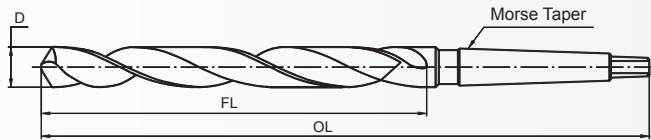
S21120-18

Order No.		Diameter D	Pitch t	Handle Diameter d	Flute Length FL	Overall Length OL
Common coarse-tooth taps with thick handle						
S21130-10	M3	3.0mm	0.5mm	3.15mm	11mm	48mm
S21130-12	M4	4.0mm	0.7mm	4.00mm	13mm	53mm
S21130-14	M5	5.0mm	0.8mm	5.00mm	16mm	58mm
S21130-16	M6	6.0mm	1.0mm	6.30mm	19mm	66mm
Common						
S21120-17	M7	7.0mm	1.0mm	5.6mm	19mm	66mm
S21120-18	M8	8.0mm	1.25mm	6.3mm	22mm	72mm
S21120-19	M9	9.0mm	1.50mm	7.1mm	24mm	80mm
S21120-20	M10	10.0mm	1.75mm	8.0mm	25mm	85mm
S21120-21	M11	11.0mm	2.0mm	9.0mm	29mm	89mm
S21120-22	M12	12.0mm	2.50mm	11.2mm	30mm	95mm
S21120-23	M14	14.0mm		12.5mm	32mm	102mm
S21120-25	M16	16.0mm				
S21120-27	M18	18.0mm				
S21120-28	M20	20.0mm				
Common fine-tooth taps with thick handle						
S21131-10	M3	3.0mm	0.35mm	3.15mm	11mm	48mm
S21131-12	M4	4.0mm		4.00mm	13mm	53mm
S21131-14	M5	5.0mm	0.50mm	5.00mm	16mm	58mm
S21132-16	M6	6.0mm		6.30mm	19mm	66mm
S21131-16			0.75mm			
Common fine-tooth taps with thin handle						
S21121-17	M7	7.0mm	0.75mm	5.6mm	19mm	66mm
S21122-18	M8	8.0mm	1.00mm	6.3mm	22mm	72mm
S21121-18						
S21122-19	M9	9.0mm	0.75mm	7.1mm	19mm	66mm
S21121-19			1.0mm		22mm	72mm
S21123-20			0.75mm		20mm	73mm
S21122-20	M10	10.0mm	1.00mm		24mm	
S21121-20			1.25mm	8.0mm		
S21122-21	M11	11.0mm	0.75mm		22mm	80mm
S21121-21			1.00mm			
S21123-22			1.00mm			
S21122-22	M12	12.0mm	1.25mm	9.0mm	29mm	89mm
S21121-22			1.50mm			
S21123-23			1.00mm		22mm	87mm
S21122-23	M14	14.0mm	1.25mm	11.2mm	30mm	95mm
S21121-23			1.50mm			
S21121-24	M15	15.0mm	1.50mm			
S21122-25	M16	16.0mm	1.00mm		22mm	92mm
S21121-25			1.50mm	12.5mm	32mm	102mm
S21121-26	M17	17.0mm				
S21123-27			1.00mm		22mm	97mm
S21122-27	M18	18.0mm	1.50mm		37mm	112mm
S21121-27			2.00mm	14mm		
S21123-28			1.00mm		22mm	102mm
S21122-28	M20	20.0mm	1.50mm		37mm	112mm
S21121-28			2.00mm			



Morse Taper Shank End Twist Drills

Criterion: GB/T1438.1-1996



MZ23004-161

Order No.	Diameter D	Flute Length FL	Overall Length OL	Morse Taper No.	Order No.	Diameter D	Flute Length FL	Overall Length OL	Morse Taper No.
MZ23004-151	13.00mm	101mm	182mm	1	MZ23004-272	23.25mm	155mm	276mm	3
MZ23004-153	13.20mm				MZ23004-275	23.50mm			
MZ23004-156	13.50mm	108mm	189mm		MZ23004-278	23.75mm	160mm	281mm	
MZ23004-159	13.80mm				MZ23004-281	24.00mm			
MZ23004-161	14.00mm	114mm	212mm		MZ23004-284	24.25mm			
MZ23004-164	14.25mm				MZ23004-287	24.50mm			
MZ23004-167	14.50mm				MZ23004-290	24.75mm			
MZ23004-170	14.75mm				MZ23004-293	25.00mm			
MZ23004-173	15.00mm	120mm	218mm	MZ23004-296	25.25mm	165mm	286mm		
MZ23004-176	15.25mm			MZ23004-299	25.50mm				
MZ23004-178	15.40mm			MZ23004-302	25.75mm				
MZ23004-179	15.50mm			MZ23004-305	26.00mm				
MZ23004-182	15.75mm	125mm	223mm	MZ23004-308	26.25mm			170mm	291mm
MZ23004-185	16.00mm			MZ23004-311	26.50mm				
MZ23004-188	16.25mm			MZ23004-314	26.75mm				
MZ23004-191	16.50mm			MZ23004-317	27.00mm				
MZ23004-194	16.75mm			130mm	228mm	MZ23004-320	27.25mm	175mm	296mm
MZ23004-197	17.00mm	MZ23004-323	27.50mm						
MZ23004-200	17.25mm	MZ23004-326	27.75mm						
MZ23004-202	17.40mm	MZ23004-329	28.00mm						
MZ23004-203	17.50mm	135mm	233mm	MZ23004-332	28.25mm	180mm	301mm		
MZ23004-206	17.75mm			MZ23004-335	28.50mm				
MZ23004-209	18.00mm			MZ23004-338	28.75mm				
MZ23004-212	18.25mm			MZ23004-341	29.00mm				
MZ23004-215	18.50mm			140mm	238mm	MZ23004-344	29.25mm	185mm	306mm
MZ23004-218	18.75mm	MZ23004-347	29.50mm						
MZ23004-221	19.00mm	MZ23004-350	29.75mm						
MZ23004-224	19.25mm	MZ23004-353	30.00mm						
MZ23004-226	19.40mm	145mm	243mm	MZ23004-356	30.25mm	185mm	334mm		
MZ23004-227	19.50mm			MZ23004-359	30.50mm				
MZ23004-230	19.75mm			MZ23004-362	30.75mm				
MZ23004-233	20.00mm			MZ23004-365	31.00mm				
MZ23004-236	20.25mm			150mm	248mm	MZ23004-368	31.25mm	190mm	339mm
MZ23004-239	20.50mm	MZ23004-371	31.50mm						
MZ23004-242	20.75mm	MZ23004-374	31.75mm						
MZ23004-245	21.00mm	MZ23004-377	32.00mm						
MZ23004-248	21.25mm	155mm	253mm	MZ23004-382	32.50mm	195mm	344mm		
MZ23004-251	21.50mm			MZ23004-387	33.00mm				
MZ23004-254	21.75mm			MZ23004-392	33.50mm				
MZ23004-257	22.00mm			MZ23004-397	34.00mm				
MZ23004-260	22.25mm			160mm	258mm	MZ23004-402	34.50mm	195mm	344mm
MZ23004-263	22.50mm	MZ23004-407	35.00mm						
MZ23004-266	22.75mm								
MZ23004-269	23.00mm								