+INSIZE+

## INDICATING MEASURING INSTRUMENTS



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External Caliper Gages Page 284-285



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Rubber Thickness Gages Page 292



Tube Thickness Gages Page 293-294



Saw Teeth Setting Gages Page 294



Snap Gages Page 294-297



Step And Gap Gages Page 298



Mini Digital Height Gages Page 298-299



Height Gages Page 299-300



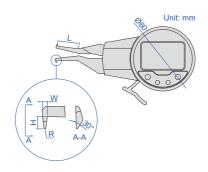
Crankshaft Testers Page 300



#### **DIGITAL INTERNAL CALIPER GAGES**

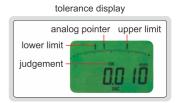






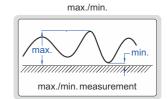
- Resolution: 0.005mm/0.0002"
- Reading in digit and analog
   Display can be rotated by 170°
- Button function: tolerance Go and No-Go display, data preset, max./min. measurement, data holding, inch/metric conversion, absolute/incremental measurement
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code 7315-30 need receiver page 4, 7302-30 page 12)





(mm)

Code	Range	Accuracy	Repeatability	L	Н	W	R
2121-15	5-15mm/0.2-0.6"	±0.03mm	0.01mm	20	2	1.5	R0.3
2121-25	5-25mm/0.2-1.0"	±0.03mm	0.01mm	35	1.5	1.0	R0.3
2121-31	10-30mm/0.4-1.2"	±0.03mm	0.01mm	55	5.5	2.5	R0.5
2121-41	20-40mm/0.8-1.6"	±0.03mm	0.01mm	80	6.0	3.0	R0.5
2121-51	30-50mm/1.2-2.0"	±0.03mm	0.01mm	80	8.0	3.0	R0.5
2121-61	40-60mm/1.6-2.4"	±0.03mm	0.01mm	80	8.0	3.0	R0.5

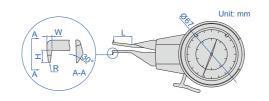


12

#### **INTERNAL DIAL CALIPER GAGES**



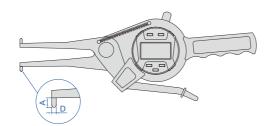
2222-15



							(
Code	Range	Graduation	Accuracy	L	Н	W	R
2222-15	5-15mm	0.01mm	±0.03mm	20	2	1.5	R0.3
2222-25	5-25mm	0.01mm	±0.03mm	35	1.5	1.0	R0.3
2222-301	10-30mm	0.01mm	±0.03mm	55	5.5	2.5	R0.5
2222-401	20-40mm	0.01mm	±0.03mm	80	6.0	3.0	R0.5
2222-501	30-50mm	0.01mm	±0.03mm	80	8.0	3.0	R0.5
2222-60	40-60mm	0.01mm	±0.03mm	80	8.0	3.0	R0.5



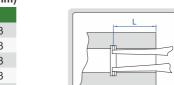




- Carbide measuring tips
   Reading in digit and analog
   With transmission button and signal light
   Display can be rotated by 320°
- Button function: on/off, zero, tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, data output, absolute/incremental measurement
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-50M page 13)

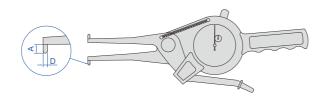


**DIGITAL INTERNAL CALIPER GAGES** 



						(mm)
Code	Range	Resolution	Accuracy	L	Α	D
2151-35	15-35mm/0.6-1.4"	0.01mm/0.0005"	±0.04mm	<50	3	Ø3
2151-AL35	15-35mm/0.6-1.4"	0.01mm/0.0005"	±0.04mm	<200	3	Ø3
2151-55	35-55mm/1.4-2.2"	0.01mm/0.0005"	±0.04mm	<80	6	Ø3
2151-AL55	35-55mm/1.4-2.2"	0.01mm/0.0005"	±0.04mm	<250	8	Ø3
2151-75	55-75mm/2.2-3"	0.01mm/0.0005"	±0.04mm	<90	8	Ø3
2151-AL75	55-75mm/2.2-3"	0.01mm/0.0005"	±0.04mm	<250	8	Ø3
2151-95	75-95mm/3-3.8"	0.01mm/0.0005"	±0.04mm	<100	8	Ø3
2151-115	95-115mm/3.8-4.6"	0.01mm/0.0005"	±0.04mm	<120	10	Ø3.2
2151-135	115-135mm/4.6-5.4"	0.01mm/0.0005"	±0.04mm	<120	10	Ø3.2

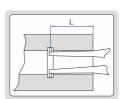
#### **INTERNAL DIAL CALIPER GAGES**





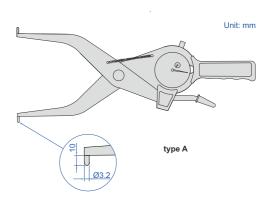
■ Carbide measuring tips

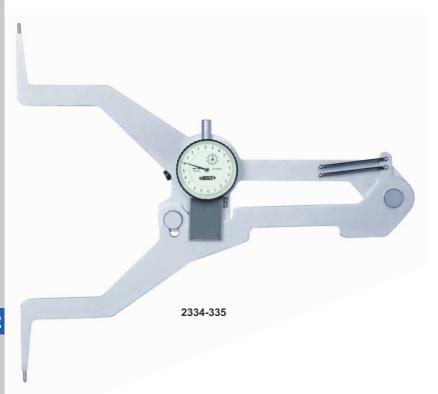
						(mm)
Code	Range	Graduation	Accuracy	L	Α	D
2321-35	15-35mm	0.01mm	±0.04mm	<50	3	Ø3
2321-AL35	15-35mm	0.01mm	±0.04mm	<200	3	Ø3
2321-55	35-55mm	0.01mm	±0.04mm	<80	6	Ø3
2321-AL55	35-55mm	0.01mm	±0.04mm	<250	8	Ø3
2321-75	55-75mm	0.01mm	±0.04mm	<90	8	Ø3
2321-AL75	55-75mm	0.01mm	±0.04mm	<250	8	Ø3
2321-95	75-95mm	0.01mm	±0.04mm	<100	8	Ø3
2321-115	95-115mm	0.01mm	±0.04mm	<120	10	Ø3.2
2321-135	115-135mm	0.01mm	±0.04mm	<120	10	Ø3.2

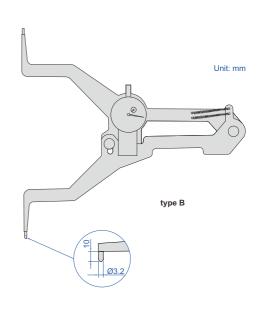


#### LARGE RANGE INTERNAL DIAL CALIPER GAGES



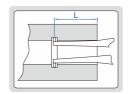






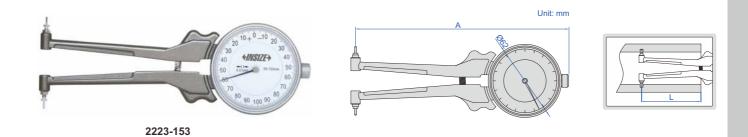
#### ■ Carbide measuring tips

					(mm)
Code	Range	Graduation	Accuracy	Type	L
2334-155	135-155mm	0.01mm	±0.04mm	Α	<200
2334-175	155-175mm	0.01mm	±0.04mm	Α	<200
2334-195	175-195mm	0.01mm	±0.04mm	Α	<200
2334-215	195-215mm	0.01mm	±0.04mm	Α	<200
2334-235	215-235mm	0.01mm	±0.04mm	Α	<200
2334-255	235-255mm	0.01mm	±0.04mm	Α	<200
2334-275	255-275mm	0.01mm	±0.04mm	Α	<200
2334-295	275-295mm	0.01mm	±0.04mm	Α	<200
2334-315	295-315mm	0.01mm	±0.04mm	Α	<200
2334-335	315-335mm	0.01mm	±0.04mm	В	<200
2334-355	335-355mm	0.01mm	±0.04mm	В	<200
2334-375	355-375mm	0.01mm	±0.04mm	В	<200

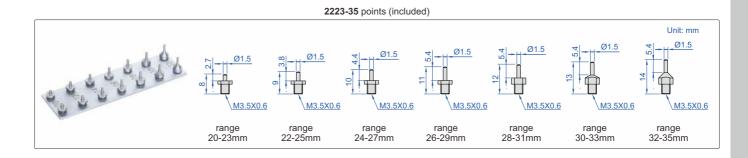


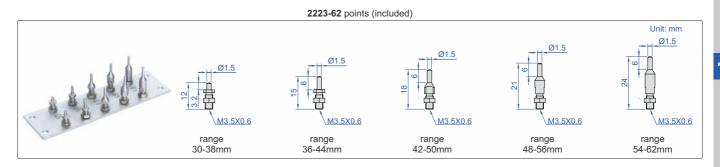
12

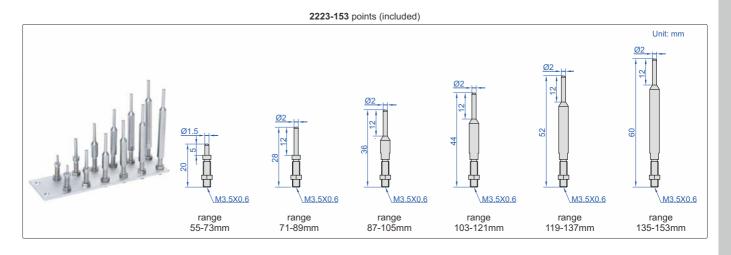
#### INTERNAL DIAL CALIPER GAGES WITH INTERCHANGEABLE POINTS



Code	Range	Dial indicator range	Graduation	Accuracy	Α	L	Remark
2223-35	20-35mm	2mm	0.01mm	±0.02mm	164mm	<70mm	supplied with 7 pairs of points
2223-62	30-62mm	2mm	0.01mm	±0.02mm	170mm	<75mm	supplied with 5 pairs of points
2223-153	55-153mm	2mm	0.01mm	±0.02mm	179mm	<90mm	supplied with 6 pairs of points

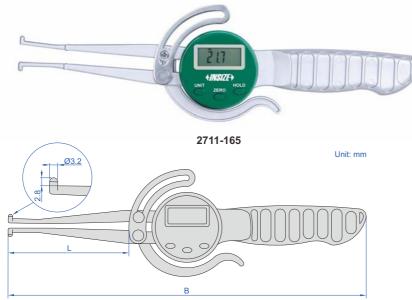




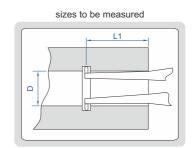




#### **DIGITAL INTERNAL CALIPER GAGES (ECONOMIC TYPE)**



0.1mm/0.01"



(mm)

<85

Code 2711-165

Ø29~165

D L1 Ø13 <42 Ø15 <45 ■ Button function: on/off, zero, mm/inch, data hold ■ Battery CR2032, automatic power off Ø17 <50 Ø20 <60 (mm) Repeatability Code Range Resolution **Accuracy** Ø25 <75 2711-165 12.7-165mm/0.5-6.5" 252 Ø27 0.1mm/0.01' ±0.3mm 0.2mm 85 <80

±0.3mm

0.2mm

160

327

#### **DIGITAL EXTERNAL CALIPER GAGES**

12.7-216mm/0.5-8.5"



(mm)

L1

<50

<55

<60

<65

<75

<95

<160

Code 2711-216

D

Ø13

Ø15

Ø17

Ø20

Ø25

Ø30

Ø35~216

- Resolution: 0.005mm/0.0002"
- Reading in digit and analog
   Display can be rotated by 170°
- Button function: tolerance Go and No-Go display, data preset, max./min. measurement, data holding, inch/metric conversion, absolute/incremental measurement
- CR2032 battery, automatic power off
- Data output

12

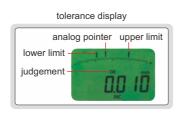
2711-216

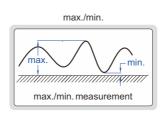
Optional accessory: data output cable (code 7315-30 need receiver page 4, 7302-30 page 12)



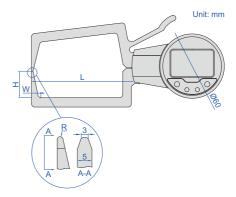
2131-21





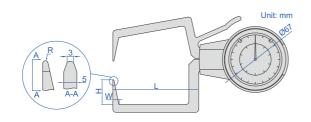


Code	Range	Accuracy	Repeatability	L	Н	W	R
2131-21	0-20mm/0-0.8"	±0.03mm	0.01mm	80mm	25mm	6.5mm	R0.5mm
2131-31	10-30mm/0.4-1.2"	±0.03mm	0.01mm	80mm	25mm	6.5mm	R0.5mm
2131-41	20-40mm/0.8-1.6"	±0.03mm	0.01mm	80mm	25mm	6.5mm	R0.5mm
2131-51	30-50mm/1.2-2.0"	±0.03mm	0.01mm	80mm	25mm	6.5mm	R0.5mm
2131-61	40-60mm/1.6-2.4"	±0.03mm	0.01mm	80mm	25mm	6.5mm	R0.5mm



### +INSIZE+

#### **EXTERNAL DIAL CALIPER GAGES**



							(mm)
Code	Range	Graduation	Accuracy	L	Н	W	R
2333-201	0-20mm	0.01mm	±0.03mm	80	25	6.5	R0.5
2333-301	10-30mm	0.01mm	±0.03mm	80	25	6.5	R0.5
2333-401	20-40mm	0.01mm	±0.03mm	80	25	6.5	R0.5
2333-501	30-50mm	0.01mm	±0.03mm	80	25	6.5	R0.5
2333-601	40-60mm	0.01mm	±0.03mm	80	25	6.5	R0.5



2333-201

**DIGITAL EXTERNAL CALIPER GAGES** 

#### DATA OUTPUT

- Carbide measuring tips
- Reading in digit and analog
- With transmission button and signal light
- Display can be rotated by 320°
- 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, data output
- CR2032 battery
- Automatic power off (time is adjustable)
- Data output

2132-80

2132-100

 Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-50M page 13)

60-80mm/2.4-3.2"

80-100mm/3.2-4"



0.01mm/0.0005"

0.01mm/0.0005"

±0.04mm

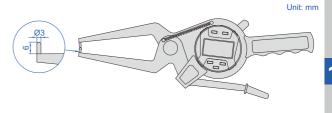
±0.04mm



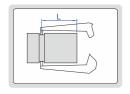
<55mm

<55mm





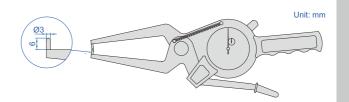
#### **EXTERNAL DIAL CALIPER GAGES**



Carbide measuring tips

				(mm)
Code	Range	Graduation	Accuracy	L
2332-20	0-20mm	0.01mm	±0.04mm	<60
2332-40	20-40mm	0.01mm	±0.04mm	<60
2332-60	40-60mm	0.01mm	±0.04mm	<55
2332-80	60-80mm	0.01mm	±0.04mm	<55
2332-100	80-100mm	0.01mm	±0.04mm	<55





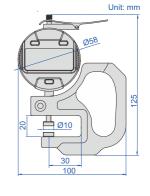


#### **DIGITAL THICKNESS GAGES**

- Ceramic spindle tip and anvil
- Button function: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-50M page 13)

Code	Range	Resolution	Accuracy
2871-10	0-10mm/0-0.4"	0.01mm/0.0005"	±0.02mm
2871-101	0-10mm/0-0.4"	0.001mm/0.00005"	±0.005mm

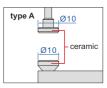


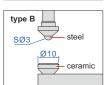


DATA OUTPUT

2871-101

#### THICKNESS GAGES





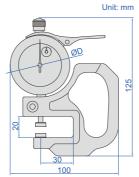
Code

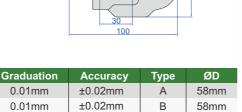
12

2364-10

2364-1

2364-10B





Α

56mm

±0.005mm





2364-10 2364-1

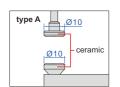
#### **THICKNESS GAGES**

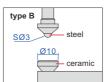
Range

0-10mm

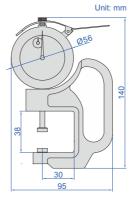
0-10mm

0-1mm





0.001mm



Code	Range	Graduation	Accuracy	Туре
2366-30	0-30mm	0.01mm	±0.035mm	Α
2366-30B	0-30mm	0.01mm	±0.035mm	В

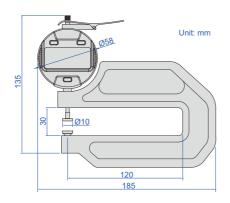


2366-30

#### DATA OUTPUT

measuring tips and anvils can be custom-made





- Ceramic spindle tip and anvil
   Buttons: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
- Battery CR2032, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-50M page 13)

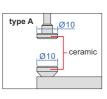
#### **DIGITAL THICKNESS GAGES**

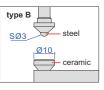


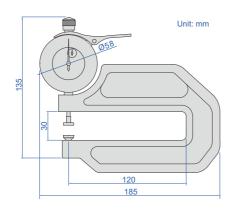
2872-10

Code	Range	Resolution	Accuracy
2872-10	0-10mm/0-0.4"	0.01mm/0.0005"	±0.02mm
2872-101	0-10mm/0-0.4"	0.001mm/0.00005"	±0.01mm

#### THICKNESS GAGES





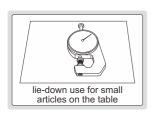


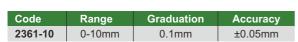
Code	Range	Graduation	Accuracy	Type
2365-10	0-10mm	0.01mm	±0.02mm	Α
2365-20	0-20mm	0.01mm	±0.03mm	Α
2365-10B	0-10mm	0.01mm	±0.02mm	В
2365-20B	0-20mm	0.01mm	±0.03mm	В

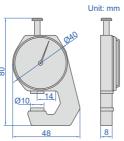


custom-made 2365-10

#### **SUITABLE FOR JEWELLERY**









2361-10

#### THICKNESS GAGE





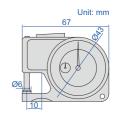
#### THICKNESS GAGE

■ Stainless steel spindle tip and anvil

Code	Range	Graduation	Accuracy
2363-10	0-10mm	0.01mm	±0.03mm



2363-10



#### **DIGITAL ROLLER THICKNESS GAGES**

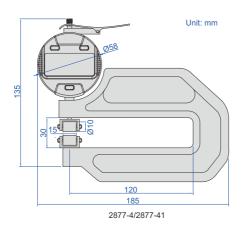




2877-4



2877-10



Unit: mm

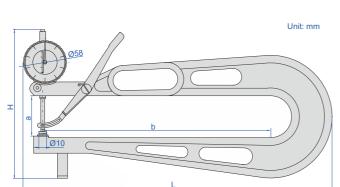
- Buttons: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
- Battery CR2032, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-50M page 13)

Code	Range	Resolution	Accuracy
2877-4	0-4.5mm/0-0.18"	0.01mm/0.0005"	±0.02mm
2877-41	0-4.5mm/0-0.18"	0.001mm/0.00005"	±0.01mm
2877-10	0-10mm/0-0.4"	0.01mm/0.0005"	±0.02mm
2877-101	0-10mm/0-0.4"	0.001mm/0.00005"	±0.01mm

#### **THICKNESS GAGES**

**\|\\S\|ZE\\** PLU5 MADE IN EUROPE







2875-30

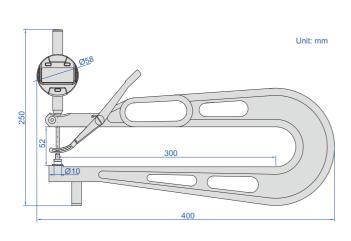
Code	Range	Graduation	Accuracy	L	Н	а	b
2875-30	0-30mm	0.1mm	±0.05mm	400mm	195mm	55mm	300mm
2875-50	0-50mm	0.1mm	±0.05mm	700mm	295mm	75mm	600mm

#### INSPECTION CERTIFICATE



#### **DIGITAL THICKNESS GAGE**

**\|\\S\|ZE\\** PLU5 MADE IN EUROPE





- Buttons: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
   Battery CR2032 , automatic power off (time is adjustable)
- Data output
   Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13)

	Range		Accuracy
2860-25 <sup>*</sup>	0-25.4mm/0-1"	0.01mm/0.0005"	±0.05mm

<sup>\*</sup>Supplied with manufacturer inspection certificate



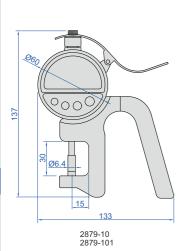
#### HIGH PRECISION DIGITAL THICKNESS GAGES

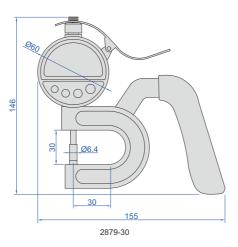
ATTENTION: RECHARGEABLE BATTERY, FOR 12 HOURS CONTINUOUS WORKING

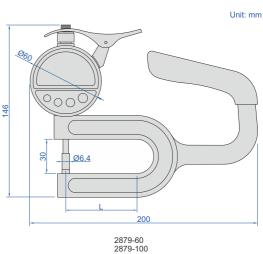
DATA OUTPUT MEASURING TIPS AND ANVILS CAN BE CUSTOM-MADE

ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF









- Absolute encoder, the original data remains after power off
- Button function: on/off, zero, tolerance, absolute/incremental measurement, max./min./TIR, data preset, mm/inch, data output, data hold
- Reading in digital and analog
   Power: rechargeable battery, for 12 hours continuous working
- Data output
- Supplied with data output cable (keyboard format)

Code	Range	Resolution	Accuracy	Repeatability	Measuring force	L
2879-10	0-10mm/0-0.4"	0.001mm/0.00005"	±0.002mm	0.001mm	0.5-1N	_
2879-101	0-10mm/0-0.4"	0.0005mm/0.00002"	±0.0015mm	0.0005mm	0.5-1N	_
2879-30	0-10mm/0-0.4"	0.001mm/0.00005"	±0.002mm	0.001mm	0.5-1N	_
2879-60	0-10mm/0-0.4"	0.001mm/0.00005"	±0.003mm	0.001mm	0.5-1N	60mm
2879-100	0-10mm/0-0.4"	0.001mm/0.00005"	±0.004mm	0.001mm	0.5-1N	100mm



#### **THICKNESS GAGES**



Code	Range	Graduation	Accuracy	L	L1
2862-101	0-10mm	0.05mm	±0.1mm	35mm	85mm
2862-102	0-10mm	0.05mm	±0.1mm	60mm	110mm



2862-101



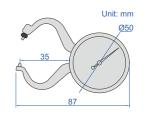
#### THICKNESS GAGE



Code	Range	Graduation	Accuracy
2863-10	0-10mm	0.05mm	±0.1mm



2863-10



#### THICKNESS GAGE WITH POINTED TIPS

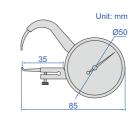
Pointed tips fit into small grooves and recesses



Code	Range	Graduation	Accuracy
2866-10	0-10mm	0.05mm	±0.1mm



2866-10



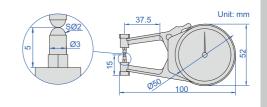
#### THICKNESS GAGE



2870-10

Code	Range	Graduation	Accuracy
2870-10	0-10mm	0.1mm	±0.1mm

■ Main baby is made of hard plastic





#### **DIGITAL THICKNESS GAGE**

- Resolution: 0.01mm, 0.001", 1/64"Buttons: on/off, zero,

Code

2710-25

unit (mm/in/fraction), data hold

Range

0-25.4mm/0-1"

■ Battery CR2032, automatic power off





0.02mm

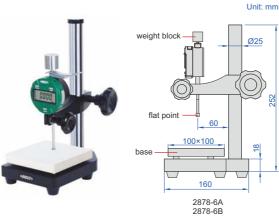




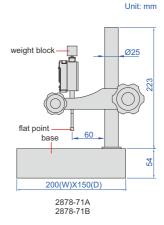
#### **DIGITAL RUBBER THICKNESS GAGES**

0.05mm





2878-71B



2878-6B

- Measure thickness of vulcanized rubber and plastic products
- Button function: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- CR2032 battery, automatic power off (time is adjustable)
- Supplied with dust cover
- Optional accessory: data output cable (code **7315-50M need receiver** page 5, **7302-50M** page 13), flat points, weight blocks

Code	Range	Resolution	Accuracy	Flat point diameter	Pressure	Base
2878-6A	12.7mm/0.5"	0.01mm/0.0005"	20µm	6mm	22kPa±5kPa	ceramic, plain, flatness 1.5µm
2878-6B	12.7mm/0.5"	0.001mm/0.00005"	5µm	6mm	22kPa±5kPa	ceramic, plain, flatness 1.5µm
2878-71A	12.7mm/0.5"	0.01mm/0.0005"	20µm	6mm	22kPa±5kPa	granite, plain, flatness 2.5µm
2878-71B	12.7mm/0.5"	0.001mm/0.00005"	5µm	6mm	22kPa±5kPa	granite, plain, flatness 2.5µm

#### Flat points and weight blocks (optional)

riat points ar	Pressure						
Flat point	Flat point code	10kPa±2kPa	22kPa±5kPa	20kPa±3kPa	70kPa±5kPa	1.6kPa±0.1kPa	
		weight block code					
Ø4mm	2878-P4	_	2878-W4B	_	_	_	
Ø5mm	2878-P5	2878-W5A	2878-W5B	2878-W5C	2878-W5D	_	
Ø6mm	2878-P6	2878-W6A	2878-W6B	_	_	_	
Ø8mm	2878-P8	2878-W8A	2878-W8B	_	_	_	
Ø10mm	2878-P10	2878-W10A	2878-W10B	2878-W10C	_	_	
Ø25mm	2878-P25	_	_	_	_	2878-W25E	
1x4mm (rectangle)	2878-P14	_	_	_	2878-W14D	_	



#### measure wall thickness of grooves



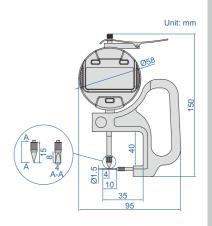


- Buttons: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
- Battery CR2032, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-50M page 13)

Code	Range	Resolution	Accuracy
2873-10	0-10mm/0-0.4"	0.01mm/0.0005"	±0.02mm
2873-101	0-10mm/0-0.4"	0.001mm/0.00005"	±0.005mm

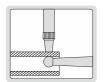
#### **DIGITAL TUBE THICKNESS GAGES**





2873-10

#### DATA OUTPUT



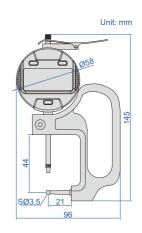
- Buttons: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
- Battery CR2032, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-50M page 13)

Code	Range	Resolution	Accuracy
2876-10	0-10mm/0-0.4"	0.01mm/0.0005"	±0.02mm
2876-101	0-10mm/0-0.4"	0.001mm/0.00005"	±0.005mm

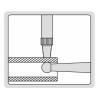
#### **DIGITAL TUBE THICKNESS GAGES**







#### **TUBE THICKNESS GAGE**

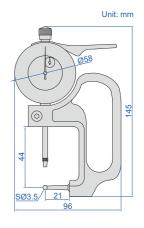


■ Measure tube wall thickness

Code	Range	Graduation	Accuracy
2367-10A	0-10mm	0.01mm	±0.02mm



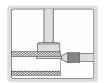
2367-10A



#### **DIGITAL TUBE THICKNESS GAGES**



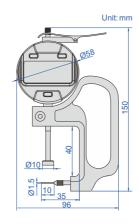




- Buttons: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement

  Keep preset data in memory after restart
- Battery CR2032, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-50M page 13)

Code	Range	Resolution	Accuracy
2859-10	0-10mm/0-0.4"	0.01mm/0.0005"	±0.02mm
2859-101	0-10mm/0-0.4"	0.001mm/0.00005"	±0.005mm





2859-101

#### **SAW TEETH SETTING GAGE**

**♦/NS/ZE→** PLU5 MADE IN EUROPE

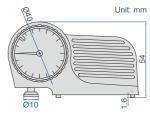


front



back

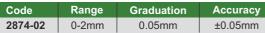
2874-02

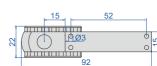


Supplied with limit pointer

■ Read from both sides

Code	Range	Graduation	Accuracy
2074 02	0 2mm	0.05mm	+0.05mm





#### **DIAL SNAP GAGES**

**♦///S/ZE→** PLUS MADE IN EUROPE

12

- Quick Go/No-Go measurement for mass production Anvil retracting stroke: 2.5mm
- Dial indicator: measuring range ±0.07mm,
- graduation 1µm, accuracy ±1µm
   Constant measuring force over the whole range: 8.5N
- Carbide measuring faces
- IP54 dust/waterproof
- Zero position of dial indicator is adjustable and can be locked (supplied with locking wrench)
- Adjustable platform height

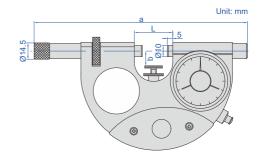
Code	Range	L	а	b
3335-25	0-25mm	35mm	191mm	<15mm
3335-50	25-50mm	60mm	215mm	<25mm
3335-75	50-75mm	84mm	239mm	<37.5mm
3335-100	75-100mm	110mm	265mm	<50mm





3335-25



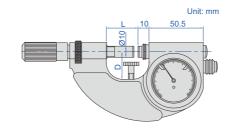




- Quick measurement for mass production
- Dial indicator: range ±0.04mm, graduation 0.001mm, accuracy 0.001mm
- IP54 dust/waterproof
- Measuring force: 5-10N
- Carbide measuring faces
- Optional accessory: gage blocks grade 0 (4101-A series), for zero setting



3334-25



Code	Range	L	D
3334-25	0-25mm	28.5mm	25mm
3334-50	25-50mm	53.5mm	35mm
3334-75	50-75mm	78.5mm	47.5mm
3334-100	75-100mm	103.5mm	60mm

QUICK AND ACCURATE MEASUREMENT OF CYLINDRICAL WORKPIECES



#### **DIAL SNAP GAGES**



- Left anvil retracting stroke: 2mm
- Measuring force: 6-8N
- Flatness of anvil: 1.5µm
- Repeatability: 1µm Carbide measuring faces for anvils
- Front edges of anvils are chamfered for easy workpiece insertion
- Optional accessory: dial indicators and digital indicators (reading 0.001mm or 0.01mm)



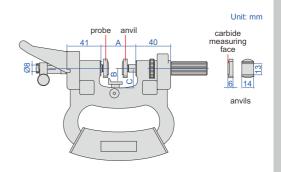
2186-25



(mm)

Code	Range	Parallelism of measuring faces	Α	В	С
2186-25 <b>*</b>	0-25mm	4µm	42	11-18	20
2186-50 <b>*</b>	25-50mm	4µm	69	11-32	41
2186-75 <b>*</b>	50-75mm	5µm	94	17-41	51
2186-100*	75-100mm	6µm	119	31-55	65
2186-125 *	100-125mm	6µm	144	42-70	75
2186-150 *	125-150mm	8µm	169	55-82	90
2186-175 *	150-175mm	8µm	194	68-95	100
2186-200 *	175-200mm	10μm	219	85-110	115
2186-225*	200-225mm	10μm	244	95-120	130
2186-250 *	225-250mm	10μm	269	110-135	145
2186-275*	250-275mm	12µm	294	120-150	160
2186-300 *	275-300mm	12µm	319	128-160	170







#### **DIAL SNAP GAGES**

ATTENTION: NOT SUITABLE FOR 0.001MM DIAL INDICATORS

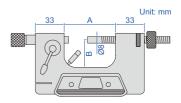
- Quick measurement for mass production
- Anvil retracting stroke: 3mm

- Measuring force: 6-9N
   Carbide measuring faces
   Optional accessory: dial indicators (graduation 0.01mm), digital indicators (resolution 0.01mm/0.0005")



2184-50W

Code	Range	Α	В
2184-25W	0-25mm	34mm	18mm
2184-50W	0-50mm	62mm	32mm
2184-100W	50-100mm	112mm	62mm
2184-150W	100-150mm	162mm	85mm
2184-200W	150-200mm	212mm	110mm

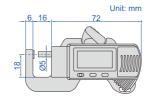


#### **DIGITAL SNAP GAGE**

ATTENTION: NO DATA OUTPUT



2166-12



_	
	_

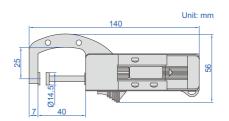
Code	Range	Resolution	Accuracy
2166-12	0-12mm/0-0.5"	0.01mm/0.0005"	±0.03mm

#### **DIGITAL SNAP GAGE**

ATTENTION: NO DATA OUTPUT



2167-25



Code	Range	Resolution	Accuracy
2167-25	0-25mm/0-1"	0.01mm/0.0005"	±0.03mm

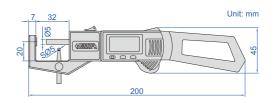
#### ATTENTION: NO DATA OUTPUT

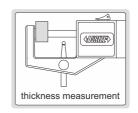
## 2163-25

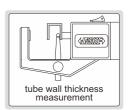
- Resolution: 0.01mm/0.0005"
- Accuracy: ±0.04mm
- For thickness and tube wall thickness measurement

Code	Thickness range	Tube wall thickness range
2163-25	0-25mm/0-1"	0-2mm/0.08"

#### **DIGITAL SNAP GAGE**





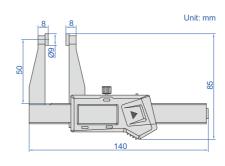


#### DATA OUTPUT

# A/MSIZED

1163-50A

#### **DIGITAL SNAP GAGES**



#### With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

	Code	Range	Resolution	Accuracy
•	1163-50A	0-50mm/0-2"	0.01mm/0.0005"	±0.03mm

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

**SUITABLE FOR** 

Code	Range	Resolution	Accuracy
1163-50AWL	0-50mm/0-2"	0.01mm/0.0005"	±0.03mm

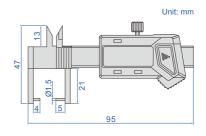
- Non waterproof
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel

#### ATTENTION: NO DATA OUTPUT



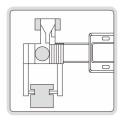
Code	Range	Resolution	Accuracy
2164-25A	0-25mm/0-1"	0.01mm/0.0005"	±0.03mm

#### **DIGITAL 3-PURPOSE SNAP GAGE**



- Non waterproof
- Buttons: zero, mm/inch, on/off
- Battery LR44
- Made of stainless steel







#### **STEP AND GAP GAGES**





- Measure step height and gap width
  Resolution: 0.01mm/0.0005"
  Buttons: on/off, set, mm/inch, preset (+, -)
  Automatic power off, move the
- digital unit to turn on power

**Built-in wireless** 

12

- Battery CR2032
  Made of stainless steel
- Supplied with zero setting block



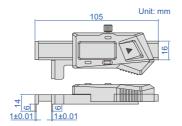
zero setting block (included)

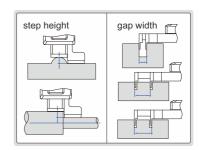


With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

Code	Range	Accuracy
2168-12	0-12.7mm/0-0.5"	±0.03mm

(receiver code 7315-2/3/6/7/8/9 is required)			
Code	Range	Accuracy	
2168-12WL	0-12.7mm/0-0.5"	±0.03mm	





#### MINI VERNIER HEIGHT GAGE

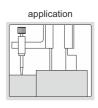


Unit: mm

1246-10

- Measure height difference of two surfaces
- Graduation: 0.05mm
   Made of stainless steel
- Satin chrome plated reading surface

Code	Range	Accuracy
1246-10	0~±10mm	±0.05mm



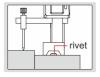


#### MINI DIGITAL HEIGHT GAGES

#### application of 1146-20A/1146-20AWL



#### application of 1146-20B/L



- Non waterproof
- Measure height difference of two surfaces (1146-20B, 1146-20BWL suitable for surfaces with barrier, such as rivet)
- 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





16 Unit: mm

40

80

12

1146-20A/1146-20AWL

1146-20BWL

#### With data interface

(data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

Code	Range	Accuracy
1146-20A	0~±20mm/0~±0.8"	±0.02mm
1146-20B	0~±20mm/0~±0.8"	±0.02mm

#### Built-in wireless

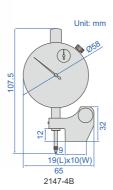
(receiver code 7315-2/3/6/7/8/9 is required)

Code	Range	Accuracy
1146-20AWL	0~±20mm/0~±0.8"	±0.02mm
1146-20BWL	0~±20mm/0~±0.8"	±0.02mm

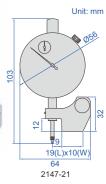
#### **DIAL HEIGHT GAGES**





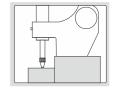






■ Measure height difference of two surfaces

Code	Range	Dial indicator stroke	Dial indicator graduation	Accuracy
2147-4A	0~±5mm (adjustable)	5mm	0.01mm	±0.014mm
2147-4B	0~±5mm	10mm	0.01mm	±0.017mm
2147-21	0~±2mm (adjustable)	2mm	0.001mm	±0.006mm

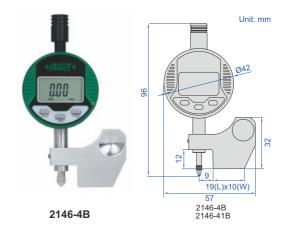




#### **DIGITAL HEIGHT GAGES**







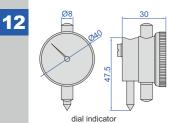
- Measure height difference of two surfaces
- Button function: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13)



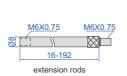


Code	Range (adjustable)	Digital indicator stroke	Digital indicator resolution	Accuracy
2146-4A	0~4mm/0~0.16" (sinked)	12.7mm/0.5"	0.01mm/0.0005"	±0.02mm
2146-41A	0~12.7mm/0~0.5" (raised)	12.7mm/0.5"	0.001mm/0.00005"	±0.005mm
2146-4B	0~4mm/0~0.16" (sinked)	5mm/0.2"	0.01mm/0.0005"	±0.02mm
2146-41B	0~5mm/0~0.2" (raised)	5mm/0.2"	0.001mm/0.00005"	±0.005mm

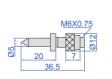
#### **CRANKSHAFT TESTERS**







Unit: mm









- To test crankshaft deflection
- The balance block is mounted on the back of dial indicator to keep the dial indicator facing up

Code Range Dial indicator range Graduation **Extension rods** Accuracy 3mm 2841-300 60-300mm 0.01mm 16mm, 32mm, 64mm, 128mm ±0.016mm 2841-500 60-500mm 0.01mm 16mm, 32mm, 64mm, 96mm, 128mm, 192mm ±0.016mm 3mm