INSIDE GROOVE VERNIER CALIPER
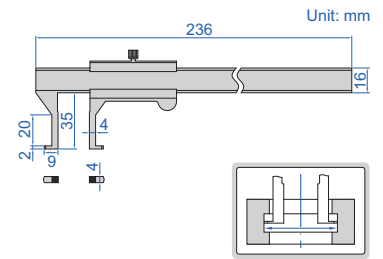
- Measure diameter of grooves inside bores
- Made of stainless steel
- Satin chrome plated reading surface
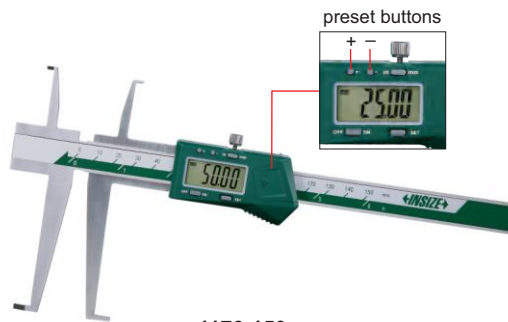
1262-150A

Unit: mm

236 · 16 · 35 · 4 · 2 · 20 · 9 · 4

Code	Range	Graduation	Accuracy
1262-150A	18-150mm	0.02mm	±0.04mm

DIGITAL INSIDE GROOVE CALIPERS

preset buttons

+ −

1176-150

1176-150P

depth stop **6143** (**optional**)

Unit: mm

L · 4 · a · 1.5 · 3.5 · 30 · 5 · 16 · 12.5 · 70 · 8.5 · 2.5 · 4 · a

type A

Unit: mm
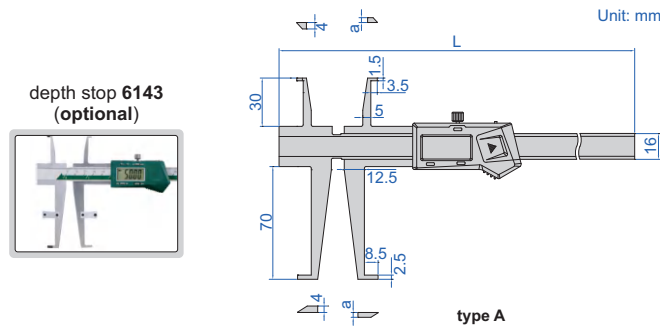
260 · 4 · a · 1.5 · 3.5 · 30 · 5 · 16 · 12.5 · 70 · 8.5 · 2.5 · 4 · a
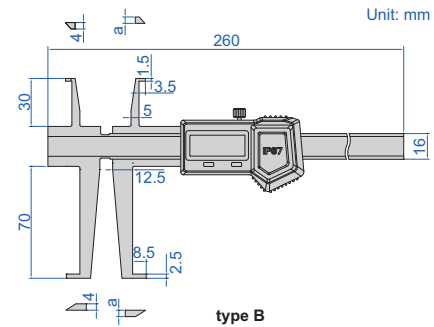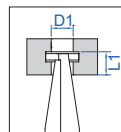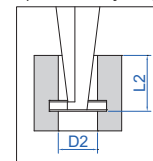
type B

- Measure diameter of grooves inside bores
- Resolution: 0.01mm/0.0005"
- Buttons type A: on/off, set, mm/inch, preset (+, -)
  type B: on/off, zero, mm/inch, ABS/REL, hold
- Battery CR2032
- Made of stainless steel
- Optional accessory: depth stop (code **6143**)

sizes to be measured (use upper jaws)

D1 · L1

(mm)	
D1	**L1**
Ø9	<8
Ø10	<15
Ø11~200	<30

sizes to be measured (use lower jaws)

D2 · L2

(mm)	
D2	**L2**
Ø17	<16
Ø18	<28
Ø19	<40
Ø20	<50
Ø21	<58
Ø22~200	<70

Non waterproof, with data interface
(optional data output cable: code 7315-25 receiver is needed page 5, 7214-25 page 11, 7302-21 page 20)

Code	Range of upper jaw	Range of lower jaw	Type	Accuracy	L	a
1176-150	9-150mm/0.35-6"	17-150mm/0.70-6"	A	±0.04mm	260mm	3mm
1176-200	9-200mm/0.35-8"	17-200mm/0.70-8"	A	±0.05mm	320mm	3.5mm

Non waterproof, built-in wireless (receiver code 7315-2/3/6/7/8/9 is needed)

Code	Range of upper jaw	Range of lower jaw	Type	Accuracy	L	a
1176-150WL	9-150mm/0.35-6"	17-150mm/0.70-6"	A	±0.04mm	260mm	3mm
1176-200WL	9-200mm/0.35-8"	17-200mm/0.70-8"	A	±0.05mm	320mm	3.5mm

IP67 dust/waterproof, without data interface, no automatic power off, set zero after power on each time

Code	Range of upper jaw	Range of lower jaw	Type	Accuracy	a
1176-150P	9-150mm/0.35-6"	17-150mm/0.70-6"	B	±0.04mm	4mm

INSIDE GROOVE CALIPERS

Unit: mm

depth stop **6143**
(**optional**)

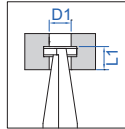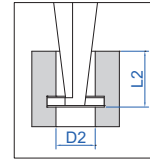**1199-150**

- Measure diameter of grooves inside bores
- Graduation: 0.02mm
- Made of stainless steel
- Optional accessory: depth stop (code **6143**)
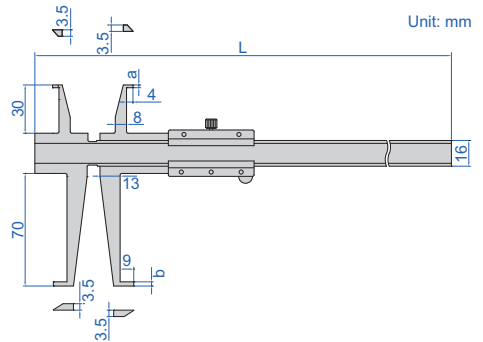
sizes to be measured
(use upper jaws)

(mm)

D1	L1
Ø9	<8
Ø10	<12
Ø11	<15
Ø12	<20
Ø13~300	<30

sizes to be measured
(use lower jaws)

(mm)

D2	L2
Ø18	<30
Ø19	<40
Ø20	<45
Ø21	<55
Ø22	<60
Ø23~300	<70

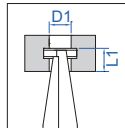| Code	Range of upper jaw	Range of lower jaw	Accuracy	L	a	b
1199-150	9-150mm	18-150mm	±0.04mm	248mm	1.6mm	2.5mm
1199-200	9-200mm	18-200mm	±0.05mm	298mm	1.8mm	2.8mm
1199-300	9-300mm	18-300mm	±0.06mm	398mm	2.0mm	3.0mm

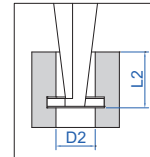# INSIDE GROOVE DIAL CALIPERS

SHOCK PROOF

Unit: mm
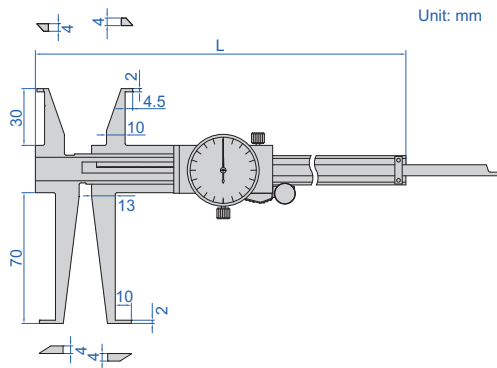
1376-150

- Measure diameter of grooves inside bores
- Shockproof dial indicator
- Dial indicator graduation: 0.02mm
- Made of stainless steel
- Optional accessory: depth stop (code **6143**)

sizes to be measured
(use upper jaws)

(mm)

D1	L1
Ø11	<8
Ø12	<10
Ø13	<15
Ø14	<20
Ø15~300	<30

sizes to be measured
(use lower jaws)

(mm)

D2	L2
Ø18	<20
Ø19	<28
Ø20	<35
Ø21	<40
Ø22	<50
Ø23~300	<70

Code	Range of upper jaw	Range of lower jaw	Accuracy	L
1376-150	11-150mm	18-150mm	±0.03mm	240mm
1376-200	11-200mm	18-200mm	±0.03mm	290mm
1376-300	11-300mm	18-300mm	±0.04mm	390mm

DATA
OUTPUT

DIGITAL INSIDE GROOVE CALIPERS

preset buttons

1191-150

1191-150B

Unit: mm

236

type A

Unit: mm

233

type B

measure depth of grooves
(h<10mm, only for type B)
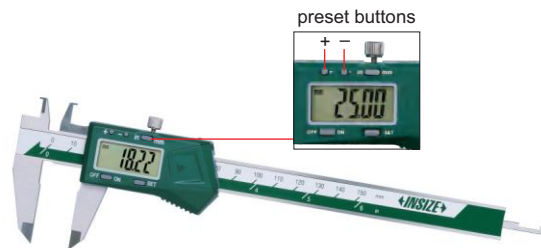
measure diameter of
grooves 8-150mm
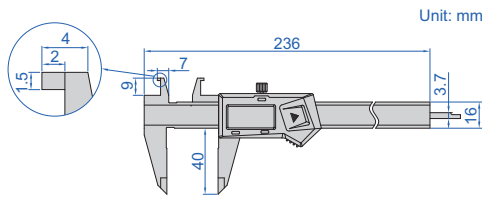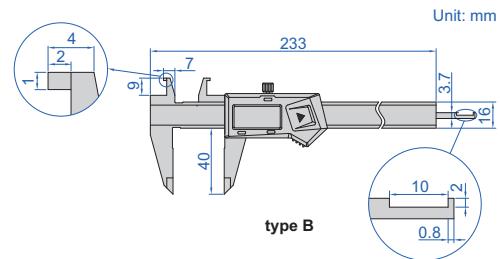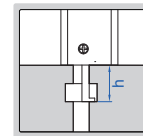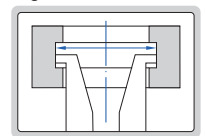
- Non waterproof
- Upper jaws for measuring diameter of grooves
- Resolution: 0.01mm/0.0005"
- Buttons type A: on/off, zero, mm/inch
  - type B: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital
  unit to turn on power
- Battery CR2032
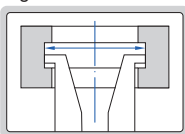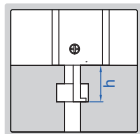- Made of stainless steel

With data interface
(optional data output cable: code 7315-25 receiver is needed page 5, 7214-25 page 11, 7302-21 page 20)

Code	Range of upper jaw	Range of lower jaw	Accuracy	Type
1191-150	8-150mm/0.3-6"	0-150mm/0-6"	±0.03mm	A
1191-150B	8-150mm/0.3-6"	0-150mm/0-6"	±0.03mm	B

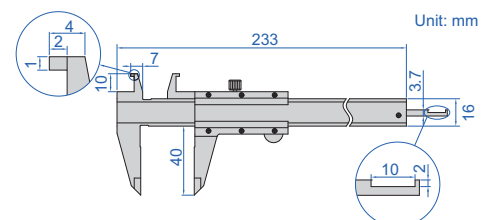**Built-in wireless (receiver code 7315-2/3/6/7/8/9 is needed)**

Code	Range of upper jaw	Range of lower jaw	Accuracy	Type
1191-150WL	8-150mm/0.3-6"	0-150mm/0-6"	±0.03mm	A
1191-150BWL	8-150mm/0.3-6"	0-150mm/0-6"	±0.03mm	B

INSIDE GROOVE VERNIER CALIPER

measure diameter of
grooves 8-150mm

measure depth of
grooves (h<10mm)

1291-150

- Graduation: 0.02mm
- Made of stainless steel
- Satin chrome plated reading surface

Code	Range of upper jaw	Range of lower jaw	Accuracy
1291-150	8-150mm	0-150mm	±0.03mm

Unit: mm

233
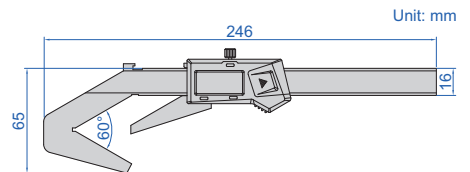
DIGITAL V SHAPE CALIPER

1539-3

- Non waterproof
- Measure outside diameter of three number of flutes (such as taps, reamers, end mills and gears)
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Battery CR2032
- Automatic power off, move the digital unit to turn on power
- Data output
- Made of stainless steel
- Optional accessory:
  wireless transmitter code **7315-25** (receiver is needed) page 5,
  bluetooth transmitter code **7214-25** page 11,
  data output cable code **7302-21** page 20

Unit: mm

246

65

60°

16

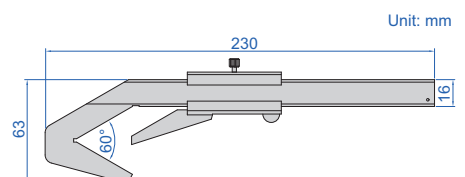| Code	Range	Accuracy
1539-3	Ø4-Ø40mm/0.16"-1.58" DIA	±0.03mm

V SHAPE VERNIER CALIPER

1273-403

- Measure outside diameter of three number of flutes (such as taps, reamers, end mills and gears)
- Made of stainless steel
- Satin chrome plated reading surface

Unit: mm

230

63

60°

16

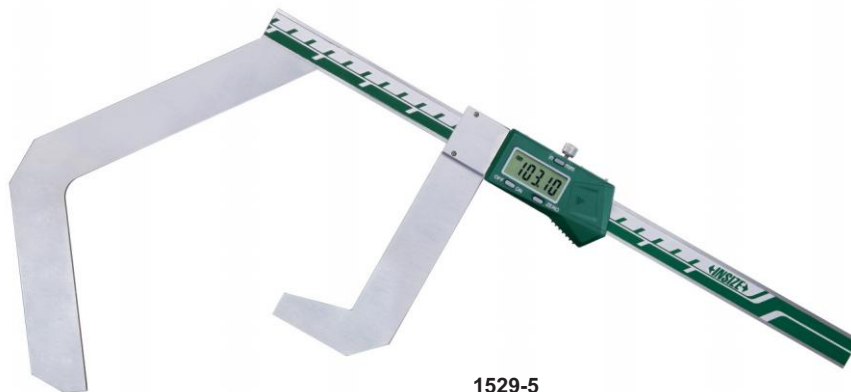| Code	Range	Graduation	Accuracy
1273-403	Ø4-40mm	0.05mm	±0.05mm

DIGITAL V TYPE CALIPERS

| DIRECT READING, CALCULATION IS NOT REQUIRED | DATA OUTPUT |

VIDEO

1529-5

Unit: mm

- Non waterproof
- Measure the outside diameter of odd number of flutes (such as taps, reamers, end mills and gears)
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Battery CR2032
- Automatic power off, move the digital unit to turn on power
- Data output
- Made of stainless steel
- Optional accessory: Ø50mm calibration cylinder (code **6316-50**), wireless transmitter code **7315-25** (receiver is needed) page 5, bluetooth transmitter code **7214-25** page 11, data output cable code **7302-21** page 20
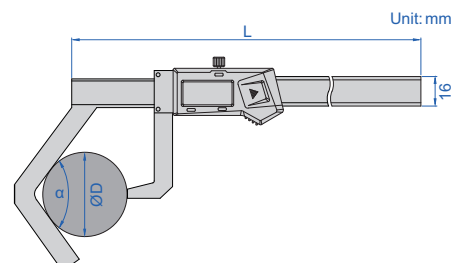
Ø50mm calibration cylinder (code **6316-50**, **optional**)

| Code	Range (ØD)	Flutes	Accuracy	Angle α	L
1529-3	Ø50-Ø200mm/2-8" DIA	3	±0.06mm	60°	390mm
1529-5	Ø50-Ø200mm/2-8" DIA	5	±0.06mm	108°	318mm
1529-19	Ø50-Ø200mm/2-8" DIA	19	±0.06mm	85°15'47"	336mm
1529-23	Ø50-Ø200mm/2-8" DIA	23	±0.06mm	70°26'5"	362mm
1529-31	Ø50-Ø200mm/2-8" DIA	31	±0.06mm	75°29'2"	355mm

V SHAPE VERNIER CALIPERS

- Measure outside diameter of odd number of flutes (such as taps, reamers, end mills and gears)
- Made of stainless steel
- Satin chrome plated reading surface
- Optional accessory: 4mm pin gauge (code **4110-4D00**), Ø50mm calibration cylinder (code **6316-50**)
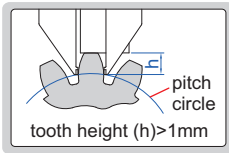

1229-3

Code	Range (ØD)	Graduation	Accuracy	Flutes	Angle α	L	c
1229-3	Ø4-60mm	0.02mm	±0.04mm	3	60°	260mm	16mm
1229-35	Ø50-200mm	0.02mm	±0.06mm	3	60°	516mm	20mm
1229-5	Ø4-60mm	0.02mm	±0.04mm	5	108°	210mm	16mm
1229-55	Ø50-200mm	0.02mm	±0.06mm	5	108°	360mm	20mm
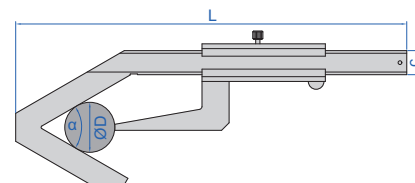
DIGITAL GEAR TOOTH CALIPERS

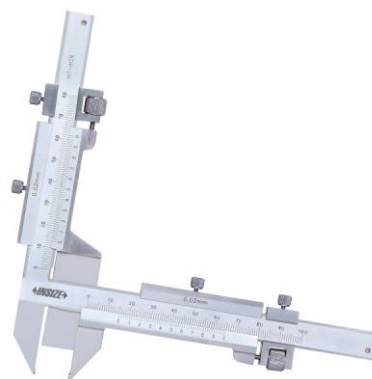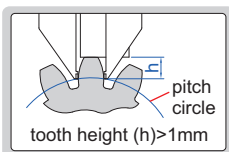tooth height (h)>1mm
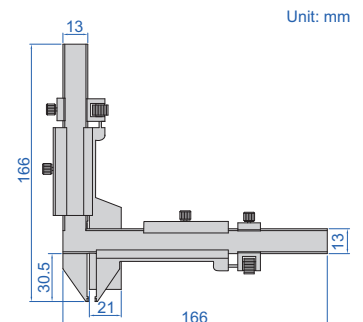
pitch circle

h

1181-M25A

b2

L2

b1

d

a

L1
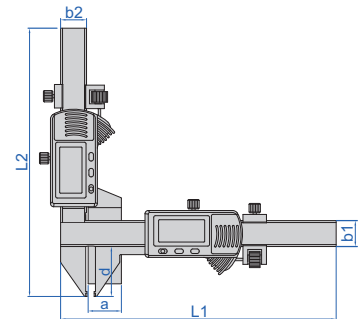
- Non waterproof
- Resolution: 0.01mm/0.0005"
- Carbide tips
- Measure the tooth thickness by positioning the tooth height (for tooth height>1mm)
- Buttons: zero, on/off, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel

Code	Range	Accuracy of height measurement	Accuracy of thickness measurement	Total accuracy	L1	L2	a	b1	b2	d
1181-M25A	M1-25mm	±0.03mm	±0.03mm	±0.04mm	170mm	165.5mm	21mm	16mm	16mm	30.5mm
1181-M50A	M5-50mm	±0.03mm	±0.03mm	±0.04mm	220mm	190mm	50.5mm	16mm	16mm	55mm

GEAR TOOTH VERNIER CALIPER

tooth height (h)>1mm

pitch circle

h

1281-M26A

Unit: mm

13

166

30.5

21

166

13

- Carbide tips
- Measure the tooth thickness by positioning the tooth height (for tooth height>1mm)
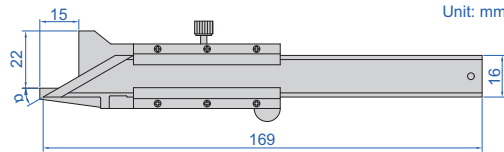- Made of stainless steel
- Satin chrome plated reading surface

| Code	Range	Graduation	Accuracy of height measurement	Accuracy of thickness measurement	Total accuracy
1281-M26A	M1-26mm	0.02mm	±0.03mm	±0.03mm	±0.04mm

CHAMFER GAUGES
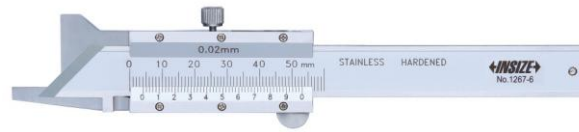
1267-6

- Measure 30º/45º/60º chamfer dimension
- Graduation: 0.02mm
- Made of stainless steel
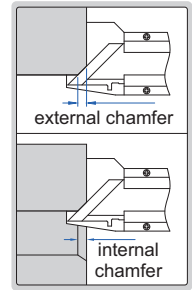- Satin chrome plated reading surface

Unit: mm

15 · 22 · D · 169 · 16

for internal chamfer measurement, diameter should be larger than ØD

ØD

measure chamfer dimension

external chamfer

internal chamfer

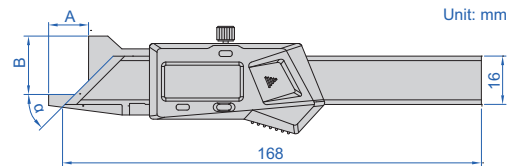| Code	Range	Accuracy	Chamfer (α)	ØD
1267-6	0-10mm	±0.06mm	45º	7mm
1267-63	0-10mm	±0.06mm	30º	8mm
1267-66	0-10mm	±0.06mm	60º	7mm
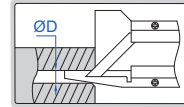
9

# DIGITAL CHAMFER GAUGES

DATA OUTPUT

1180-6

- Non waterproof
- Measure 15º/20º/30º/45º/60º chamfer dimension
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel

Unit: mm

A · B · D · 168 · 16

for internal chamfer measurement, diameter should be larger than ØD

ØD

measure chamfer dimension

external chamfer α

internal chamfer α

external chamfer

internal chamfer
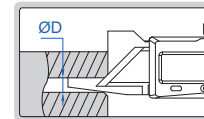
With data interface (optional data output cable: code 7315-25 receiver is needed page 5, 7214-25 page 11, 7302-21 page 20)

Code	Range	Accuracy	Chamfer (α)	A	B	ØD
1180-6	0-10mm/0-0.39"	±0.06mm	45º	15mm	22mm	7mm
1180-61	0-10mm/0-0.39"	±0.06mm	15º	33mm	20mm	11mm
1180-62	0-10mm/0-0.39"	±0.06mm	20º	33mm	20mm	11mm
1180-63	0-10mm/0-0.39"	±0.06mm	30º	15mm	22mm	8mm
1180-66	0-10mm/0-0.39"	±0.06mm	60º	14mm	21mm	7mm

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is needed)

Code	Range	Accuracy	Chamfer (α)	A	B	ØD
1180-6WL	0-10mm/0-0.39"	±0.06mm	45º	15mm	22mm	7mm
1180-61WL	0-10mm/0-0.39"	±0.06mm	15º	33mm	20mm	11mm
1180-62WL	0-10mm/0-0.39"	±0.06mm	20º	33mm	20mm	11mm
1180-63WL	0-10mm/0-0.39"	±0.06mm	30º	15mm	22mm	8mm
1180-66WL	0-10mm/0-0.39"	±0.06mm	60º	14mm	21mm	7mm

243
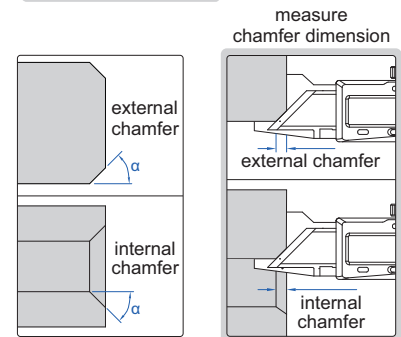
MARKING GAUGES

7120-200A

- Made of carbon steel
- Stainless steel chrome plated

Code	Range	Graduation	Accuracy	L	W
7120-200A	0-200mm	0.1mm	±0.1mm	250mm	40mm
7120-250A	0-250mm	0.1mm	±0.1mm	300mm	40mm
7120-300A	0-300mm	0.1mm	±0.1mm	350mm	40mm
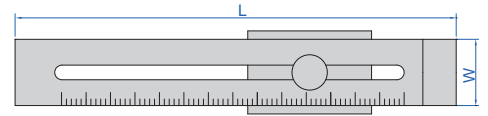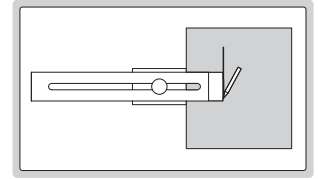
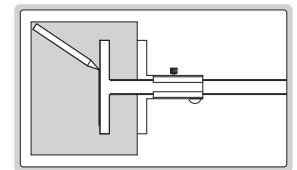# T-SHAPE MARKING GAUGE

1275-150B

- Made of stainless steel
- Satin chrome plated reading surface

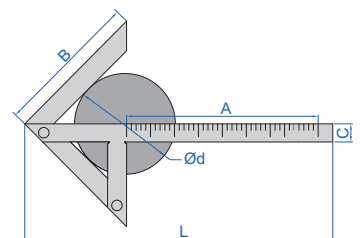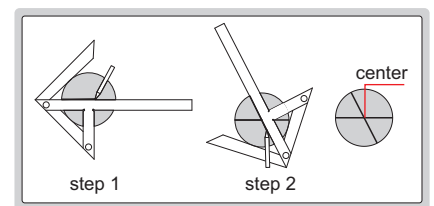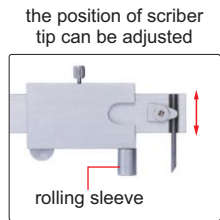| Code	Range	Graduation	Accuracy
1275-150B	0-150mm	0.02mm	±0.04mm

Unit: mm
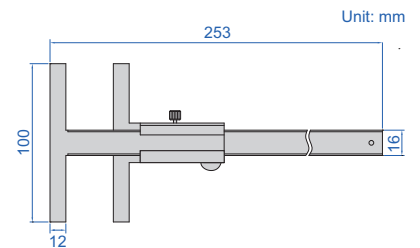
CENTER MARKING GAUGES

7205-100

- Marking the center of round plates and shafts
- Made of stainless steel
- Satin chrome plated

Code	Size (AxB)	Diameter of shafts (Ød)	Accuracy	C	L
7205-100	100x70mm	4-90mm	±0.15mm	12mm	153mm
7205-150	150x130mm	4-190mm	±0.15mm	15mm	245mm
7205-200	200x150mm	6-220mm	±0.15mm	15mm	310mm
7205-300	300×180mm	6-270mm	±0.15mm	20mm	435mm

step 1   step 2   center

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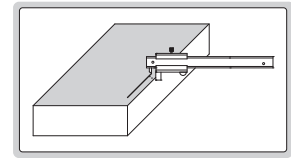# SCRIBING CALIPER

the position of scriber tip can be adjusted

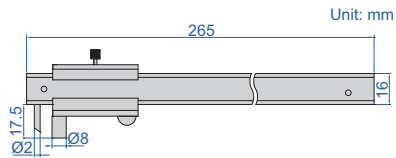rolling sleeve

- Made of stainless steel
- Satin chrome plated reading surface
- Carbide scriber tip
- Optional accessory: carbide scriber tip (code **SP-SCRIBER-7202**)

7202-200A

Unit: mm

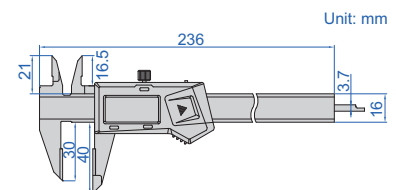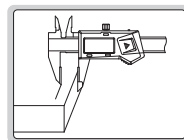| Code	Range	Graduation	Accuracy
7202-200A	0-200mm/0-8"	0.1mm, 1/128"	±0.1mm

DIGITAL SCRIBING CALIPER

- Non waterproof
- The carbide-tipped jaws facilitate scribing on workpieces
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
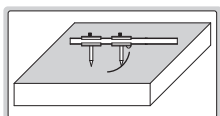- Battery CR2032
- Made of stainless steel

carbide measuring faces

1166-150A

Unit: mm

Code	Range	Accuracy
1166-150A	0-150mm/0-6"	±0.03mm

SCRIBING CALIPER

7203-300A

- Made of stainless steel
- Satin chrome plated reading surface
- Hardened scriber tips

Unit: mm

Code	Range	Graduation	Accuracy
7203-300A	51-300mm	0.1mm	±0.1mm

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