

# 07

## BORE DIAMETER, CIRCUMFERENCE MEASUREMENT



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**Inside Micrometers**  
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## INSIDE MICROMETERS

**INSIZE PLUS**  
MADE IN EUROPE

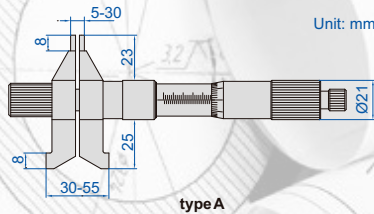
**INSPECTION  
CERTIFICATE**



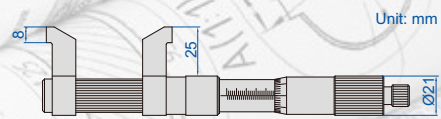
3679-55



3679-75



type A



type B

for type A, the upper jaws and lower jaws can be set zero separately



- Graduation: 0.01mm
- Carbide measuring faces
- Ratchet stop
- Optional accessory: setting ring (code 6312), caliper/height gage checker (code 6884)

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Code	Range	Type	Accuracy
3679-55 *	5-55mm	A	4µm
3679-75 *	50-75mm	B	5µm
3679-100 *	75-100mm	B	6µm
3679-125 *	100-125mm	B	7µm
3679-150 *	125-150mm	B	8µm
3679-175 *	150-175mm	B	9µm
3679-200 *	175-200mm	B	9µm
3679-225 *	200-225mm	B	10µm
3679-250 *	225-250mm	B	10µm
3679-275 *	250-275mm	B	12µm
3679-300 *	275-300mm	B	12µm

\* Supplied with manufacturer inspection certificate

Code	Range	Type	Accuracy
3679-325 *	300-325mm	B	15µm
3679-350 *	325-350mm	B	15µm
3679-375 *	350-375mm	B	16µm
3679-400 *	375-400mm	B	16µm
3679-425 *	400-425mm	B	17µm
3679-450 *	425-450mm	B	17µm
3679-475 *	450-475mm	B	18µm
3679-500 *	475-500mm	B	18µm
3679-525 *	500-525mm	B	19µm
3679-550 *	525-550mm	B	19µm
3679-575 *	550-575mm	B	20µm
3679-600 *	575-600mm	B	20µm

**ATTENTION: LOW PARALLELISM  
OF TWO MEASURING FACES**

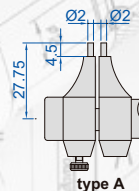
micrometer stand  
with clamp (optional)



- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces
- Optional accessory: setting ring (code 6312), micrometer stand and clamp (code 6301 and 6301-1)

## INSIDE MICROMETERS (ECONOMIC TYPE)

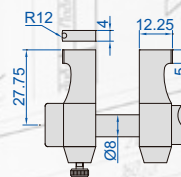
Unit: mm



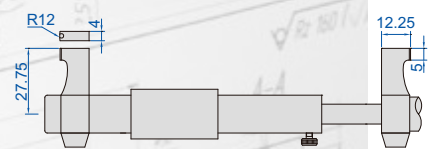
type A



3220-50



type B



type C

Code	Range	Type	Setting ring	Accuracy
3220-30	5-30mm	A	5mm (included)	7µm
3220-50	25-50mm	B	25mm (included)	8µm
3220-75	50-75mm	B	50mm (optional)	9µm
3220-100	75-100mm	C	75mm (optional)	10µm

## DIGITAL INSIDE MICROMETERS (ECONOMIC TYPE)

DATA  
OUTPUT

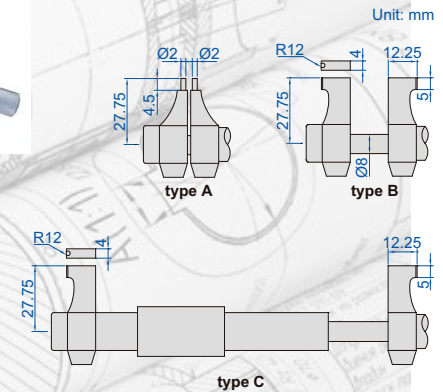
ATTENTION: LOW PARALLELISM  
OF TWO MEASURING FACES

- Resolution 0.001mm/0.00005"
- Button function: on/off, set, mm/inch, data transmit
- Data output
- Automatic power off
- Ratchet stop
- Carbide measuring faces
- Optional accessory: data output cable (code 7315-31 need receiver page 4, 7302-31 page 12), setting ring (code 6312)



3520-30

Code	Range	Type	Setting ring	Accuracy
3520-30	5-30mm/0.2-1.2"	A	5mm (included)	±5µm
3520-50	25-50mm/1-2"	B	25mm (included)	±6µm
3520-75	50-75mm/2-3"	B	50mm (optional)	±7µm
3520-100	75-100mm/3-4"	C	75mm (optional)	±8µm



## 7 INTERNAL GEAR TOOTH MICROMETERS

**INSIZE PLUS**  
MADE IN EUROPE

INSPECTION  
CERTIFICATE

- Measure over-pin diameter of gears
- Graduation: 0.01mm
- Ratchet stop
- Optional accessory: ball tips (code 7383), cylindrical tips (code 7393, only for micrometers with L=8mm)

before ball tips  
are installed

ball tips are optional



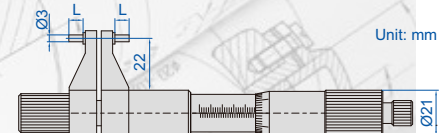
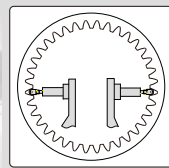
3678-50

cylindrical tips (optional)  
(only for micrometers  
with L=8mm)



Code	Range	Accuracy	L
3678-50*	25-50mm	4µm	6mm
3678-75*	50-75mm	5µm	8mm

\*Supplied with manufacturer inspection certificate



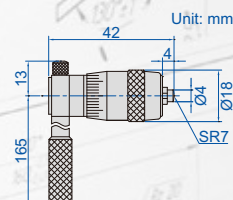
## TUBULAR INSIDE MICROMETERS

- Graduation 0.01mm
- Accuracy: (6+L/50)µm  
L=maximum measuring length (mm)
- Optional accessory: setting ring (code 6312), gage block accessory (code 6881), cylinder gage block (code 4001), caliper/height gage checker (code 6884)



3221-200

Code	Range	Travel of micrometer head	Extension rods
3221-32	25-32mm	7mm	—
3221-50	25-50mm	7mm	2 pcs
3221-63	50-63mm	13mm	—
3221-200	50-200mm	13mm	6 pcs
3221-300	50-300mm	13mm	10 pcs
3221-225	200-225mm	25mm	—
3221-500	200-500mm	25mm	3 pcs
3221-1000	200-1000mm	25mm	8 pcs



application



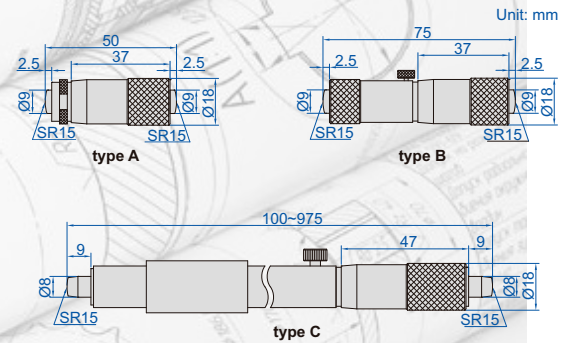
## TUBULAR INSIDE MICROMETERS

- Micrometers up to 500mm meet DIN863-4
- Graduation 0.01mm
- Carbide measuring faces
- Optional accessory: gage block accessory (code **6881**), cylinder gage block (code **4001**), caliper/height gage checker (code **6884**)



3229-225

Code	Range	Type	Accuracy
3229-75	50-75mm	A	5µm
3229-100	75-100mm	B	5µm
3229-125	100-125mm	C	6µm
3229-150	125-150mm	C	6µm
3229-175	150-175mm	C	7µm
3229-200	175-200mm	C	7µm
3229-225	200-225mm	C	8µm
3229-250	225-250mm	C	8µm
3229-275	250-275mm	C	9µm
3229-300	275-300mm	C	9µm
3229-325	300-325mm	C	9µm
3229-350	325-350mm	C	9µm
3229-375	350-375mm	C	10µm
3229-400	375-400mm	C	10µm
3229-425	400-425mm	C	10µm
3229-450	425-450mm	C	10µm
3229-475	450-475mm	C	11µm
3229-500	475-500mm	C	11µm
3229-525	500-525mm	C	11µm
3229-550	525-550mm	C	11µm
3229-575	550-575mm	C	11µm
3229-600	575-600mm	C	12µm
3229-625	600-625mm	C	12µm
3229-650	625-650mm	C	12µm
3229-675	650-675mm	C	13µm
3229-700	675-700mm	C	13µm

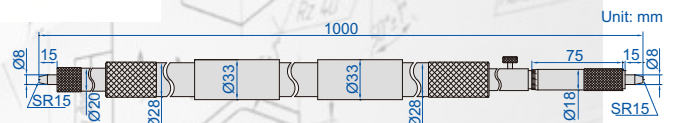


Code	Range	Type	Accuracy
3229-725	700-725mm	C	13µm
3229-750	725-750mm	C	14µm
3229-775	750-775mm	C	14µm
3229-800	775-800mm	C	14µm
3229-825	800-825mm	C	15µm
3229-850	825-850mm	C	15µm
3229-875	850-875mm	C	15µm
3229-900	875-900mm	C	16µm
3229-925	900-925mm	C	16µm
3229-950	925-950mm	C	16µm
3229-975	950-975mm	C	17µm
3229-1000	975-1000mm	C	17µm

## TUBULAR INSIDE MICROMETERS



3224-2000



Code	Range	Extension rods
3224-2000	1000-2000mm	50mm, 100mm (2 pcs), 200mm, 500mm
3224-3000	1000-3000mm	50mm, 100mm (2 pcs), 200mm, 500mm, 1000mm
3224-4000	1000-4000mm	50mm, 100mm (2 pcs), 200mm, 500mm, 1000mm (2 pcs)
3224-5000	1000-5000mm	50mm, 100mm (2 pcs), 200mm, 500mm, 1000mm (3 pcs)

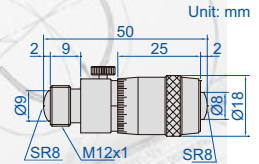
- Micrometer head: 1000-1050mm
- Graduation 0.01mm
- Accuracy:  $(7+n+L/50)\mu\text{m}$   
n=number of rods  
L=maximum measuring length (mm)
- Travel of micrometer head 50mm
- Carbide measuring faces

## TUBULAR INSIDE MICROMETERS

- Micrometer head: 50-63mm
- Graduation 0.01mm
- Accuracy:  $(3+n+L/50)\mu\text{m}$   
 $n$ =number of rods  
 $L$ =maximum measuring length (mm)
- Supplied with setting standards
- Carbide measuring faces



3222-150



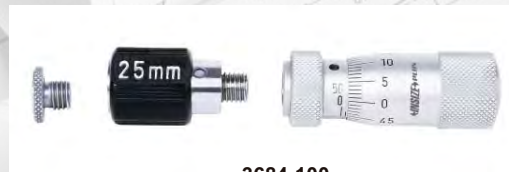
Code	Range	Travel of micrometer head	Extension rods
3222-63	50-63mm	13mm	—
3222-150	50-150mm	13mm	13mm, 25mm, 50mm
3222-300	50-300mm	13mm	13mm, 25mm, 50mm (2 pcs), 100mm
3222-500	50-500mm	13mm	13mm, 25mm, 50mm (2 pcs), 100mm, 200mm
3222-600	50-600mm	13mm	13mm, 25mm, 50mm, 100mm, 150mm, 200mm
3222-1000	50-1000mm	13mm	13mm, 25mm, 50mm (2 pcs), 100mm, 200mm (2 pcs), 300mm
3222-1500	50-1500mm	13mm	13mm, 25mm, 50mm (2 pcs), 100mm, 200mm (3 pcs), 300mm (2 pcs)

7

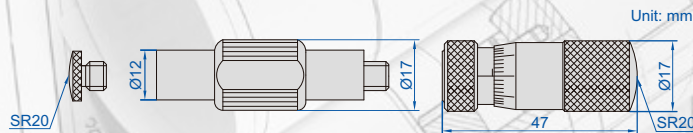
## TUBULAR INSIDE MICROMETERS

**INSIZE PLUS**  
MADE IN EUROPE

- Micrometer head: 50-75mm
- Graduation: 0.01mm
- Carbide measuring faces



3684-100



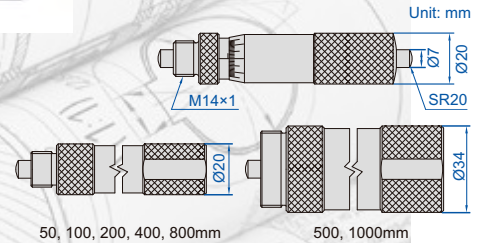
Code	Range	Accuracy	Travel of micrometer head	Extension rods
3684-75	50-75mm	5 $\mu\text{m}$	25mm	—
3684-100	50-100mm	5 $\mu\text{m}$	25mm	25mm
3684-150	50-150mm	6 $\mu\text{m}$	25mm	25mm, 50mm
3684-250	50-250mm	8 $\mu\text{m}$	25mm	25mm, 50mm, 100mm
3684-300	50-300mm	9 $\mu\text{m}$	25mm	25mm, 50mm (2 pcs), 100mm
3684-350	50-350mm	10 $\mu\text{m}$	25mm	25mm, 50mm, 100mm (2 pcs)
3684-450	50-450mm	10 $\mu\text{m}$	25mm	25mm, 50mm, 100mm, 200mm
3684-650	50-650mm	12 $\mu\text{m}$	25mm	25mm, 50mm, 100mm, 200mm (2 pcs)
3684-850	50-850mm	15 $\mu\text{m}$	25mm	25mm, 50mm, 100mm, 200mm, 400mm
3684-1250	50-1250mm	20 $\mu\text{m}$	25mm	25mm, 50mm, 100mm, 200mm, 400mm (2 pcs)
3684-1450	50-1450mm	22 $\mu\text{m}$	25mm	25mm, 50mm, 100mm, 200mm, 400mm, 600mm

## TUBULAR INSIDE MICROMETERS

**INSIZE PLUS**  
MADE IN EUROPE



3683-200



- Micrometer head: 100-150mm
- Graduation: 0.01mm
- Carbide measuring faces
- Heat insulation extension rods

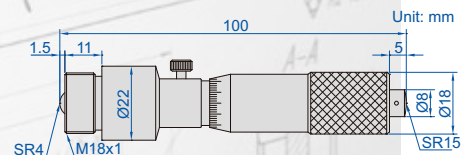
Code	Range	Accuracy	Travel of micrometer head	Heat insulation extension rods
3683-150	100-150mm	6µm	50mm	—
3683-200	100-200mm	7µm	50mm	50mm
3683-300	100-300mm	9µm	50mm	50mm, 100mm
3683-500	100-500mm	13µm	50mm	50mm, 100mm, 200mm
3683-900	100-900mm	16µm	50mm	50mm, 100mm, 200mm, 400mm
3683-1300	100-1300mm	22µm	50mm	50mm, 100mm, 200mm, 400mm (2 pcs)
3683-1700	100-1700mm	27µm	50mm	50mm, 100mm, 200mm, 400mm, 800mm
3683-2000	100-2000mm	32µm	50mm	50mm, 100mm, 200mm (2 pcs), 500mm, 1000mm
3683-2100	100-2100mm	32µm	50mm	50mm, 100mm, 200mm, 400mm (2 pcs), 800mm
3683-2500	100-2500mm	40µm	50mm	50mm, 100mm, 200mm, 400mm, 800mm (2 pcs)
3683-3000	100-3000mm	50µm	50mm	50mm, 100mm, 200mm (2 pcs), 500mm, 1000mm (2 pcs)
3683-4000	100-4000mm	60µm	50mm	50mm, 100mm, 200mm (2 pcs), 500mm, 1000mm (3 pcs)
3683-5000	100-5000mm	72µm	50mm	50mm, 100mm, 200mm (2 pcs), 500mm, 1000mm (4 pcs)
3683-6000	100-6000mm	90µm	50mm	50mm, 100mm, 200mm (2 pcs), 500mm, 1000mm (5 pcs)

## TUBULAR INSIDE MICROMETERS

- Micrometer head: 100-125mm
- Graduation 0.01mm
- Accuracy:  $(3+n+L/50)\mu\text{m}$   
n=number of rods  
L=maximum measuring length (mm)
- Travel of micrometer head 25mm
- Supplied with setting standards
- Carbide measuring faces



3225-500



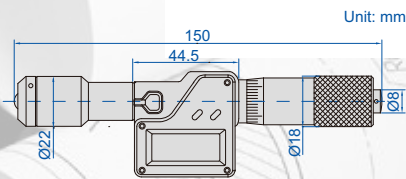
Code	Range	Extension rods
3225-125	100-125mm	—
3225-500	100-500mm	25mm, 50mm, 100mm, 200mm
3225-900	100-900mm	25mm, 50mm, 100mm, 200mm, 400mm
3225-1300	100-1300mm	25mm, 50mm, 100mm, 200mm, 400mm (2 pcs)
3225-1700	100-1700mm	25mm, 50mm, 100mm, 200mm, 400mm (3 pcs)
3225-2100	100-2100mm	25mm, 50mm, 100mm, 200mm, 400mm (4 pcs)

## DIGITAL TUBULAR INSIDE MICROMETERS

**IP65**  
WATERPROOF

**DATA**  
OUTPUT

- Micrometer head: 150-175mm
- Resolution: 0.001mm/0.00005"
- Accuracy:  $(3+n+L/50)\mu\text{m}$   
n=number of rods  
L=maximum measuring length (mm)
- Carbide measuring faces
- The diameter of extension rods is 22mm
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, data transmit
- Data output
- Automatic power off
- Supplied with setting standards
- Optional accessory: data output cable (code 7315-31 need receiver page 4, 7302-31 page 12)



3521-1000

Code	Range	Travel of micrometer head	Extension rods
3521-175	150-175mm	25mm	—
3521-1000	150-1000mm	25mm	25mm, 50mm (2 pcs), 100mm, 200mm, 400mm
3521-1500	150-1500mm	25mm	25mm, 50mm (2 pcs), 100mm (2 pcs), 200mm, 400mm (2 pcs)
3521-2000	150-2000mm	25mm	25mm, 50mm (2 pcs), 100mm, 200mm (2 pcs), 400mm (3 pcs)

## TUBULAR INSIDE MICROMETERS

**INSIZE PLUS**  
MADE IN EUROPE

- Carbide measuring faces for micrometer head and extension rods
- Points of extension rods are spring loaded
- Optional accessory: gage block accessory (code 6881), cylinder gage block (code 4001), caliper/height gage checker (code 6884)



3634-1300

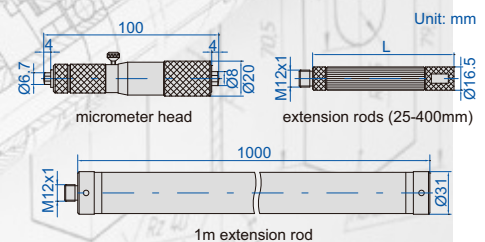
### Micrometer head

Range	Graduation	Accuracy	Weight
100-125mm	0.01mm	$\pm 4\mu\text{m}$	154g

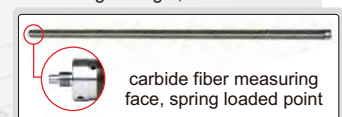
### Extension rods

Length (L)	Accuracy	Weight	Material
25mm	$\pm 1.25\mu\text{m}$	37g	steel
50mm	$\pm 1.25\mu\text{m}$	65g	steel
100mm	$\pm 2\mu\text{m}$	113g	steel
200mm	$\pm 3.5\mu\text{m}$	208g	steel
400mm	$\pm 4.5\mu\text{m}$	402g	steel
1000mm	$\pm 7.5\mu\text{m}$	909g	carbon fiber

Code	Range	Extension rods
3634-350	100-350mm	25mm, 200mm
3634-500	100-500mm	25mm, 50mm, 100mm, 200mm
3634-1300	100-1300mm	25mm, 50mm, 100mm, 200mm, 400mm (2 pcs)
3634-1500	100-1500mm	25mm, 50mm, 100mm, 200mm (2 pcs), 400mm (2 pcs)
3634-2100	100-2100mm	25mm, 50mm, 100mm, 200mm, 400mm (4 pcs)
3634-3100	100-3100mm	25mm, 50mm, 100mm, 200mm (2 pcs), 400mm, 1000mm (2 pcs)
3634-4100	100-4100mm	25mm, 50mm, 100mm, 200mm (2 pcs), 400mm, 1000mm (3 pcs)
3634-5100	100-5100mm	25mm, 50mm, 100mm, 200mm (2 pcs), 400mm, 1000mm (4 pcs)
3634-6100	100-6100mm	25mm, 50mm, 100mm, 200mm (2 pcs), 400mm, 1000mm (5 pcs)



1m carbon fiber extension rod, light weight, no deform



DATA  
OUTPUT

SPRING LOADED  
MEASURING POINT

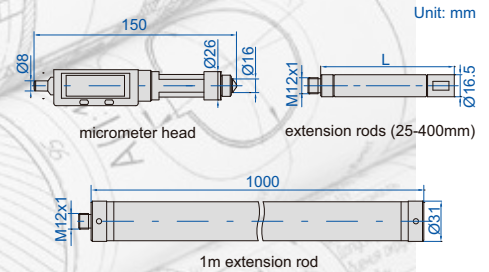
## DIGITAL NON-ROTATING SPINDLE TUBULAR INSIDE MICROMETERS

**INSIZE PLUS**  
MADE IN EUROPE

NON-ROTATING  
SPINDLE

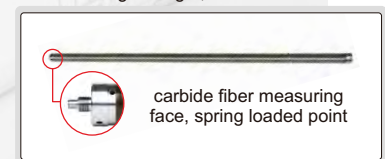


3635-950



1m carbon fiber extension rod,  
light weight, no deform

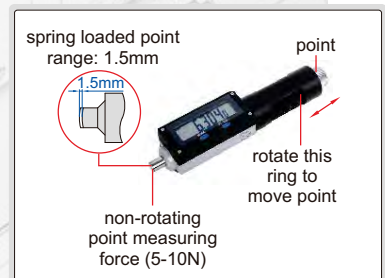
- Carbide measuring faces for micrometer head and extension rods
- Points of extension rods are spring loaded
- Data output
- Button function: mm/inch, max./min. value tracking, preset value, hold, on/off, zero
- CR2032 battery, automatic power off, turn the sleeve to turn on
- Optional accessory: data output cable (code **7315-80** need receiver page 5, **7302-80**), gage block accessory (code **6881**), cylinder gage block (code **4001**), caliper/height gage checker (code **6884**)



non-rotating spindle, spring loaded point and max./min. value tracking make it easy to find the right measuring position

### Extension rods

Length (L)	Accuracy	Weight	Material
25mm	±1.25µm	37g	steel
50mm	±1.25µm	65g	steel
100mm	±2µm	113g	steel
200mm	±3.5µm	208g	steel
400mm	±4.5µm	402g	steel
1000mm	±7.5µm	909g	carbon fiber



### Micrometer head

Range	Resolution	Accuracy	Repeatability	Measuring force	Weight
150-180mm	0.001mm/0.00005" 0.01mm/0.0005" 0.0005mm/0.00002" (switchable)	±4µm	1µm	5-10N	275g

Code	Range	Extension rods
3635-350	150-350mm	25mm, 50mm, 100mm
3635-550	150-550mm	25mm, 50mm, 100mm, 200mm
3635-950	150-950mm	25mm, 50mm, 100mm, 200mm, 400mm
3635-1550	150-1550mm	25mm, 50mm, 100mm, 200mm (2 pcs), 400mm (2 pcs)
3635-2150	150-2150mm	25mm, 50mm, 100mm, 200mm, 400mm (4 pcs)
3635-3150	150-3150mm	25mm, 50mm, 100mm, 200mm (2 pcs), 400mm, 1000mm (2 pcs)
3635-4150	150-4150mm	25mm, 50mm, 100mm, 200mm (2 pcs), 400mm, 1000mm (3 pcs)
3635-5150	150-5150mm	25mm, 50mm, 100mm, 200mm (2 pcs), 400mm, 1000mm (4 pcs)
3635-6150	150-6150mm	25mm, 50mm, 100mm, 200mm (2 pcs), 400mm, 1000mm (5 pcs)



## INTERNAL GEAR TOOTH MICROMETERS

**INSIZE PLUS**  
MADE IN EUROPE



3638-200

- Measure over-pin diameter of gears
- Points of extension rods are spring loaded
- Optional accessory: ball tips (code 7383)

### Micrometer head

Range	Graduation	Accuracy
100-115mm	0.01mm	±4μm
150-175mm	0.01mm	±4μm

### Extension rod

Length (L)	Accuracy
15mm	±1μm
25mm	±1.25μm
30mm	±1.25μm
50mm	±1.25μm
100mm	±2μm
200mm	±3.5μm
400mm	±4.5μm

Code	Range	Micrometer head	Extension rod (L)
3638-200	100-205mm	100-115mm	15mm, 25mm, 50mm
3638-500	100-505mm	100-115mm	15mm, 25mm, 50mm, 100mm, 200mm
3638-900	100-905mm	100-115mm	15mm, 25mm, 50mm, 100mm, 200mm, 400mm
3638-1100	150-1150mm	150-175mm	25mm, 50mm, 100mm, 200mm, 200mm, 400mm

7

## INTERNAL SCREW THREAD MICROMETERS

**INSIZE PLUS**  
MADE IN EUROPE



3641-200

- Measure pitch diameter of screw thread
- Points of extension rods are spring loaded
- Optional accessory: measuring tips for internal screw thread micrometer (code 7385, L=13.5mm)

### Micrometer head

Range	Graduation	Accuracy
100-115mm	0.01mm	±4μm
150-175mm	0.01mm	±4μm

### Extension rod

Length (A)	Accuracy
15mm	±1μm
25mm	±1.25μm
50mm	±1.25μm
100mm	±2μm
200mm	±3.5μm
400mm	±4.5μm

Code	Range	Micrometer head	Extension rod (A)	Applicable tips
3641-200	100-205mm	100-115mm	15mm, 25mm, 50mm	stem length L=13.5mm
3641-500	100-505mm	100-115mm	15mm, 25mm, 50mm, 100mm, 200mm	stem length L=13.5mm
3641-900	100-905mm	100-115mm	15mm, 25mm, 50mm, 100mm, 200mm, 400mm	stem length L=13.5mm
3641-1100	150-1150mm	150-175mm	25mm, 50mm, 100mm, 200mm, 200mm, 400mm	stem length L=13.5mm

TIPS FOR TRAPEZOIDAL, ACME  
THREAD ARE ALSO AVAILABLE

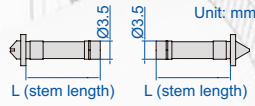
## MEASURING TIPS FOR INTERNAL SCREW THREAD MICROMETERS

**INSIZE PLUS**  
MADE IN EUROPE

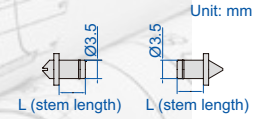
- Supplied in pair
- Made of hardened steel
- Suitable for **3641** series micrometers



7385-T106A



7385-T106B



### 60° thread angle

Code		Applicable pitch (mm)
L=13.5mm	L=5mm	
7385-T101A	7385-T101B	0.35
7385-T102A	7385-T102B	0.4/0.45
7385-T103A	7385-T103B	0.5/0.6
7385-T104A	7385-T104B	0.7/0.75/0.8
7385-T105A	7385-T105B	1/1.25
7385-T106A	7385-T106B	1.5/1.75
7385-T107A	7385-T107B	2.0/2.5
7385-T108A	7385-T108B	3.0/3.5
7385-T109A	7385-T109B	4.0/4.5/5.0
7385-T110A	7385-T110B	5.5/6.0

### 55° thread angle

Code		Applicable pitch (TPI)
L=13.5mm	L=5mm	
7385-T201A	7385-T201B	60/48
7385-T202A	7385-T202B	40/32
7385-T203A	7385-T203B	28/26/24/22
7385-T204A	7385-T204B	20/19/18/16
7385-T205A	7385-T205B	14/12/11
7385-T206A	7385-T206B	10/9/8
7385-T207A	7385-T207B	7/6
7385-T208A	7385-T208B	5/4.5/4
7385-T209A	7385-T209B	3.5/3.25/3/2.875/2.75
7385-T210A	7385-T210B	2.625/2.5/2

## INTERNAL SCREW THREAD MICROMETERS

- Graduation: 0.01mm
- Optional accessory: measuring tips for internal screw thread micrometer (code 7321)



measuring tips for screw thread (optional)

measuring tips for screw thread (optional)

3226-1001

measuring tips for internal screw thread micrometer (optional)



Code	Range	Code	Range
3226-1001	75-100mm	3226-2251	200-225mm
3226-1251	100-125mm	3226-2501	225-250mm
3226-1501	125-150mm	3226-2751	250-275mm
3226-1751	150-175mm	3226-3001	275-300mm
3226-2001	175-200mm		

## MEASURING TIPS FOR INTERNAL SCREW THREAD MICROMETERS

- Supplied in pair
- Suitable for **3226** series micrometers



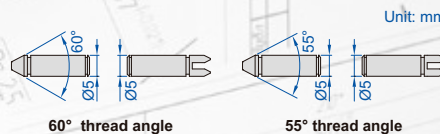
7321-T1S

### Whitworth screw (55° thread angle)

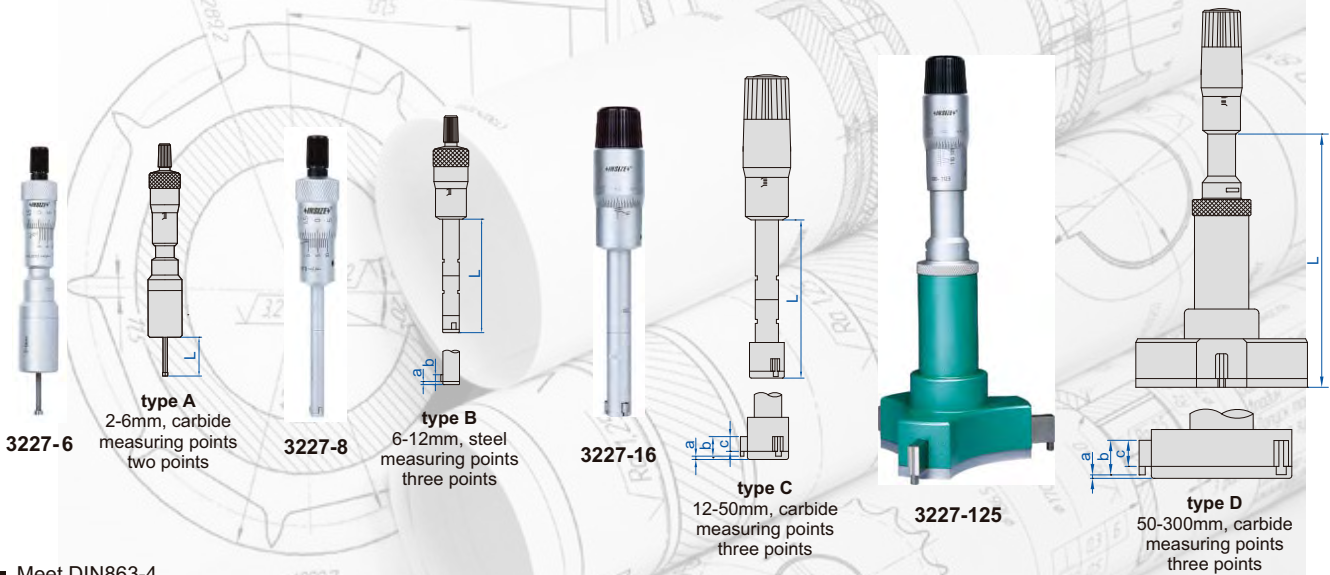
Code	Pitch
7321-T21	60-48TPI
7321-T22	48-40TPI
7321-T23	40-32TPI
7321-T24	32-24TPI
7321-T25	24-18TPI
7321-T26	18-14TPI
7321-T27	14-10TPI
7321-T28	10-7TPI
7321-T29	7-4.5TPI
7321-T210	4.5-3.5TPI
7321-T2S	10 pairs/set, including all above tips

### Metric and unified screw (60° thread angle)

Code	Pitch
7321-T11	0.4-0.5mm/64-48TPI
7321-T12	0.6-0.9mm/44-28TPI
7321-T13	1-1.75mm/24-14TPI
7321-T14	2-3mm/13-9TPI
7321-T15	3.5-5mm/8-5TPI
7321-T16	5.5-7mm/4.5-3.5TPI
7321-T1S	6 pairs/set, including all above tips



## TWO POINTS/THREE POINTS INTERNAL MICROMETERS



- Meet DIN863-4
- 2-12mm: graduation 0.001mm  
12-300mm: graduation 0.005mm
- Ratchet stop
- Optional accessory: setting rings (code **6312**), micrometer stand and clamp (code **6301** and **6301-2**)

### Individual

Code	Range	Type	Accuracy	Setting ring	Extension rod (included)	L	a	b	c
<b>3227-2*</b>	2-2.5mm	A (two points)	6µm	Ø2.5 (included)	—	12	—	—	—
<b>3227-3*</b>	2.5-3mm	A (two points)	6µm	Ø2.5 (included)	—	12	—	—	—
<b>3227-4*</b>	3-4mm	A (two points)	6µm	Ø4 (included)	—	22	—	—	—
<b>3227-5*</b>	4-5mm	A (two points)	6µm	Ø5 (included)	—	22	—	—	—
<b>3227-6*</b>	5-6mm	A (two points)	6µm	Ø6 (included)	—	22	—	—	—
<b>3227-8*</b>	6-8mm	B (three points)	4µm	Ø6 (included)	100	54.5	1.5	2.5	—
<b>3227-10*</b>	8-10mm	B (three points)	4µm	Ø8 (included)	100	54.5	1.5	2.5	—
<b>3227-12*</b>	10-12mm	B (three points)	4µm	Ø10 (included)	100	54.5	1.5	2.5	—
<b>3227-16*</b>	12-16mm	C (three points)	4µm	Ø16 (included)	150	80	0.5	6	4.5
<b>3227-20*</b>	16-20mm	C (three points)	4µm	Ø16 (included)	150	80	0.5	6	4.5
<b>3227-25*</b>	20-25mm	C (three points)	4µm	Ø25 (included)	150	90	0.5	8	6
<b>3227-30*</b>	25-30mm	C (three points)	4µm	Ø25 (included)	150	90	0.5	8	6
<b>3227-40*</b>	30-40mm	C (three points)	4µm	Ø40 (included)	150	97	0.5	14	12
<b>3227-50*</b>	40-50mm	C (three points)	5µm	Ø40 (included)	150	97	0.5	14	12
<b>3227-63*</b>	50-63mm	D (three points)	5µm	Ø62 (included)	150	114	0.5	17.5	14.5
<b>3227-75*</b>	62-75mm	D (three points)	5µm	Ø62 (included)	150	114	0.5	17.5	14.5
<b>3227-88*</b>	75-88mm	D (three points)	5µm	Ø87 (included)	150	114	0.5	17.5	14.5
<b>3227-100*</b>	87-100mm	D (three points)	5µm	Ø87 (included)	150	114	0.5	17.5	14.5
<b>3227-125*</b>	100-125mm	D (three points)	6µm	<b>optional</b>	150	140	0.9	29	25
<b>3227-150*</b>	125-150mm	D (three points)	6µm	<b>optional</b>	150	140	0.9	29	25
<b>3227-175*</b>	150-175mm	D (three points)	7µm	<b>optional</b>	150	140	0.9	29	25
<b>3227-200*</b>	175-200mm	D (three points)	7µm	<b>optional</b>	150	140	0.9	29	25
<b>3227-225</b>	200-225mm	D (three points)	8µm	<b>optional</b>	150	140	0.9	29	25
<b>3227-250</b>	225-250mm	D (three points)	8µm	<b>optional</b>	150	140	0.9	29	25
<b>3227-275</b>	250-275mm	D (three points)	9µm	<b>optional</b>	150	140	0.9	29	25
<b>3227-300</b>	275-300mm	D (three points)	9µm	<b>optional</b>	150	140	0.9	29	25

To be continued

Continued from previous page



micrometer stand with clamp (optional)



setting ring

2-100mm: included  
100-300mm: optional



extension rod

included



3227-504

Set

Code	Range	Micrometers included	Setting ring (included)	Extension rod (included)
3227-232 *	2-3mm	2-2.5mm, 2.5-3mm	Ø2.5mm	—
3227-363 *	3-6mm	3-4mm, 4-5mm, 5-6mm	Ø4mm, Ø5mm, Ø6mm	—
3227-123 *	6-12mm	6-8mm, 8-10mm, 10-12mm	Ø6mm, Ø8mm, Ø10mm	100mm
3227-202 *	12-20mm	12-16mm, 16-20mm	Ø16mm	150mm
3227-504 *	20-50mm	20-25mm, 25-30mm, 30-40mm, 40-50mm	Ø25mm, Ø40mm	150mm
3227-1004 *	50-100mm	50-63mm, 62-75mm, 75-88mm, 87-100mm	Ø62mm, Ø87mm	150mm

\* Supplied with manufacturer inspection certificate

IP65  
WATERPROOF

DATA  
OUTPUT

## DIGITAL TWO POINTS/THREE POINTS INTERNAL MICROMETERS

INSPECTION  
CERTIFICATE



3127-5

**type A**  
2-6mm, carbide  
measuring points  
two points



3127-12

**type B**  
6-12mm, steel  
measuring points  
three points

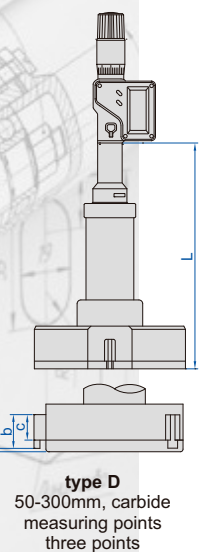


3127-40

**type C**  
12-50mm, carbide  
measuring points  
three points



3127-125



**type D**  
50-300mm, carbide  
measuring points  
three points

- Resolution 0.001mm/0.00005" (resolution of 3127-275 and 3127-300 is 0.001mm/0.0001")
- IP65 dust/waterproof
- Buttons: on/off, set, mm/inch, data transmit
- Data output
- Automatic power off
- Ratchet stop
- Optional accessory: data output cable (code 7315-31 need receiver page 4, 7302-31 page 12), setting ring (code 6312), micrometer stand and clamp (code 6301 and 6301-2)

To be continued

Continued from previous page

micrometer stand with clamp (optional)

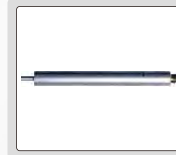


setting ring



2-100mm: included  
100-300mm: optional

extension rod



included



3127-202

7

Individual

(mm)

Code	Range	Type	Accuracy	Setting ring	Extension rod (included)	L	a	b	c
3127-2*	2-2.5mm/0.08-0.10"	A (two points)	6µm	Ø2.5 (included)	—	12	—	—	—
3127-3*	2.5-3mm/0.10-0.12"	A (two points)	6µm	Ø2.5 (included)	—	12	—	—	—
3127-4*	3-4mm/0.12-0.16"	A (two points)	6µm	Ø4 (included)	—	22	—	—	—
3127-5*	4-5mm/0.16-0.20"	A (two points)	6µm	Ø5 (included)	—	22	—	—	—
3127-6*	5-6mm/0.20-0.24"	A (two points)	6µm	Ø6 (included)	—	22	—	—	—
3127-8*	6-8mm/0.24-0.31"	B (three points)	4µm	Ø6 (included)	100	57	1.5	2.5	—
3127-10*	8-10mm/0.31-0.39"	B (three points)	4µm	Ø8 (included)	100	57	1.5	2.5	—
3127-12*	10-12mm/0.39-0.47"	B (three points)	4µm	Ø10 (included)	100	57	1.5	2.5	—
3127-16*	12-16mm/0.47-0.63"	C (three points)	4µm	Ø16 (included)	150	99	0.5	6	4.5
3127-20*	16-20mm/0.63-0.79"	C (three points)	4µm	Ø16 (included)	150	99	0.5	6	4.5
3127-25*	20-25mm/0.79-0.98"	C (three points)	4µm	Ø25 (included)	150	105	0.5	8	6
3127-30*	25-30mm/0.98-1.18"	C (three points)	4µm	Ø25 (included)	150	105	0.5	8	6
3127-40*	30-40mm/1.18-1.57"	C (three points)	4µm	Ø40 (included)	150	110	0.5	14	12
3127-50*	40-50mm/1.57-1.97"	C (three points)	5µm	Ø40 (included)	150	110	0.5	14	12
3127-63*	50-63mm/1.97-2.48"	D (three points)	5µm	Ø62 (included)	150	127	0.5	17.5	14.5
3127-75*	62-75mm/2.44-2.95"	D (three points)	5µm	Ø62 (included)	150	127	0.5	17.5	14.5
3127-88*	75-88mm/2.95-3.46"	D (three points)	5µm	Ø87 (included)	150	127	0.5	17.5	14.5
3127-100*	87-100mm/3.43-3.94"	D (three points)	5µm	Ø87 (included)	150	127	0.5	17.5	14.5
3127-125*	100-125mm/3.94-4.92"	D (three points)	6µm	optional	150	175	0.9	29	25
3127-150*	125-150mm/4.92-5.91"	D (three points)	6µm	optional	150	175	0.9	29	25
3127-175*	150-175mm/5.91-6.89"	D (three points)	7µm	optional	150	175	0.9	29	25
3127-200*	175-200mm/6.89-7.87"	D (three points)	7µm	optional	150	175	0.9	29	25
3127-225	200-225mm/7.87-8.86"	D (three points)	8µm	optional	150	175	0.9	29	25
3127-250	225-250mm/8.86-9.84"	D (three points)	8µm	optional	150	175	0.9	29	25
3127-275	250-275mm/9.84-10.83"	D (three points)	9µm	optional	150	175	0.9	29	25
3127-300	275-300mm/10.83-11.81"	D (three points)	9µm	optional	150	175	0.9	29	25

Set

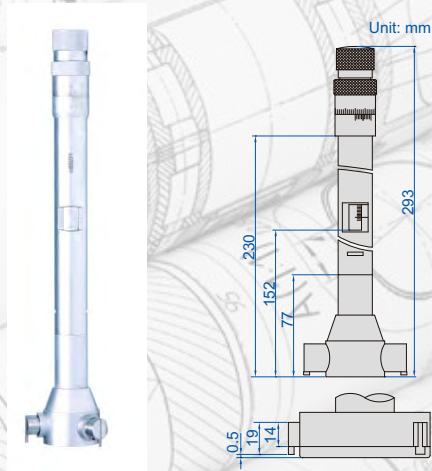
Code	Range	Micrometers included	Setting ring (included)	Extension rod (included)
3127-232*	2-3mm/0.08-0.12"	2-2.5mm, 2.5-3mm	Ø2.5mm	—
3127-363*	3-6mm/0.12-0.24"	3-4mm, 4-5mm, 5-6mm	Ø4mm, Ø5mm, Ø6mm	—
3127-123*	6-12mm/0.24-0.47"	6-8mm, 8-10mm, 10-12mm	Ø6mm, Ø8mm, Ø10mm	100mm
3127-202*	12-20mm/0.47-0.79"	12-16mm, 16-20mm	Ø16mm	150mm
3127-504*	20-50mm/0.79-1.97"	20-25mm, 25-30mm, 30-40mm, 40-50mm	Ø25mm, Ø40mm	150mm
3127-1004*	50-100mm/1.97-3.94"	50-63mm, 62-75mm, 75-88mm, 87-100mm	Ø62mm, Ø87mm	150mm

\*Supplied with manufacturer inspection certificate

## WIDE RANGE THREE POINTS INTERNAL MICROMETERS



- Meet DIN863-4
- Graduation 0.001mm
- Carbide measuring faces
- Ratchet stop
- Setting rings are included (except 200-300mm)



3228-70



setting ring

Code	Range	Accuracy	Setting ring
3228-70*	50-70mm	5µm	Ø50mm (included)
3228-100*	70-100mm	5µm	Ø70mm (included)
3228-150*	100-150mm	6µm	Ø100mm (included)
3228-250*	150-250mm	8µm	Ø150mm (included)
3228-300*	200-300mm	9µm	Ø200mm (optional)

\*Supplied with manufacturer inspection certificate

IP54  
WATERPROOF

DATA  
OUTPUT

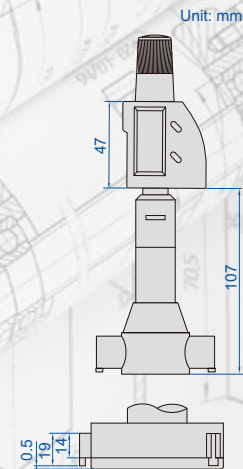
## DIGITAL WIDE RANGE THREE POINTS INTERNAL MICROMETERS



- Meet DIN863-4
- Resolution 0.001mm/0.00005" (resolution of 3128-300 is 0.001mm/0.0001")
- IP54 dust/waterproof
- Buttons: on/off, set, mm/inch
- Data output
- Automatic power off
- Carbide measuring faces
- Ratchet stop
- Supplied with extension rods
- Setting rings are included (except 200-300mm)
- Optional accessory: data output cable (code 7315-30 need receiver page 4, 7302-30 page 12)



3128-150



Code	Range	Accuracy	Setting ring	Extension rod (included)
3128-70*	50-70mm/1.97-2.76"	5µm	Ø50mm (included)	150mm
3128-100*	70-100mm/2.76-3.94"	5µm	Ø70mm (included)	150mm
3128-150*	100-150mm/3.94-5.91"	6µm	Ø100mm (included)	150mm
3128-250*	150-250mm/5.91-9.84"	8µm	Ø150mm (included)	150mm
3128-300*	200-300mm/7.87-11.81"	9µm	Ø200mm (optional)	150mm

\*Supplied with manufacturer inspection certificate



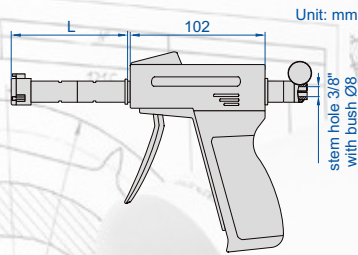
setting ring



extension rod (included)

## PISTOL GRIP THREE POINTS BORE GAGES

**INSPECTION  
CERTIFICATE**



Unit: mm  
  
**type A**  
 6-12mm, steel  
 measuring points



2124-8

digital indicator  
is optional

- Optional accessory:  
digital indicators (code **2108-101F**,  
resolution 0.001mm/0.00005"),  
setting rings (code **6312**)

**type B**  
 12-50mm, carbide  
 measuring points



2124-25

digital indicator  
is optional



6-100mm: included  
100-300mm: **optional**

included

**type C**  
 50-300mm, carbide  
 measuring points



2124-125

digital indicator  
is optional

Individual

(mm)

Code	Range	Type	Accuracy (without digital indicator)	Setting ring	Extension rod (included)	L	a	b	c
2124-8 *	6-8mm	A	4µm	Ø6mm (included)	100mm	50	1.5	2.5	—
2124-10 *	8-10mm	A	4µm	Ø8mm (included)	100mm	50	1.5	2.5	—
2124-12 *	10-12mm	A	4µm	Ø10mm (included)	100mm	50	1.5	2.5	—
2124-16 *	12-16mm	B	4µm	Ø16mm (included)	150mm	65	0.5	6	4.5
2124-20 *	16-20mm	B	4µm	Ø16mm (included)	150mm	65	0.5	6	4.5
2124-25 *	20-25mm	B	4µm	Ø25mm (included)	150mm	91	0.5	8	6
2124-30 *	25-30mm	B	4µm	Ø25mm (included)	150mm	91	0.5	8	6
2124-40 *	30-40mm	B	4µm	Ø40mm (included)	150mm	97	0.5	14	12
2124-50 *	40-50mm	B	5µm	Ø40mm (included)	150mm	97	0.5	14	12
2124-63 *	50-63mm	C	5µm	Ø62mm (included)	150mm	112	0.5	17.5	14.5
2124-75 *	62-75mm	C	5µm	Ø62mm (included)	150mm	112	0.5	17.5	14.5
2124-88 *	75-88mm	C	5µm	Ø87mm (included)	150mm	112	0.5	17.5	14.5
2124-100 *	87-100mm	C	5µm	Ø87mm (included)	150mm	112	0.5	17.5	14.5
2124-125 *	100-125mm	C	6µm	<b>optional</b>	150mm	140	0.9	29	25
2124-150 *	125-150mm	C	6µm	<b>optional</b>	150mm	140	0.9	29	25
2124-175 *	150-175mm	C	7µm	<b>optional</b>	150mm	140	0.9	29	25
2124-200 *	175-200mm	C	7µm	<b>optional</b>	150mm	140	0.9	29	25
2124-225	200-225mm	C	8µm	<b>optional</b>	150mm	140	0.9	29	25
2124-250	225-250mm	C	8µm	<b>optional</b>	150mm	140	0.9	29	25
2124-275	250-275mm	C	9µm	<b>optional</b>	150mm	140	0.9	29	25
2124-300	275-300mm	C	9µm	<b>optional</b>	150mm	140	0.9	29	25

Set

Code	Range	Probes included	Setting ring (included)	Extension rod (included)
2124-S123 *	6-12mm	6-8mm, 8-10mm, 10-12mm	Ø6mm, Ø8mm, Ø10mm	100mm
2124-S202 *	12-20mm	12-16mm, 16-20mm	Ø16mm	150mm
2124-S504 *	20-50mm	20-25mm, 25-30mm, 30-40mm, 40-50mm	Ø25mm, Ø40mm	150mm
2124-S1004 *	50-100mm	50-63mm, 62-75mm, 75-88mm, 87-100mm	Ø62mm, Ø87mm	150mm



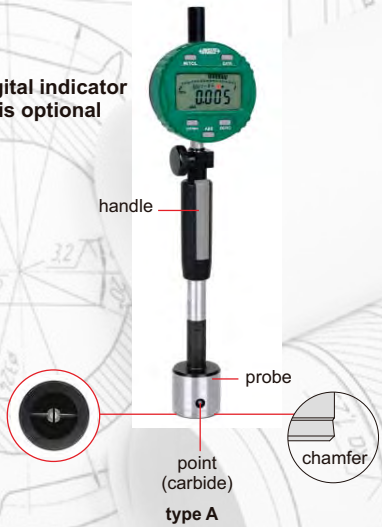
2124- S504

\*Supplied with manufacturer inspection certificate



digital indicator  
is optional

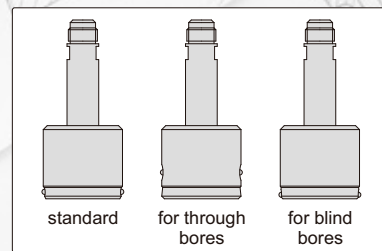
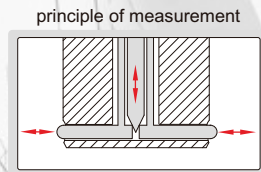
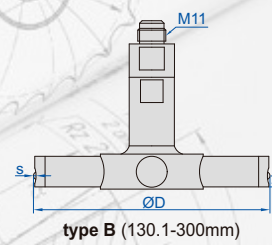
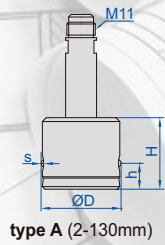
digital indicator  
is optional



**type A**



**type B**



**SPECIFICATION OF PROBE**

(mm)

Range (ØD)	2-3	3.1-4	4.1-6	6.1-9	9.1-12	12.1-20	20.1-40	40.1-60	60.1-130	130.1-300
Type	A	A	A	A	A	A	A	A	A	B
Travel of point (s)	0.15	0.15	0.15	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Height of point (h)	standard	1	1.5	1.5	2.5	2.5	2.5	3.5	3.5	6
	for through bores	—	6	6	6	10	10	10	10	—
	for blind bores	0.7	1	1	1	1	1	1.2	1.2	3
Height of probe (H)	17.5	26	10	15	15	15	20	28	33	—
Repeatability	0.001	0.001	0.001	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.002

To be continued



Continued from previous page



### PROBE

Code	Type
4653-A□□□□□	standard
4653-B□□□□□	for through bores
4653-C□□□□□	for blind bores

### SETTING RING

Code
6312-□□□□□

Ordering examples:

Code	Type	Range
4653-A30D6H7	standard	30.6H7

Attention: "D" stands for "..."



retraction button

### HANDLE

Code	Length (L)	Diameter (ØD)	Retraction
4653-150	45mm	12mm	without
4653-1105	105mm	12mm	without
4653-1235	235mm	12mm	without
4653-2145	145mm	18mm *	without
4653-2235	235mm	18mm *	without
4653-H70	70mm	12mm	with

\* When measuring range is larger than 60mm, we suggest to use the 18mm handle

7



4653-G



4653-J



set measuring depth

### DEPTH STOP

Code	Applicable for probe
4653-G□□□□□	3.0~60mm
4653-J□□□□□	30~130mm

Ordering examples:

Code	Applicable for probe
4653-G22H7	22H7



set measuring depth



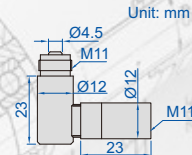
### EXTENSION ROD FOR HANDLE

Code	Length (H)
4653-R50	50mm
4653-R100	100mm
4653-R250	250mm
4653-R500	500mm



### 90° ADAPTER

Code
4653-K1



application



### HANDLE FOR INDUCTIVE PROBE

Code
4653-F110

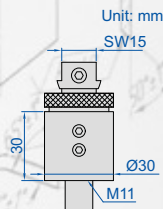
application



### FLOATING CLAMP HANDLE

Code
4653-M30

Suitable for automatic measurement



application



### BASE

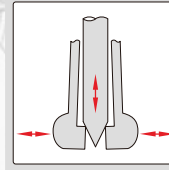
Code	Applicable holding stem
4663-STAND	Ø12mm
4663-STAND1	Ø18mm



## SPLIT TYPE DIAL BORE GAGES

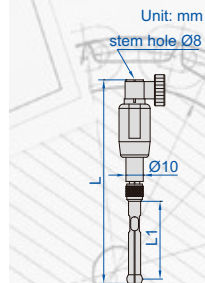
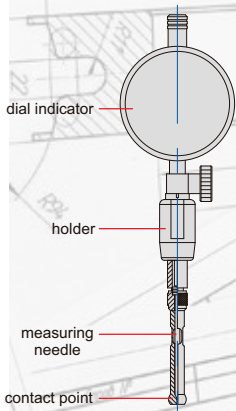
**INSIZE PLUS**  
MADE IN EUROPE

principle of measurement



digital indicator  
is optional

- Split type contact points
- Accuracy (without indicator):  
3µm (measuring range 0.95~10mm),  
4µm (measuring range 10~20.6mm)
- Repeatability (without indicator): 1µm
- Optional accessory:  
digital/dial indicators or dial comparator



(mm)

Contact point					Measuring needle	Setting ring	
code	measuring range	measuring depth (L1)	total length (L)	material of points	code	code	diameter
2426-1	0.95-1.15	13	89	carbide	2426-N1D4	6312-1	1
2426-1D1	1.07-1.25	13	89	carbide		6312-1D1	1.1
2426-1D2	1.17-1.35	13	89	carbide		6312-1D2	1.2
2426-1D3	1.27-1.45	13	89	carbide		6312-1D3	1.3
2426-1D4	1.37-1.55	13	89	carbide	2426-N2D25	6312-1D4	1.4
2426-1D75	1.5-1.9	17	93	carbide		6312-1D75	1.75
2426-2	1.8-2.2	17	93	carbide		6312-2	2
2426-2D25	2.05-2.45	17	93	carbide	2426-N4	6312-2D25	2.25
2426-2D5	2.3-2.7	25	101	carbide		6312-2D5	2.5
2426-2D75	2.55-2.95	25	101	carbide		6312-2D75	2.75
2426-3	2.8-3.2	25	101	carbide		6312-3	3
2426-3D25	3.05-3.45	25	101	carbide	2426-N9	6312-3D25	3.25
2426-3D5	3.3-3.7	25	101	carbide		6312-3D5	3.5
2426-3D75	3.55-3.95	25	101	carbide		6312-3D75	3.75
2426-4	3.8-4.2	25	101	carbide		6312-4	4
2426-4D5	4.15-4.8	41	118	DLC coating	2426-N20	6312-4D5	4.5
2426-5	4.7-5.3	41	118	DLC coating		6312-5	5
2426-5D5	5.2-5.8	41	118	DLC coating		6312-5D5	5.5
2426-6	5.7-6.3	41	118	DLC coating		6312-6	6
2426-6D5	6.2-6.8	41	118	DLC coating	2426-N9	6312-6D5	6.5
2426-7	6.7-7.3	41	118	DLC coating		6312-7	7
2426-7D5	7.2-7.8	45	118	DLC coating		6312-7D5	7.5
2426-8	7.7-8.3	45	118	DLC coating		6312-8	8
2426-8D5	8.2-8.8	45	118	DLC coating	2426-N20	6312-8D5	8.5
2426-9	8.7-9.3	45	118	DLC coating		6312-9	9
2426-10	9.2-10.5	45	118	DLC coating		6312-10	10
2426-11	10.2-11.5	45	118	DLC coating		6312-11	11
2426-12	11.2-12.5	45	118	DLC coating	2426-N20	6312-12	12
2426-13	12.2-13.5	45	118	DLC coating		6312-13	13
2426-14	13.4-14.6	45	118	DLC coating		6312-14	14
2426-15	14.4-15.6	45	118	DLC coating		6312-15	15
2426-16	15.4-16.6	45	118	DLC coating	2426-N20	6312-16	16
2426-17	16.4-17.6	45	118	DLC coating		6312-17	17
2426-18	17.4-18.6	45	118	DLC coating		6312-18	18
2426-19	18.4-19.6	45	118	DLC coating		6312-19	19
2426-20	19.4-20.6	45	118	DLC coating	6312-20	20	



2426-HOLDER1



2426-HOLDER2

retraction  
button

### HOLDER

Code	Retraction	Applicable points
2426-HOLDER1	without	all
2426-HOLDER2	with	all

## SPLIT TYPE DIAL BORE GAGE SETS

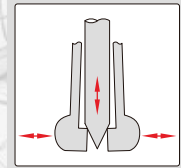
**INSIZE PLUS**  
MADE IN EUROPE

- Split type contact points
- Accuracy (without indicator): 3µm (measuring range 0.95~10mm), 4µm (measuring range 10~20.6mm)
- Repeatability (without indicator): 1µm
- Setting rings and dial indicators are optional



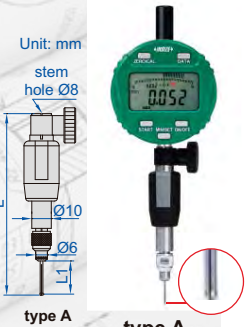
2421-121 (mm)

principle of measurement

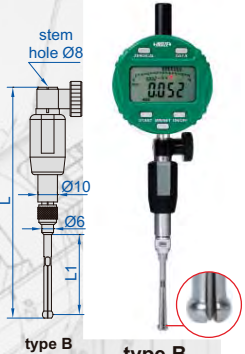


Code	Range	Quantity of points	Measuring range of point	Measuring depth (L1)	Total length (L)	Material of points	Type of point	Setting ring (optional)	
								code	diameter
2421-1D4	0.95-1.55	5	0.95-1.15	13	89	carbide	A	6312-1	1
			1.07-1.25	13	89	carbide	A	6312-1D1	1.1
			1.17-1.35	13	89	carbide	A	6312-1D2	1.2
			1.27-1.45	13	89	carbide	A	6312-1D3	1.3
			1.37-1.55	13	89	carbide	A	6312-1D4	1.4
2421-4	1.5-4.2	10	1.5-1.9	17	93	carbide	A	6312-1D75	1.75
			1.8-2.2	17	93	carbide	A	6312-2	2
			2.05-2.45	17	93	carbide	A	6312-2D25	2.25
			2.3-2.7	25	101	carbide	A	6312-2D5	2.5
			2.55-2.95	25	101	carbide	A	6312-2D75	2.75
			2.8-3.2	25	101	carbide	A	6312-3	3
			3.05-3.45	25	101	carbide	A	6312-3D25	3.25
			3.3-3.7	25	101	carbide	A	6312-3D5	3.5
			3.55-3.95	25	101	carbide	A	6312-3D75	3.75
			3.8-4.2	25	101	carbide	A	6312-4	4
2421-7D5	4.15-7.8	7	4.15-4.8	41	118	hard chromed	B	6312-4D5	4.5
			4.7-5.3	41	118	hard chromed	B	6312-5	5
			5.2-5.8	41	118	hard chromed	B	6312-5D5	5.5
			5.7-6.3	41	118	hard chromed	B	6312-6	6
			6.2-6.8	41	118	hard chromed	B	6312-6D5	6.5
			6.7-7.3	41	118	hard chromed	B	6312-7	7
			7.2-7.8	45	118	hard chromed	C	6312-7D5	7.5
2421-12	7.7-12.5	6	7.7-8.3	45	118	hard chromed	C	6312-8	8
			8.2-8.8	45	118	hard chromed	C	6312-8D5	8.5
			8.7-9.3	45	118	hard chromed	C	6312-9	9
			9.2-10.5	45	118	hard chromed	C	6312-10	10
			10.2-11.5	45	118	hard chromed	C	6312-11	11
			11.2-12.5	45	118	hard chromed	C	6312-12	12
2421-20	12.2-20.6	8	12.2-13.5	45	118	hard chromed	C	6312-13	13
			13.4-14.6	45	118	hard chromed	C	6312-14	14
			14.4-15.6	45	118	hard chromed	C	6312-15	15
			15.4-16.6	45	118	hard chromed	C	6312-16	16
			16.4-17.6	45	118	hard chromed	C	6312-17	17
			17.4-18.6	45	118	hard chromed	C	6312-18	18
			18.4-19.6	45	118	hard chromed	C	6312-19	19
			19.4-20.6	45	118	hard chromed	C	6312-20	20
2421-121	4.15-12.5	13	4.15-4.8	41	118	hard chromed	B	6312-4D5	4.5
			4.7-5.3	41	118	hard chromed	B	6312-5	5
			5.2-5.8	41	118	hard chromed	B	6312-5D5	5.5
			5.7-6.3	41	118	hard chromed	B	6312-6	6
			6.2-6.8	41	118	hard chromed	B	6312-6D5	6.5
			6.7-7.3	41	118	hard chromed	B	6312-7	7
			7.2-7.8	45	118	hard chromed	C	6312-7D5	7.5
			7.7-8.3	45	118	hard chromed	C	6312-8	8
			8.2-8.8	45	118	hard chromed	C	6312-8D5	8.5
			8.7-9.3	45	118	hard chromed	C	6312-9	9
			9.2-10.5	45	118	hard chromed	C	6312-10	10
			10.2-11.5	45	118	hard chromed	C	6312-11	11
11.2-12.5	45	118	hard chromed	C	6312-12	12			

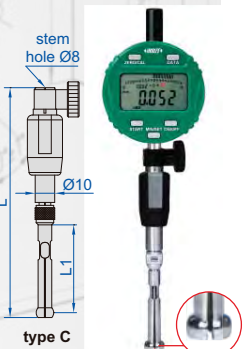
digital indicator is optional



digital indicator is optional



digital indicator is optional



type C

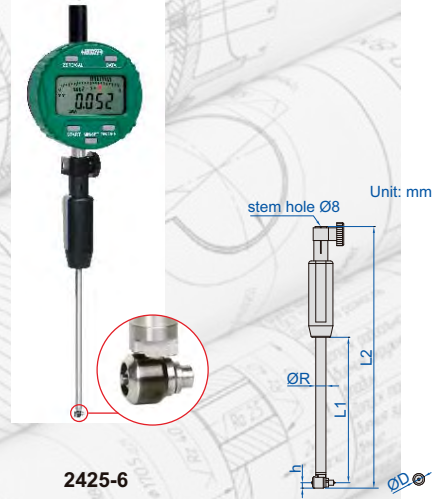
## BORE GAGES FOR SMALL HOLES

**INSIZE PLUS**  
MADE IN EUROPE

- Applicable for 0.01mm or 0.001mm, graduation dial indicators
- Carbide contact point and anvil
- Optional accessory: dial indicator or dial comparator, setting ring (code 6312)

Code	Range	Accuracy (without dial comparator)	Repeatability (without dial comparator)	L1	L2	ØR	ØD	h
2425-6	4.5-6mm	2µm	0.5µm	80	147	4	4	2
2425-8	6-8mm	2µm	0.5µm	100	165	5	5.2	2.6
2425-12	8-12mm	2µm	0.5µm	100	166	5	6.5	3.25
2425-20	12-20mm	2µm	0.5µm	110	204	8	9	4.5

digital indicator is optional



2425-6

## BORE GAGES

**INSIZE PLUS**  
MADE IN EUROPE

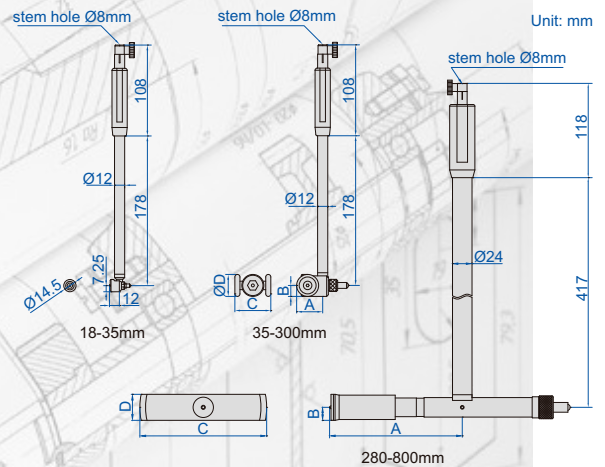
digital indicator is optional



- Applicable for 0.01mm or 0.001mm graduation dial indicators
- Optional accessory:
  - Dial indicator or dial comparator
  - Setting ring (code 6312)
  - Long handle (code 7352)
  - Bore gage setter



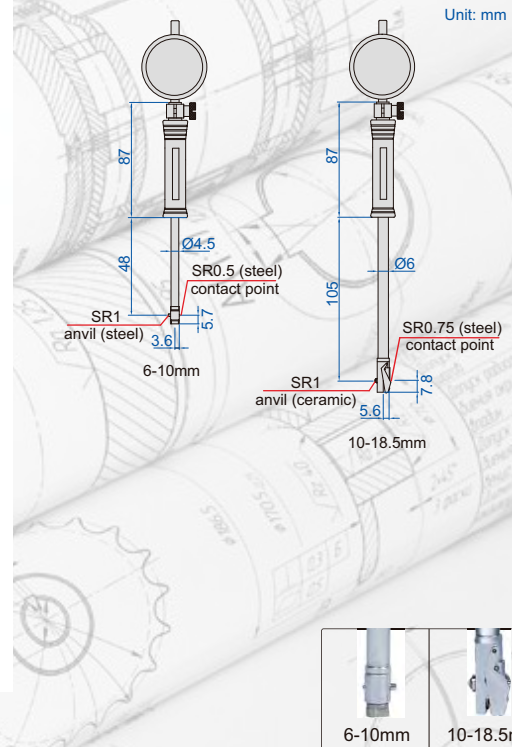
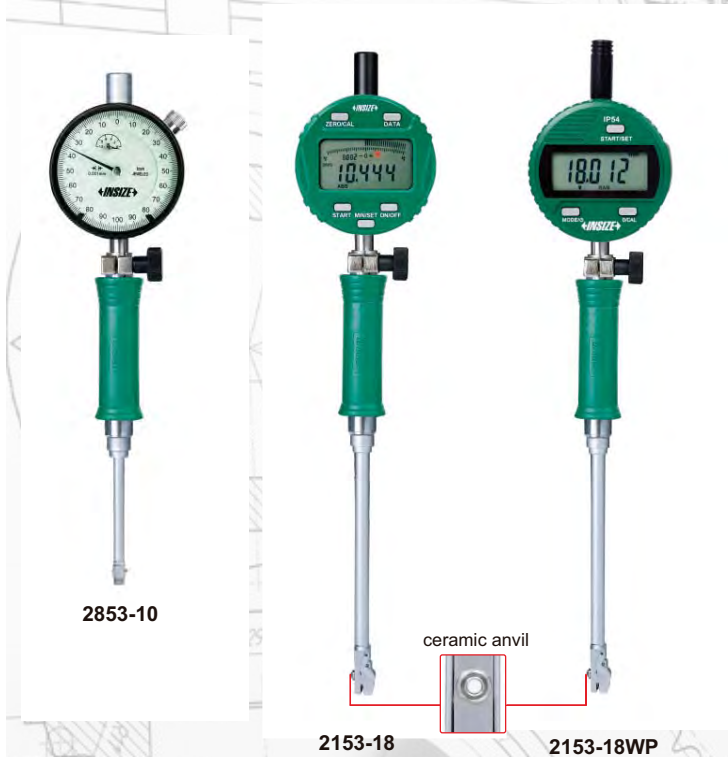
2422-150



Code	Range	Accuracy (without dial comparator)	Repeatability (without dial comparator)
2422-35	18-35mm	4µm	2µm
2422-60	35-60mm	4µm	2µm
2422-150	50-150mm	4µm	2µm
2422-300	150-300mm	4µm	2µm
2422-510	280-510mm	3µm	1.5µm
2422-800	400-800mm	3µm	1.5µm

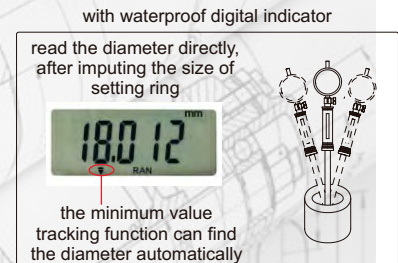
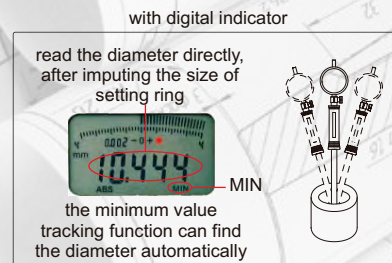
Code	A	B	C	D
2422-60	19.5mm	10.5mm	28mm	21mm
2422-150	30.8mm	13mm	42.5mm	26mm
2422-300	30.8mm	13mm	76.5mm	26mm
2422-510	164mm	16mm	156mm	32mm
2422-800	305mm	18mm	300mm	36mm

## PRECISION BORE GAGES FOR SMALL HOLES (WITH DIAL INDICATOR)



7

- Optional accessory: setting ring (code 6312), bore gage setter



### With dial indicator

Code	Range	Indicator	Accuracy	Repeatability
2853-10	6-10mm	dial indicator, range 1mm,	±0.007mm	0.0015mm
2853-18	10-18.5mm	graduation 0.001mm (code 2313-1FA)	±0.007mm	0.0015mm

### With digital indicator (data output cable code 7315-50M need receiver page 5, 7302-40M page 13, optional)

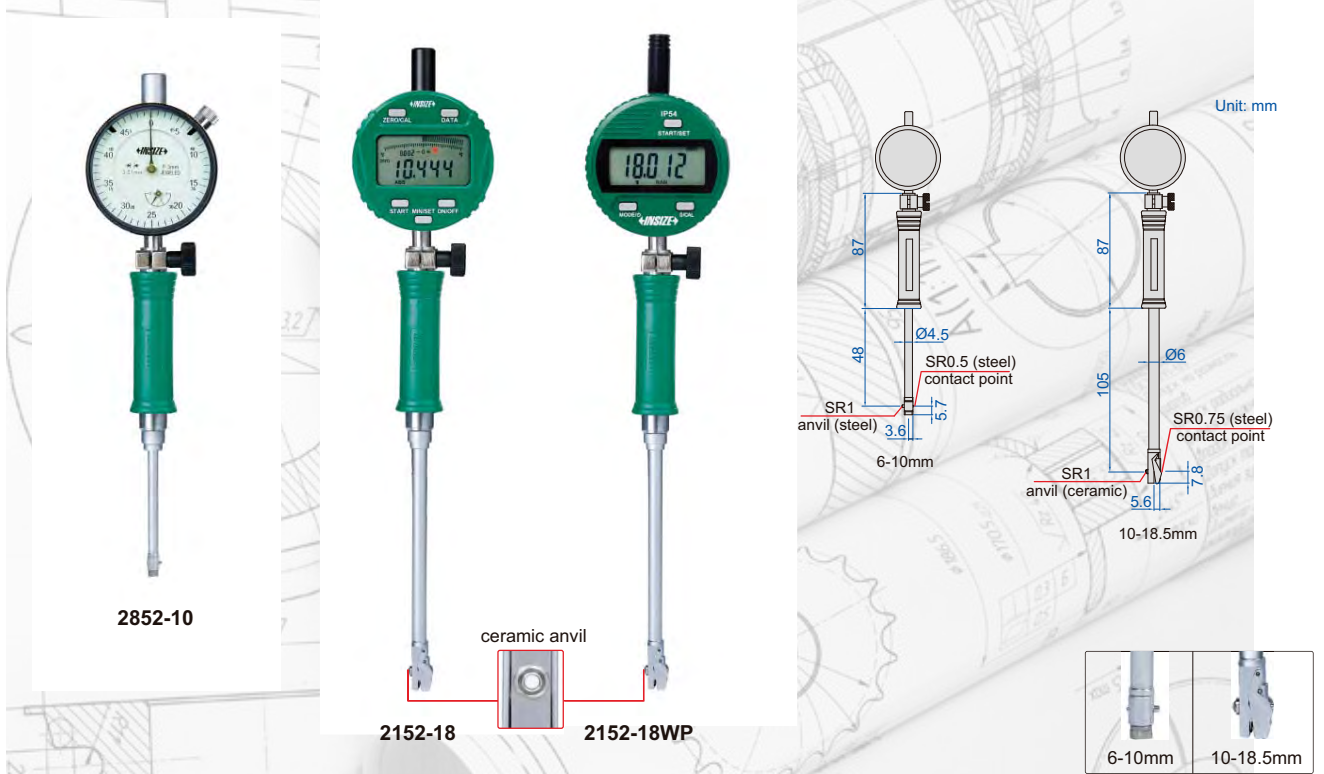
Code	Range	Indicator	Accuracy	Repeatability
2153-10	6-10mm	digital indicator, code 2108-101F, range 12.7mm/0.5", resolution 0.001mm/0.00005"	±0.007mm	0.002mm
2153-18	10-18.5mm		±0.007mm	0.002mm

### With waterproof digital indicator (data output cable code 7315-50M need receiver page 5, 7302-40M page 13, optional)

Code	Range	Indicator	Accuracy	Repeatability
2153-10WP	6-10mm	waterproof digital indicator, code 2137-101F, range 12.7mm/0.5", dust/waterproof IP54, resolution 0.001mm/0.00005"	±0.007mm	0.002mm
2153-18WP	10-18.5mm		±0.007mm	0.002mm

ATTENTION: NOT SUITABLE FOR 0.001MM DIAL INDICATORS

## BORE GAGES FOR SMALL HOLES (WITH DIAL INDICATOR)



Unit: mm

2852-10

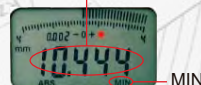
2152-18

2152-18WP



with digital indicator

read the diameter directly, after inputting the size of setting ring



the minimum value tracking function can find the diameter automatically



with waterproof digital indicator

read the diameter directly, after inputting the size of setting ring



the minimum value tracking function can find the diameter automatically



- Optional accessory: setting ring (code 6312), bore gage setter

### With dial indicator

Code	Range	Indicator	Accuracy	Repeatability
2852-10	6-10mm	dial indicator, range 3mm, graduation 0.01mm (code 2311-3F)	±0.012mm	0.003mm
2852-18	10-18.5mm		±0.012mm	0.003mm

### With digital indicator

(data output cable code 7315-50M need receiver page 5, 7302-40M page 13, optional)

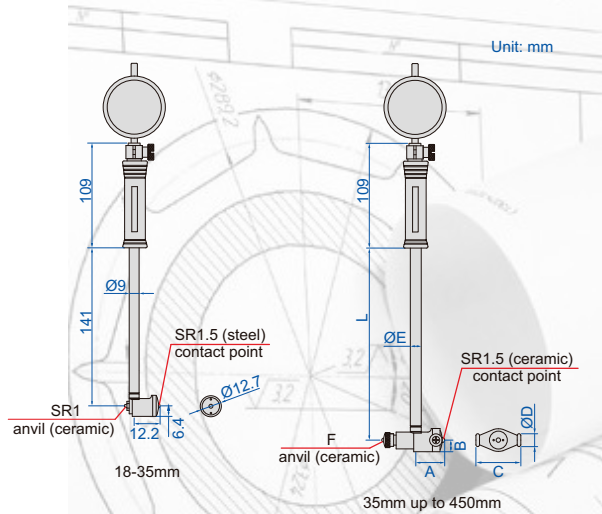
Code	Range	Indicator	Accuracy	Repeatability
2152-10	6-10mm	digital indicator, code 2108-10F, range 12.7mm/0.5", resolution 0.002mm/0.0001" (can switch to 0.01mm/0.0005")	±0.012mm	0.003mm
2152-18	10-18.5mm		±0.012mm	0.003mm

### With waterproof digital indicator

(data output cable code 7315-50M need receiver page 5, 7302-40M page 13, optional)

Code	Range	Indicator	Accuracy	Repeatability
2152-10WP	6-10mm	waterproof digital indicator, code 2137-10F, range 12.7mm/0.5", dust/waterproof IP54, resolution 0.002mm/0.0001" (can switch to 0.01mm/0.0005")	±0.012mm	0.003mm
2152-18WP	10-18.5mm		±0.012mm	0.003mm

## PRECISION BORE GAGES (WITH DIAL INDICATOR)



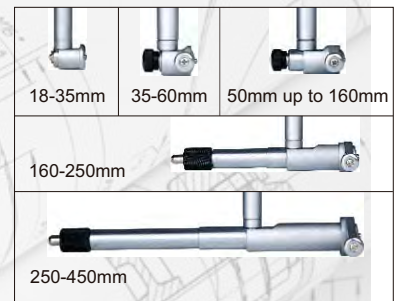
7

Optional accessory: setting ring (code **6312**), bore gage setter

Range	A	B	C	ØD	ØE	F	L
35-60mm	22	9	27	13	12.8	SR2	141
50-100mm	26	9	35	13	12.8	SR2	141
50-160mm	26	9	35	13	12.8	SR2	141
100-160mm	26	9	35	13	12.8	SR2	141
160-250mm	56.5	13	74.5	15	12.8	SR2	241
250-450mm	86.5	15	101.5	15	14.5	SR2.5	241

### With dial indicator

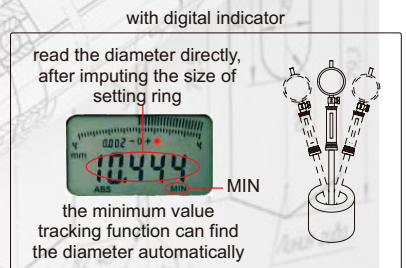
Code	Range	Indicator	Accuracy	Repeatability
<b>2825-35</b>	18-35mm	dial indicator, range 1mm, graduation 0.001mm (code <b>2313-1FA</b> )	±0.007mm	0.0015mm
<b>2825-60</b>	35-60mm		±0.007mm	0.0015mm
<b>2825-100</b>	50-100mm		±0.007mm	0.0015mm
<b>2825-160</b>	50-160mm		±0.007mm	0.0015mm
<b>2825-161</b>	100-160mm		±0.007mm	0.0015mm
<b>2825-250</b>	160-250mm		±0.007mm	0.0015mm
<b>2825-450</b>	250-450mm		±0.007mm	0.0015mm



### With digital indicator

(data output cable code **7315-50M** need receiver page 5, **7302-40M** page 13, optional)

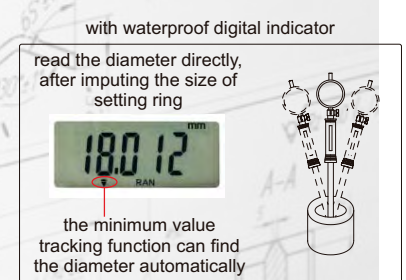
Code	Range	Indicator	Accuracy	Repeatability
<b>2126-35</b>	18-35mm	digital indicator, code <b>2108-101F</b> , range 12.7mm/0.5", resolution 0.001mm/0.00005"	±0.007mm	0.002mm
<b>2126-60</b>	35-60mm		±0.007mm	0.002mm
<b>2126-100</b>	50-100mm		±0.007mm	0.002mm
<b>2126-160</b>	50-160mm		±0.007mm	0.002mm
<b>2126-161</b>	100-160mm		±0.007mm	0.002mm
<b>2126-250</b>	160-250mm		±0.007mm	0.002mm
<b>2126-450</b>	250-450mm		±0.007mm	0.002mm



### With waterproof digital indicator

(data output cable code **7315-50M** need receiver page 5, **7302-40M** page 13, optional)

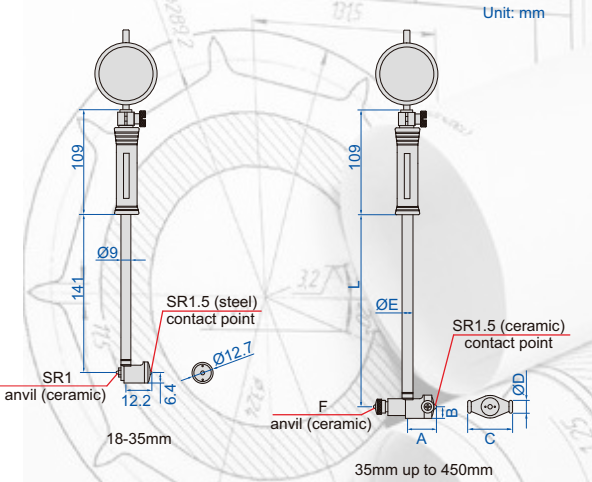
Code	Range	Indicator	Accuracy	Repeatability
<b>2126-35WP</b>	18-35mm	waterproof digital indicator, code <b>2137-101F</b> , range 12.7mm/0.5", dust/waterproof IP54, resolution 0.001mm/0.00005"	±0.007mm	0.002mm
<b>2126-60WP</b>	35-60mm		±0.007mm	0.002mm
<b>2126-100WP</b>	50-100mm		±0.007mm	0.002mm
<b>2126-160WP</b>	50-160mm		±0.007mm	0.002mm
<b>2126-161WP</b>	100-160mm		±0.007mm	0.002mm
<b>2126-250WP</b>	160-250mm		±0.007mm	0.002mm
<b>2126-450WP</b>	250-450mm		±0.007mm	0.002mm



ATTENTION: NOT SUITABLE FOR 0.001MM DIAL INDICATORS

POPULAR MODEL

BORE GAGES (WITH DIAL INDICATOR)



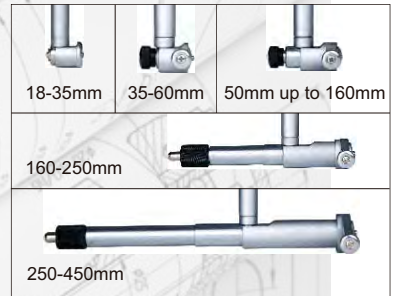
- Optional accessory: setting ring (code 6312), long handle (code 7351), bore gage setter

Range	A	B	C	ØD	ØE	F	L
35-60mm	22	9	27	13	12.8	SR2	141
50-100mm	26	9	35	13	12.8	SR2	141
50-160mm	26	9	35	13	12.8	SR2	141
100-160mm	26	9	35	13	12.8	SR2	141
160-250mm	56.5	13	74.5	15	12.8	SR2	241
250-450mm	86.5	15	101.5	15	14.5	SR2.5	241



With dial indicator

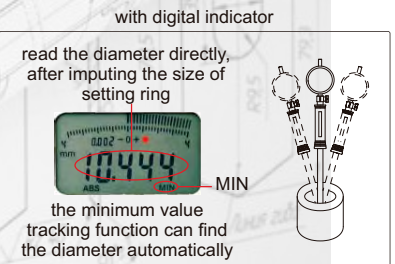
Code	Range	Indicator	Accuracy	Repeatability
2322-35A	18-35mm	dial indicator, range 10mm, graduation 0.01mm (code 2308-10FA)	±0.015mm	0.003mm
2322-60A	35-60mm		±0.018mm	0.003mm
2322-100A	50-100mm		±0.018mm	0.003mm
2322-160A	50-160mm		±0.018mm	0.003mm
2322-161A	100-160mm		±0.018mm	0.003mm
2322-250A	160-250mm		±0.018mm	0.003mm
2322-450A	250-450mm		±0.018mm	0.003mm



With digital indicator

(data output cable code 7315-50M need receiver page 5, 7302-40M page 13, optional)

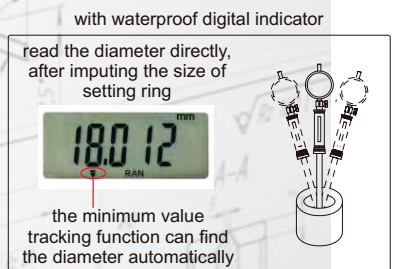
Code	Range	Indicator	Accuracy	Repeatability
2122-35A	18-35mm	digital indicator, code 2108-10F, range 12.7mm/0.5", resolution 0.002mm/0.0001" (can switch to 0.01mm/0.0005")	±0.015mm	0.003mm
2122-60A	35-60mm		±0.018mm	0.003mm
2122-100A	50-100mm		±0.018mm	0.003mm
2122-160A	50-160mm		±0.018mm	0.003mm
2122-161A	100-160mm		±0.018mm	0.003mm
2122-250A	160-250mm		±0.018mm	0.003mm
2122-450A	250-450mm		±0.018mm	0.003mm



With waterproof digital indicator

(data output cable code 7315-50M need receiver page 5, 7302-40M page 13, optional)

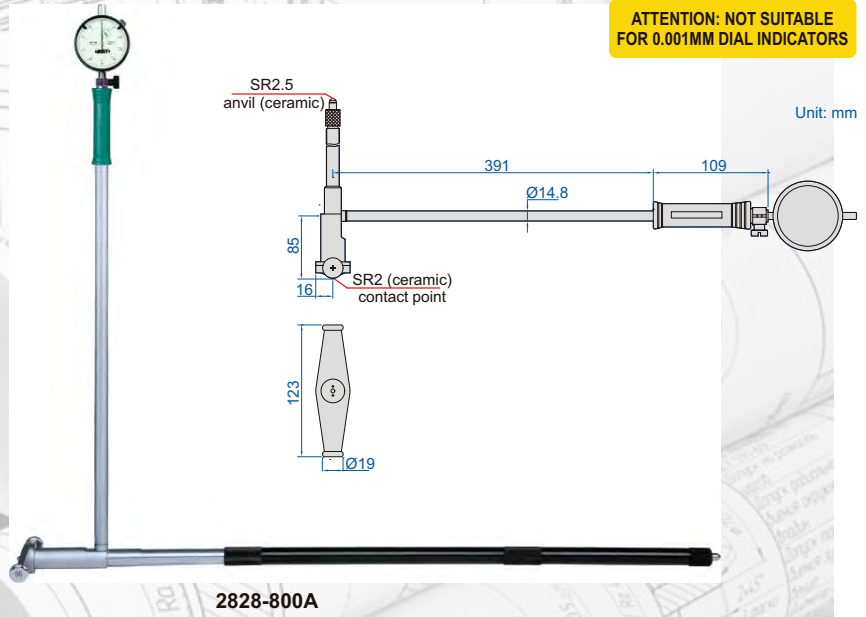
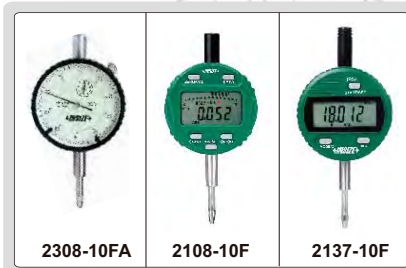
Code	Range	Indicator	Accuracy	Repeatability
2122-35AWP	18-35mm	waterproof digital indicator, code 2137-10F, range 12.7mm/0.5", dust/waterproof IP54, resolution 0.002mm/0.0001" (can switch to 0.01mm/0.0005")	±0.015mm	0.003mm
2122-60AWP	35-60mm		±0.018mm	0.003mm
2122-100AWP	50-100mm		±0.018mm	0.003mm
2122-160AWP	50-160mm		±0.018mm	0.003mm
2122-161AWP	100-160mm		±0.018mm	0.003mm
2122-250AWP	160-250mm		±0.018mm	0.003mm
2122-450AWP	250-450mm		±0.018mm	0.003mm





**BORE GAGES  
(WITH DIAL INDICATOR)**

**ATTENTION: NOT SUITABLE  
FOR 0.001MM DIAL INDICATORS**



7

With dial indicator

Code	Range	Indicator	Accuracy	Repeatability
2828-800A	400-800mm	dial indicator, code <b>2308-10FA</b> , range 10mm, graduation 0.01mm	±0.025mm	0.003mm

With digital indicator (data output cable code 7315-50M need receiver page 5, 7302-40M page 13, optional)

Code	Range	Indicator	Accuracy	Repeatability
2128-800A	400-800mm	digital indicator, code <b>2108-10F</b> , range 12.7mm/0.5", resolution 0.002mm/0.0001" (can switch to 0.01mm/0.0005")	±0.025mm	0.003mm

With waterproof digital indicator (data output cable code 7315-50M need receiver page 5, 7302-40M page 13, optional)

Code	Range	Indicator	Accuracy	Repeatability
2128-800AWP	400-800mm	waterproof digital indicator, code <b>2137-10F</b> , range 12.7mm/0.5", dust/waterproof IP54, resolution 0.002mm/0.0001" (can switch to 0.01mm/0.0005")	±0.025mm	0.003mm

**BORE GAGE SET**

**INSIZE PLUS**  
MADE IN EUROPE

digital indicator is optional



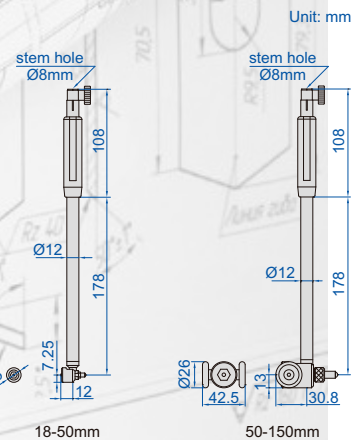
2423-S2

- Includes bore gages 18-50mm and 50-150mm
- Optional accessory:
  - 0.01mm or 0.001mm graduation dial indicator or dial comparator
  - Setting ring (code **6312**)
  - Long handle (code **7352**)
  - Bore gage setter



18-50mm

50-150mm



18-50mm

50-150mm

Code	Range	Accuracy (without dial comparator)	Repeatability (without dial comparator)
2423-S2	18-150mm	4µm	2µm

ATTENTION: NOT SUITABLE FOR 0.001MM DIAL INDICATORS

BORE GAGE SETS (WITH DIAL INDICATOR)



2824-S160



2724-S3



2724-S3WP

- Optional accessory: setting ring (code 6312), long handle (code 7351), bore gage setter

with digital indicator

read the diameter directly, after inputting the size of setting ring



the minimum value tracking function can find the diameter automatically



with waterproof digital indicator

read the diameter directly, after inputting the size of setting ring



the minimum value tracking function can find the diameter automatically



packaging (code 2824-S3)



With dial indicator

Code	Range	Indicator	Bore gages included	Accuracy	Repeatability
2824-S160	35-160mm	dial indicator, code 2308-10FA, range 10mm, graduation 0.01mm	① 35-50mm (dial indicator and handle are not included) ② 50-160mm	35-50mm ±0.018mm 50-160mm ±0.018mm	0.003mm
2824-S3	18-160mm	dial indicator, code 2308-10FA, range 10mm, graduation 0.01mm	① 18-35mm ② 35-60mm (dial indicator is not included) ③ 50-160mm (dial indicator is not included)	18-35mm ±0.015mm 35-60mm ±0.018mm 50-160mm ±0.018mm	0.003mm

With digital indicator (data output cable code 7315-50M need receiver page 5, 7302-40M page 13, optional)

Code	Range	Indicator	Bore gages included	Accuracy	Repeatability
2724-S160	35-160mm	digital indicator, code 2108-10F range 12.7mm/0.5", resolution 0.002mm/0.0001" (can switch to: 0.01mm/0.0005")	① 35-50mm (digital indicator and handle are not included) ② 50-160mm	35-50mm ±0.018mm 50-160mm ±0.018mm	0.003mm
2724-S3	18-160mm	digital indicator, code 2108-10F range 12.7mm/0.5", resolution 0.002mm/0.0001" (can switch to: 0.01mm/0.0005")	① 18-35mm ② 35-60mm (digital indicator is not included) ③ 50-160mm (digital indicator is not included)	18-35mm ±0.015mm 35-60mm ±0.018mm 50-160mm ±0.018mm	0.003mm

To be continued

Continued from previous page

With waterproof digital indicator (data output cable code 7315-50M need receiver page 5, 7302-40M page 13, optional)

Code	Range	Indicator	Bore gages included	Accuracy	Repeatability
2724-S160WP	35-160mm	waterproof digital indicator, code <b>2137-10F</b> , range 12.7mm/0.5", dust/waterproof IP54, resolution 0.002mm/0.0001" (can switch to 0.01mm/0.0005")	① 35-50mm (digital indicator and handle are not included) ② 50-160mm	35-50mm ±0.018mm 50-160mm ±0.018mm	0.003mm
2724-S3WP	18-160mm	waterproof digital indicator, code <b>2137-10F</b> , range 12.7mm/0.5", dust/waterproof IP54, resolution 0.002mm/0.0001" (can switch to 0.01mm/0.0005")	① 18-35mm ② 35-60mm (digital indicator is not included) ③ 50-160mm (digital indicator is not included)	18-35mm ±0.015mm 35-60mm ±0.018mm 50-160mm ±0.018mm	0.003mm

## BORE GAGES FOR BLIND HOLES

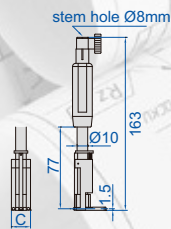
**INSIZE PLUS**  
MADE IN EUROPE

7

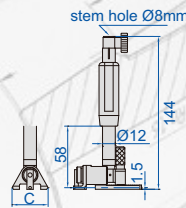


digital indicator is optional

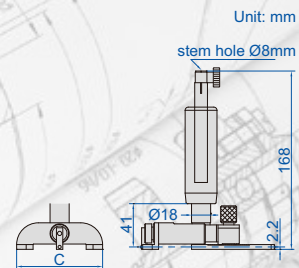
2424-300



2424-50



2424-110



2424-300/450/600

Unit: mm

- To measure diameter of shallow and blind holes
- Optional accessory:
  - 0.01mm or 0.001mm graduation dial indicators
  - Setting ring (code 6312)
  - Long handle (code 7352)
  - Bore gage setter

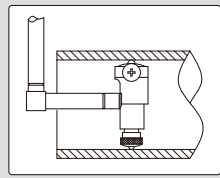


Code	Range	Accuracy (without dial indicator)	Repeatability (without dial indicator)	C
2424-50	20-50mm	4µm	1µm	18mm
2424-110	50-110mm	4µm	1µm	34mm
2424-300	110-300mm	4µm	1µm	81mm
2424-450	200-450mm	4µm	1µm	81mm
2424-600	300-600mm	4µm	1µm	140mm

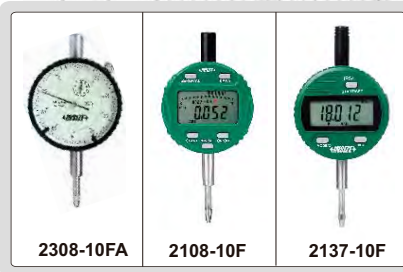
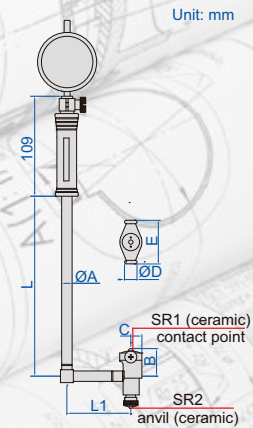
ATTENTION: NOT SUITABLE FOR 0.001MM DIAL INDICATORS

BORE GAGES (WITH DIAL INDICATOR)

- Optional accessory: setting ring (code 6312), long handle (code 7351), bore gage setter



2827-160A



2308-10FA

2108-10F

2137-10F

with digital indicator

with waterproof digital indicator

read the diameter directly, after inputting the size of setting ring



the minimum value tracking function can find the diameter automatically



read the diameter directly, after inputting the size of setting ring



the minimum value tracking function can find the diameter automatically



Range	ØA	B	C	ØD	E	L	L1
35-60mm	12.8	22	9	13	27	141	75
50-160mm	12.8	28.5	9.2	13	35	141	76.2
160-250mm	14.5	62.0	12.7	15	74.5	391	100
250-450mm	14.5	91.5	15.0	15	101.5	391	100

With dial indicator

Code	Range	Indicator	Accuracy	Repeatability
2827-60A	35-60mm	dial indicator, code 2308-10FA, range 10mm, graduation 0.01mm	±0.018mm	0.003mm
2827-160A	50-160mm		±0.018mm	0.003mm
2827-250A	160-250mm		±0.018mm	0.003mm
2827-450A	250-450mm		±0.018mm	0.003mm

With digital indicator

(data output cable code 7315-50M need receiver page 5, 7302-40M page 13, optional)

Code	Range	Indicator	Accuracy	Repeatability
2127-60	35-60mm	digital indicator, code 2108-10F, range 12.7mm/0.5", resolution 0.002mm/0.0001" (can switch to: 0.01mm/0.0005")	±0.018mm	0.003mm
2127-160	50-160mm		±0.018mm	0.003mm
2127-250	160-250mm		±0.018mm	0.003mm
2127-450	250-450mm		±0.018mm	0.003mm

With waterproof digital indicator

(data output cable code 7315-50M need receiver page 5, 7302-40M page 13, optional)

Code	Range	Indicator	Accuracy	Repeatability
2127-60WP	35-60mm	waterproof digital indicator, code 2137-10F, range 12.7mm/0.5", dust/waterproof IP54, resolution 0.002mm/0.0001" (can switch to 0.01mm/0.0005")	±0.018mm	0.003mm
2127-160WP	50-160mm		±0.018mm	0.003mm
2127-250WP	160-250mm		±0.018mm	0.003mm
2127-450WP	250-450mm		±0.018mm	0.003mm

## GEAR BORE GAGES

**INSIZE PLUS**  
MADE IN EUROPE

RELATIVE PRODUCT: INTERNAL GEAR  
TOOTH MICROMETER (CODE 3638)

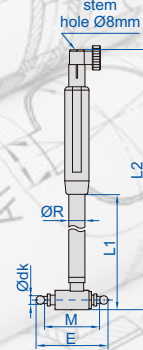
- Tungsten carbide ball points, diameter accuracy 2µm
- Optional accessory:
  - Dial indicator or dial comparator
  - Ball points
  - Thread adaptor
  - Long handle (code 7352)



digital indicator  
is optional

2428-55

ball points  
(optional)



(mm)

Code	Range (E)	Accuracy (without dial comparator)	Repeatability (without dial comparator)	ØR	L1	L2	Thread for ball points
2428-12	8-12mm	2µm	0.5µm	5	100	165	M1.6
2428-22	12-22mm	2µm	0.5µm	5	102	168	M1.6
2428-55	22-55mm	2µm	0.5µm	8	110	204	M2.5
2428-250	55-250mm	2µm	0.5µm	12	177	290	M4
2428-510	100-510mm	2µm	0.5µm	18	235	363	M4

extension rod for points (included)

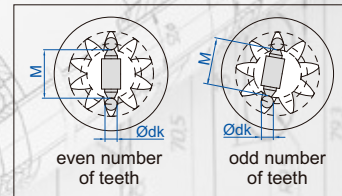


2428-55 extension rod for points

### Ball points (optional)

Ball point diameter Ødk	2428-12	2428-22	2428-55	2428-250	2428-510
	point thread M1.6	point thread M1.6	point thread M2.5	point thread M4	point thread M4
	point code	point code	point code	point code	point code
1mm	2428-A1	2428-E1	2428-B1	2428-C1	2428-C1
1.5mm	2428-A1D5	2428-E1D5	2428-B1D5	2428-C1D5	2428-C1D5
2mm	2428-A2	2428-E2	2428-B2	2428-C2	2428-C2
2.5mm	—	2428-E2D5	2428-B2D5	2428-C2D5	2428-C2D5
3mm	—	2428-E3	2428-B3	2428-C3	2428-C3
3.5mm	—	2428-E3D5	2428-B3D5	2428-C3D5	2428-C3D5
4mm	—	2428-E4	2428-B4	2428-C4	2428-C4
4.5mm	—	—	2428-B4D5	2428-C4D5	2428-C4D5
5mm	—	—	2428-B5	2428-C5	2428-C5
5.5mm	—	—	2428-B5D5	2428-C5D5	2428-C5D5
6mm	—	—	2428-B6	2428-C6	2428-C6
6.5mm	—	—	2428-B6D5	2428-C6D5	2428-C6D5
7mm	—	—	2428-B7	2428-C7	2428-C7
7.5mm	—	—	2428-B7D5	2428-C7D5	2428-C7D5
8mm	—	—	2428-B8	2428-C8	2428-C8
8.5mm	—	—	2428-B8D5	2428-C8D5	2428-C8D5
9mm	—	—	2428-B9	2428-C9	2428-C9
9.5mm	—	—	2428-B9D5	2428-C9D5	2428-C9D5
10mm	—	—	2428-B10	2428-C10	2428-C10

method of measurement



even number  
of teeth

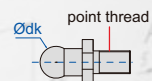
odd number  
of teeth

ball points (optional),  
in pair



### Thread adaptor (optional)

Code	Thread	Remark
2428-D1	M1.6/M2.5	For example, use 2428-E1 with 2428-D1 to replace 2428-B1
2428-D2	M2.5/M4	For example, use 2428-B1 with 2428-D2 to replace 2428-C1



ATTENTION: NOT SUITABLE FOR 0.001MM DIAL INDICATORS

MEASURE DIAMETER OF BORES WITH BARRIER INSIDE

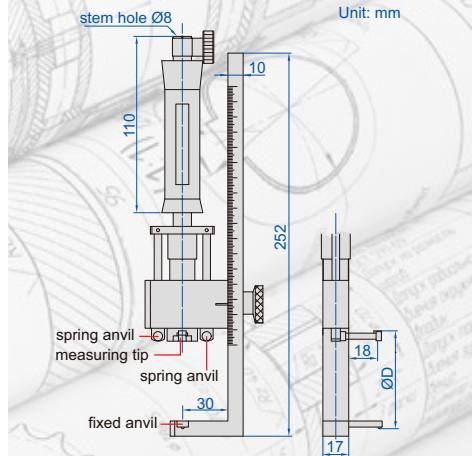
BORE GAGE FOR BARRIER INSIDE BORE

digital indicator is optional

application



2348-210



(mm)

- Measure diameter of bores with barrier inside
- Optional accessory:
  - 0.01mm graduation dial indicators
  - Setting ring (code 6312)

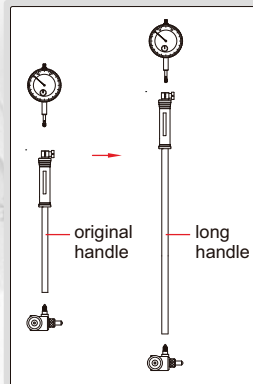
\*For example:

When measuring size ØD is 40mm, D-14=26mm, so the diameter of barrier should be less than 26mm.  
 When measuring size ØD is 70mm, D-14=56mm, however it should be less than 50mm, so the diameter of barrier should be less than 50mm.

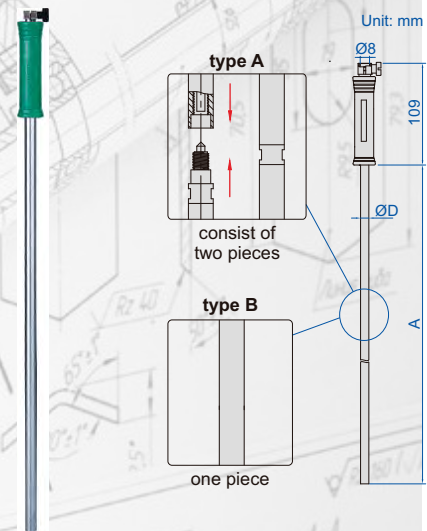
Code	Range ØD	Diameter of barrier Ød	Travel of measuring tip	Accuracy (without dial indicator)	Measuring force
2348-210	40-210mm	<D-14 (less than 50mm)*	1.6	0.018	2N

LONG HANDLES

method of use (replace the original handle with long handle)



- To assist deep-hole measurement
- Can be used for bore gages 2122, 2322, 2824, 2724, 2127 and 2827



7351-EX11

Code	Applicable bore gages	A	ØD	Type
7351-EX11	35-60mm,	475mm	13mm	B
7351-EX12		980mm	13mm	
7351-EX13	50-100mm,	1480mm	14.5mm	A
7351-EX14		1980mm	14.5mm	
7351-EX21	160-250mm,	480mm	14.5mm	B
7351-EX22		980mm	14.5mm	
7351-EX23		1480mm	14.5mm	
7351-EX24	250-450mm	1980mm	14.5mm	A

## ANVILS FOR BORE GAGES

- For bore gages 2852, 2152, 2322, 2122, 2127, 2724, 2825, 2126, 2824, 2853, 2153 and 2827

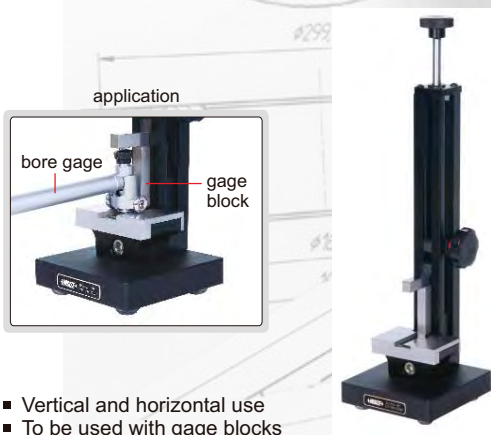


7350-160

Code	Applicable bore gages	Material of measuring face	Quantity per set	Measuring range of anvil (mm)
7350-10	6-10mm	steel	9 pcs	6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10
7350-18	10-18.5mm	ceramic	9 pcs	10, 11, 12, 13, 14, 15, 16, 17, 18
7350-35	18-35mm	ceramic	9 pcs	18, 20, 22, 24, 26, 28, 30, 32, 34
7350-60	35-60mm	ceramic	6 pcs	35, 40, 45, 50, 55, 60
7350-100	50-100mm	ceramic	11 pcs	50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100
7350-160	50-160mm	ceramic	12 pcs	50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
7350-161	100-160mm	ceramic	12 pcs	50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
7350-250	160-250mm	ceramic	5 pcs	160, 170, 180, 190, 200
7350-450	250-450mm	ceramic	5 pcs	250, 260, 270, 280, 290

7

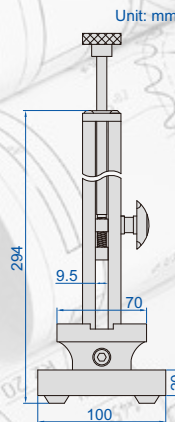
## BORE GAGE SETTERS



- Vertical and horizontal use
- To be used with gage blocks



7353-160



horizontal use



gage blocks for 7353-160



Gage block set for 7353-160

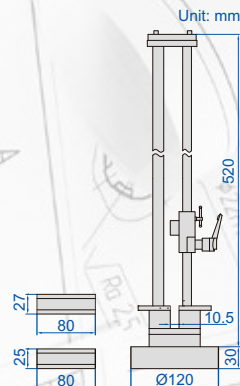
Blocks per set	Size (mm)	Step (mm)	Quantity	Remark
33	1.005		1 pc	grade 2 (ISO3650)
	1.01-1.09	0.01	9 pcs	
	1.1-1.9	0.1	9 pcs	
	1-9	1	9 pcs	
	10-30	10	3 pcs	
	50		1 pc	
	100		1 pc	

Code	Range	Repeatability	Remark
7353-160	0-160mm	1.2µm	with gage block set
7353-160W	0-160mm	1.2µm	without gage block set

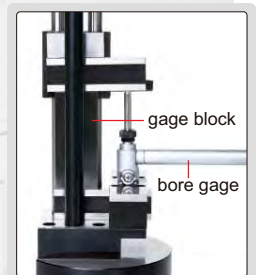
## BORE GAGE SETTER



- Used together with gage blocks to set bore gages



2395-400



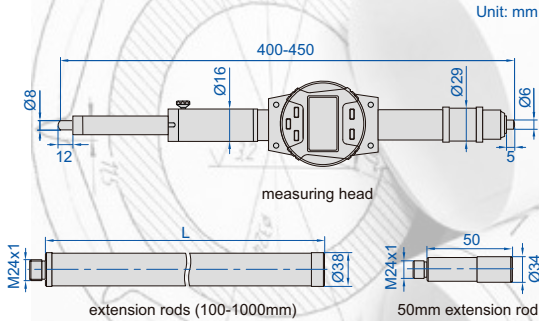
Code	Setting range
2395-400	18-400mm

SPRING LOADED MEASURING POINT

CARBON FIBER EXTENSION RODS, LIGHT WEIGHT, NOT EASY TO DEFORM, LOW THERMAL EXPANSION

DATA OUTPUT

## CARBON FIBER BORE GAGES



- Carbon fiber extension rods, light weight, not easy to deform, low thermal expansion
- Carbide measuring faces
- Data output
- Button function: on/off, zero, tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement
- Supplied with 400mm setting standard
- Optional accessory: data output cable (code **7302-40M** page 13), wireless data transmission (transmitter code **7315-51** need receiver page 5)

setting standard (included), used to set the measuring head



### Measuring head

Range	Resolution	Accuracy	Repeatability	Weight
400-450mm	0.001mm/0.00005"	±6µm	±3µm	1kg

spring loaded point, and max./min. value tracking make it easy to find the right measuring position

### Extension rods

Length (L)	Accuracy	Weight	Material
50mm	±2µm	230g	steel
100mm	±3µm	300g	carbon fiber
200mm	±4.5µm	390g	carbon fiber
300mm	±6µm	470g	carbon fiber
600mm	±9µm	730g	carbon fiber
1000mm	±11µm	1000g	carbon fiber



Code	Range	Weight	Extension rods
<b>3522-1000</b>	400-1000mm	3.8kg	50mm, 100mm, 200mm, 300mm
<b>3522-1500</b>	400-1500mm	4.5kg	50mm, 100mm, 200mm, 300mm, 600mm
<b>3522-2000</b>	400-2000mm	5.3kg	50mm, 100mm, 200mm, 300mm, 600mm (2 pcs)
<b>3522-2400</b>	400-2400mm	6.0kg	50mm, 100mm, 200mm, 300mm, 600mm (3 pcs)
<b>3522-3400</b>	400-3400mm	6.7kg	50mm, 100mm, 200mm, 300mm, 600mm (4 pcs)
<b>3522-6400</b>	400-6400mm	9.5kg	50mm, 100mm, 200mm, 300mm, 600mm, 1000mm (5 pcs)



## INTERNAL CHAMFER GAGES

**INSIZE PLUS**  
MADE IN EUROPE

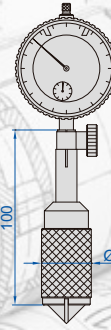
- Measure end diameter of chamfer or taper holes
- With limit pointers
- 2941-20 and 2941-203 are supplied with 5mm setting ring

5mm setting ring for 2941-20 and 2941-203



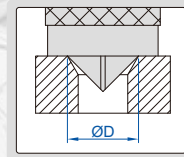
2941-20

Unit: mm

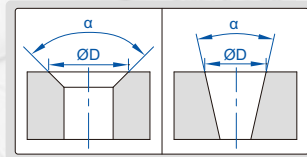


**INSPECTION CERTIFICATE**

measurement principle



measure end diameter of chamfer or taper holes



Code	Range ØD	Applicable angle α	Graduation	Accuracy	Ød
2941-20*	0.5-20.1mm	0-90°	0.01mm	±0.02mm	28.3mm
2941-40*	20-40mm	0-90°	0.01mm	±0.02mm	50mm
2941-203*	0.5-20.1mm	90-127°	0.02mm	±0.04mm	28.3mm
2941-403*	20-40mm	90-127°	0.02mm	±0.04mm	50mm



\*Supplied with manufacturer inspection certificate

7

## DIGITAL INTERNAL CHAMFER GAGES

**INSIZE PLUS**  
MADE IN EUROPE

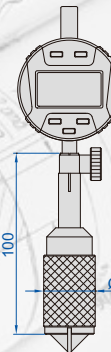
- Measure end diameter of chamfer or taper holes
- 2942-20 and 2942-203 are supplied with 5mm setting ring
- Resolution: 0.01mm/0.0005"
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13)

5mm setting ring for 2942-20 and 2942-203



2942-20

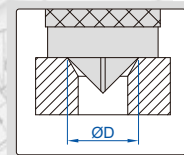
Unit: mm



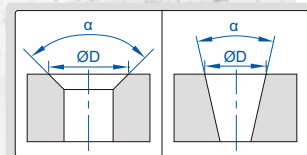
**INSPECTION CERTIFICATE**

**DATA OUTPUT**

measurement principle



measure end diameter of chamfer or taper holes



Code	Range ØD	Applicable angle α	Accuracy	Ød
2942-20*	0.5-20.1mm	0-90°	±0.02mm	28.3mm
2942-40*	20-40mm	0-90°	±0.02mm	50mm
2942-203*	0.5-20.1mm	90-127°	±0.04mm	28.3mm
2942-403*	20-40mm	90-127°	±0.04mm	50mm



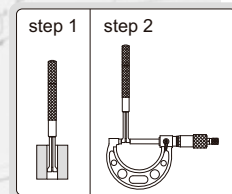
\*Supplied with manufacturer inspection certificate

## SMALL HOLE GAGE SET

- 4 gages per set
- For small holes, slots and grooves, etc.
- Satin chrome finish

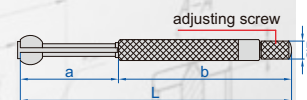


4208-1



Range	L	a	b	ØD
3-5mm	76	24	52	5
5-7.5mm	79	27	52	5
7.5-10mm	88	30	58	6
10-13mm	91	34	58	6

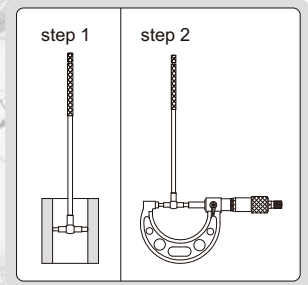
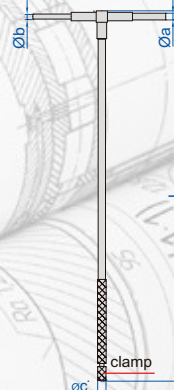
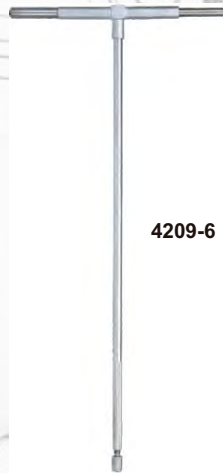
Code	Total range	Gages included
4208-1	3-13mm	3-5mm, 5-7.5mm, 7.5-10mm, 10-13mm



## LONG HANDLE TELESCOPING GAGES

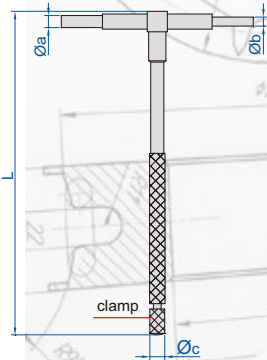
- For quick measurement of inside diameter of deep holes and width of slots
- Satin chrome finish

Code	Range	L	Øa	Øb	Øc
4209-1	8-12.7mm	300	3.9	2.9	6.2
4209-2	12.7-19mm	300	5.3	3.8	6.2
4209-3	19-32mm	300	5.3	3.8	6.2
4209-4	32-54mm	300	7.6	6.1	7.2
4209-5	54-90mm	300	7.6	6.1	7.2
4209-6	90-150mm	300	7.6	6.1	7.2



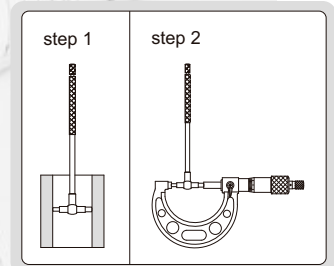
## TELESCOPING GAGE SET

7



4206-1

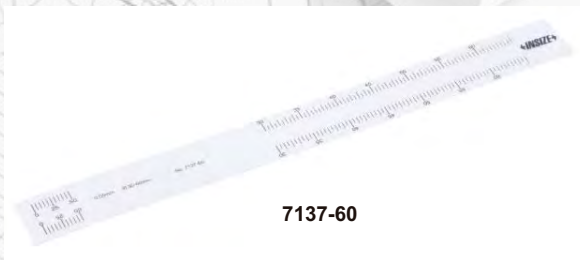
- 6 gages per set
- For quick measurement of inside diameter of holes and width of slots
- Satin chrome finish



Range	L	Øa	Øb	Øc
8-12.7mm	115	3.9	2.9	6.2
12.7-19mm	115	5.3	3.8	6.2
19-32mm	115	5.3	3.8	6.2
32-54mm	137	7.6	6.1	7.2
54-90mm	137	7.6	6.1	7.2
90-150mm	137	7.6	6.1	7.2

Code	Total range	Gages included
4206-1	8-150mm	8-12.7mm, 12.7-19mm, 19-32mm, 32-54mm, 54-90mm, 90-150mm

## FLEXIBLE INNER DIAMETER TAPES



7137-60



application



Code	Diameter range	Graduation	Accuracy
7137-30	Ø10-30mm	0.05mm	±0.10mm
7137-60	Ø30-60mm	0.05mm	±0.10mm
7137-100	Ø50-100mm	0.05mm	±0.10mm
7137-200	Ø100-200mm	0.05mm	±0.10mm
7137-350	Ø200-350mm	0.05mm	±0.15mm

- Measure average inner diameter of flexible materials
- Made of PET

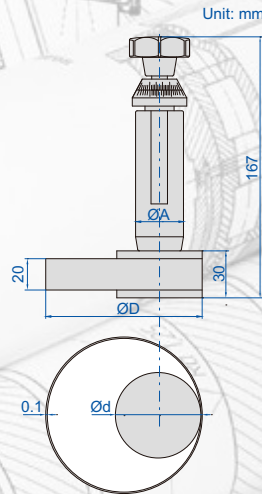
## TAPE BORE GAGES

**INSIZE PLUS**  
MADE IN EUROPE



- Measure internal diameter and circumference of soft materials like tubes, belts, etc.
- Graduation: 0.1mm
- Accuracy: 0.2mm

Code	Range ØD	Ød	ØA	Measuring depth (mm)
2430-24	14-24mm	13.5	13	15-60
2430-40	22-40mm	21.5	21	15-60
2430-60	35-60mm	34.5	30.5	15-96
2430-100	55-100mm	54.5	30.5	15-106
2430-180	95-180mm	94.5	30.5	15-106
2430-255	170-255mm	94.5	30.5	15-106
2430-330	245-330mm	94.5	30.5	15-106



7

## DIAMETER TAPES

CAN BE CUSTOM-MADE



7135-525

- Measure diameter of pipes, trees, tires, etc.
- Made of stainless steel



Code	Diameter range	Graduation	Accuracy
7135-35*	Ø20-35mm	0.05mm	±0.05mm
7135-55*	Ø30-55mm	0.05mm	±0.05mm
7135-125	Ø50-125mm	0.01mm	±0.05mm
7135-225	Ø100-225mm	0.01mm	±0.05mm
7135-375	Ø200-375mm	0.01mm	±0.05mm
7135-525	Ø350-525mm	0.01mm	±0.05mm
7135-725	Ø500-725mm	0.01mm	±0.06mm
7135-925	Ø700-925mm	0.01mm	±0.06mm
7135-1125	Ø900-1125mm	0.02mm	±0.06mm
7135-1325	Ø1100-1325mm	0.02mm	±0.08mm
7135-1525	Ø1300-1525mm	0.02mm	±0.08mm
7135-1725	Ø1500-1725mm	0.02mm	±0.08mm
7135-1925	Ø1700-1925mm	0.02mm	±0.08mm
7135-2125	Ø1900-2125mm	0.02mm	±0.08mm
7135-2325	Ø2100-2325mm	0.02mm	±0.10mm
7135-2525	Ø2300-2525mm	0.02mm	±0.10mm
7135-2750	Ø2500-2750mm	0.02mm	±0.10mm
7135-3000	Ø2750-3000mm	0.02mm	±0.10mm
7135-3250	Ø3000-3250mm	0.02mm	±0.15mm
7135-3500	Ø3250-3500mm	0.02mm	±0.15mm

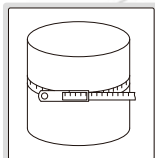
Code	Diameter range	Graduation	Accuracy
7135-3750	Ø3500-3750mm	0.02mm	±0.15mm
7135-4000	Ø3750-4000mm	0.02mm	±0.20mm
7135-4250	Ø4000-4250mm	0.02mm	±0.20mm
7135-4500	Ø4250-4500mm	0.02mm	±0.20mm
7135-4750	Ø4500-4750mm	0.02mm	±0.20mm
7135-5000	Ø4750-5000mm	0.02mm	±0.20mm
7135-5250	Ø5000-5250mm	0.02mm	±0.005%L**
7135-5500	Ø5250-5500mm	0.02mm	±0.005%L**
7135-5750	Ø5500-5750mm	0.02mm	±0.005%L**
7135-6000	Ø5750-6000mm	0.02mm	±0.005%L**
7135-6250	Ø6000-6250mm	0.02mm	±0.005%L**
7135-6500	Ø6250-6500mm	0.02mm	±0.005%L**
7135-6750	Ø6500-6750mm	0.02mm	±0.005%L**
7135-7000	Ø6750-7000mm	0.02mm	±0.005%L**
7135-7250	Ø7000-7250mm	0.02mm	±0.005%L**
7135-7500	Ø7250-7500mm	0.02mm	±0.005%L**
7135-7750	Ø7500-7750mm	0.02mm	±0.005%L**
7135-8000	Ø7750-8000mm	0.02mm	±0.005%L**
7135-8250	Ø8000-8250mm	0.02mm	±0.005%L**

\*\* L is the actual measured value (unit: mm)

\* The thickness of code 7135-35 and 7135-55 is 0.10mm, while the thickness of other codes is 0.25mm

CAN BE CUSTOM-MADE

## CIRCUMFERENCE TAPES



7136-1880

- Measure diameter and circumference of pipes, trees, tires, etc.
- Made of stainless steel



Unit: mm

Code	Circumference range	Diameter range	Graduation	Accuracy	
				circumference	diameter
7136-940	160-940mm	Ø50-300mm	0.1mm	±0.30mm	±0.10mm
7136-1880	940-1880mm	Ø300-600mm	0.1mm	±0.30mm	±0.10mm
7136-2830	1880-2830mm	Ø600-900mm	0.1mm	±0.30mm	±0.10mm
7136-3770	2830-3770mm	Ø900-1200mm	0.1mm	±0.30mm	±0.10mm
7136-4710	3770-4710mm	Ø1200-1500mm	0.1mm	±0.30mm	±0.10mm
7136-5650	4710-5650mm	Ø1500-1800mm	0.1mm	±0.30mm	±0.10mm
7136-6600	5650-6600mm	Ø1800-2100mm	0.1mm	±0.30mm	±0.10mm
7136-7540	6600-7540mm	Ø2100-2400mm	0.1mm	±0.30mm	±0.10mm
7136-8480	7540-8480mm	Ø2400-2700mm	0.1mm	±0.30mm	±0.10mm
7136-9430	8480-9430mm	Ø2700-3000mm	0.1mm	±0.30mm	±0.10mm

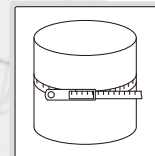
7

## CIRCUMFERENCE TAPES (ECONOMIC TYPE)

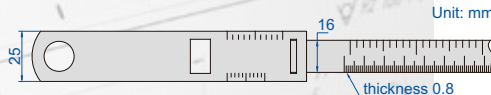
- Measure diameter and circumference of soft materials like pipes, trees, tires, etc.
- Graduation: 0.1mm
- Laser engraved scale
- Made of stainless steel



7114-950



Code	Circumference range	Diameter range	Accuracy	
			circumference	diameter
7114-950	150-950mm	Ø50-300mm	±3mm	±1mm
7114-2200	940-2200mm	Ø300-700mm	±3mm	±1mm
7114-3460	2190-3460mm	Ø700-1100mm	±3mm	±1mm

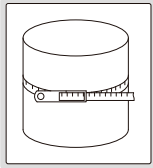


Unit: mm

## CIRCUMFERENCE TAPES

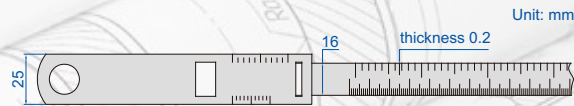
**INSIZE PLUS**  
MADE IN EUROPE

CAN SUPPLY TAPE WIDTH  
6MM, 35MM, 60MM



7115-3460

- Measure diameter and circumference of pipes, trees, tires, etc.
- Graduation: 0.1mm
- Laser engraved scale
- Made of stainless steel



Unit: mm

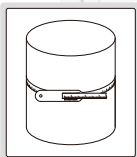
7

Code	Circumference range	Diameter range	Accuracy	
			circumference	diameter
7115-950 *	150-950mm	Ø50-300mm	±0.60mm	±0.20mm
7115-2200	940-2200mm	Ø300-700mm	±0.60mm	±0.20mm
7115-3460	2190-3460mm	Ø700-1100mm	±0.60mm	±0.20mm
7115-4720	3450-4720mm	Ø1100-1500mm	±0.90mm	±0.30mm
7115-5980	4710-5980mm	Ø1500-1900mm	±0.90mm	±0.30mm
7115-7230	5970-7230mm	Ø1900-2300mm	±1.05mm	±0.35mm
7115-8500	7220-8500mm	Ø2300-2700mm	±1.20mm	±0.40mm
7115-9760	8490-9760mm	Ø2700-3100mm	±1.35mm	±0.45mm
7115-11010	9730-11010mm	Ø3100-3500mm	±1.50mm	±0.50mm

\*When diameter range is Ø50-100mm, the accuracy of circumference is ±0.90mm, diameter is ±0.30mm

## CIRCUMFERENCE TAPES

**INSIZE PLUS**  
MADE IN EUROPE



7116-115

- Measure diameter of cables, thin plastic pipes, etc., which may deform
- Laser engraved scale
- Made of stainless steel



Unit: mm

Code	Diameter range	Graduation	Accuracy
7116-115	Ø20-115mm	0.05mm	±0.10mm
7116-230	Ø100-230mm	0.05mm	±0.10mm
7116-330	Ø200-330mm	0.05mm	±0.15mm
7116-620	Ø300-620mm	0.05mm	±0.20mm

REFER TO PAGE 420  
FOR DETAILS

### TAPER GAGES



front back

TAPER GAGE SET  
4837-1

REFER TO PAGE 421  
FOR DETAILS

### TAPER BORE GAGES



4852-15

REFER TO PAGE 421  
FOR DETAILS

### SMALL TAPER BORE GAGE



4855-5

REFER TO PAGE 429  
FOR DETAILS

### INSIDE SPRING CALIPERS



7261-150