

70p



70p



71p



71p



72p



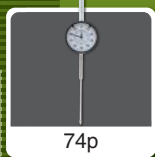
72p



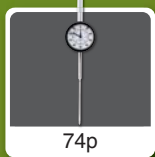
73p



73p



74p



74p



74p



74p



75p



75p



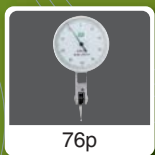
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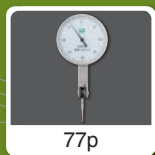
75p



76p



76p



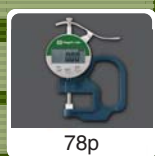
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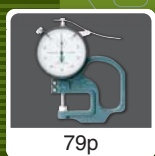
77p



78p



78p



79p

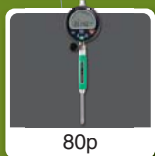
DIAL GAUGES



79p



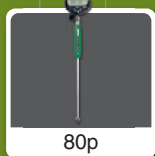
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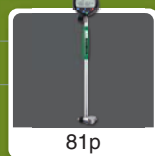
80p



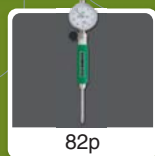
80p



80p



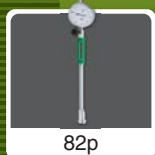
81p



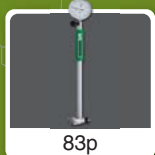
82p



82p



82p



83p



84p



84p



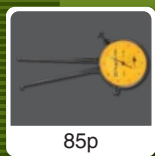
84p



85p



85p



85p



86p



86p



86p



87p



87p



87p



87p



88p



88p



89p



89p



90p



90p



91p



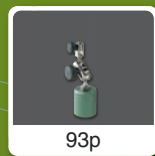
91p



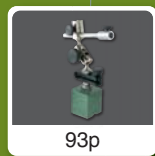
92p



92p



93p



93p



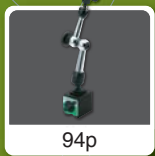
93p



93p



94p



94p



94p

DIAL
GAUGESDIAL
INDICATORSTHICKNESS
GAUGESBORE
GAUGESCALIPER
GAUGESHARDNESS-
TENSION
GAUGEMAGNETIC
BASE



S line series

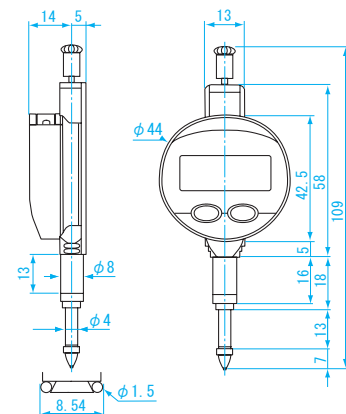
DIGITAL S-LINE INDICATOR (IP65)

IP65 rated, can be used in cutting fluid environment!
Small type - 109mm long, 19mm thick



DIMENSIONS

Units : mm



USE • Measuring surface flatness, checking tool set up, axial runout, checking squareness

MATERIAL • Stem & spindle : stainless steel

FEATURES

- **IP65** rating (comparable to NEMA 4,) digital indicator electronics are protected against dust and water.
- Small type dial gauge is suitable for use in a narrow space
- Measuring direction (+or -) function switch
- Preset function
- Auto-power-off function (after 4 hrs)
- Can select minimum reading display 0.01mm or 0.001mm (DEI-233S2 only)

POWER

- One CR2032 (Lithium) battery included for testing

• IP rating for electrical equipment is defined based on IEC standard for water and solid body protection.
 • IP indication
IP 65
 2nd digit : water proof rating
 1st digit : direct contact-protection for ingress of solid foreign object

1st digit	Description	Definition	Testing for
6	Solid	No ingress of dust allowed	Complete protection against contact
2nd digit	Description	Definition	Testing for
5	Protected against low pressure water jet	No harmful effects from direct jet of water from any direction.	spray rotating equipment from 6.3mm nozzle, 2.5L/min flow from at distance of 2.5 to 3 m for more than three minutes.

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Minimum reading display	Maximum Error* (μm)	Measuring Force (N)	Repeatability (μm)	Weight
NEW 151724	DEI-233S1	0-12.5	0.01	0.01	10	0.5-0.9	2	70g
NEW 151725	DEI-233S2	0-12.5	0.001	0.01/0.001 (Switchable)	5	0.5-0.9	2	70g

※ Quantization Error (± 1 digit) not included



S line series

DIGITAL S-LINE INDICATOR

GO/ NOGO lights up with tolerance setting function!

USE

- Measuring surface flatness, checking tool set up, axial runout, checking squareness

MATERIAL

- Stem & spindle : stainless

FEATURES

- GO/ NOGO lights up with tolerance setting function, suitable for precision measurement of mass produced parts
- Display can rotate 270° to desired position
- Math function
- Button for 'favorite function' to call up frequently used functions
- MIN, MAX, DELTA measurement function
- Measuring direction (+or -) switching function
- Preset function
- Stand-by mode function (after 20 min)
- Can select minimum display resolution 0.01mm or 0.001mm (DEI-WKS2 only)

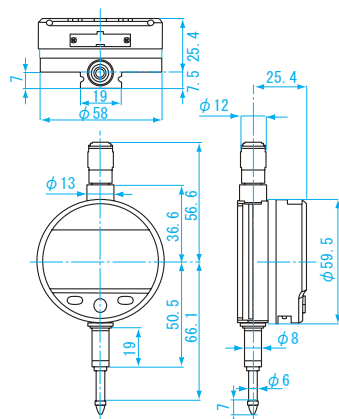
POWER

- One CR2032 (Lithium) battery included for testing



DIMENSIONS

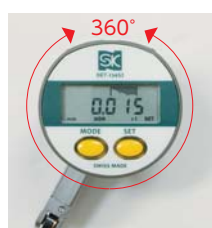
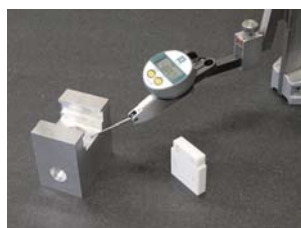
Units : mm



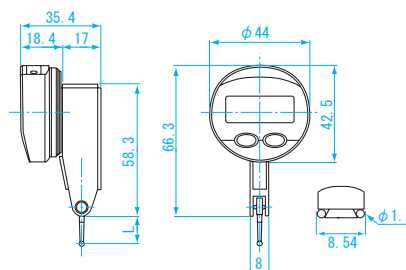
Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Minimum reading display	Maximum Error* (μm)	Measuring Force (N)	Repeatability (μm)	Weight
NEW 151726	DEI-WKS1	0-12.5	0.01	0.01	10	0.65-0.9	2	115g
NEW 151727	DEI-WKS2	0-12.5	0.001	0.01/0.001 (Switchable)	3	0.65-0.9	2	115g

※ Quantization Error (± 1 digit) not included

**IP65 rating electronic digital test indicator, can be used in cutting fluid environment
Has both digital and analog display for easy reading**



DIMENSIONS



Units : mm

Model No.	L
DET-234S1	12.5
DET-234S2	36

- USE**
- Lever type digital test indicator
 - Measuring surface flatness, checking tool set up, axial runout, checking squareness

- MATERIAL**
- Gauge head : stainless

FEATURES

- **IP65** rating (comparable to NEMA 4) electronic digital test indicator. Electronics are protected against dust and water.
- The display has both digital and analog display for easy reading
- Display rotates 360° for setting zero.
- MIN, MAX, DELTA measurement function
- Measuring direction (+or -) function switch
- Preset function
- Auto-power off function (after 2 hrs)
- Can select minimum reading display 0.01mm or 0.001mm

POWER

- One CR2032 (Lithium) battery included for testing

ACCESSORIES

- ϕ 8mm dove tail stem

1st digit	Description	Definition	Testing for
6	Solid	No ingress of dust allowed	Complete protection against contact
2nd digit	Description	Definition	Testing for
5	Protected against low pressure water jet	No harmful effects from direct jet of water from any direction.	spray rotating equipment from 6.3mm nozzle, 2.5l/min flow from at distance of 2.5 to 3 m for more than three minutes.

IP 65

2nd digit : water proof rating
1st digit : direct contact-protection for ingress of solid foreign object

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Minimum reading display	Maximum Error* (mm)	Backlash Error (μ m)	Measuring Force (N)	Repeatability (μ m)	Weight
NEW 151728	DET-234S1	0-0.8	0.001	0.01/0.001 (Switchable)	0.01	4	0.13	3	70g
NEW 151729	DET-234S2	0-0.5	0.001	0.01/0.001 (Switchable)	0.01	5	0.07	3	70g

※ Quantization Error ($\pm$ 1 digit) not included

DIGITAL INDICATORS

USE

- Measuring surface flatness, checking tool set up, axial runout, checking squareness

MATERIAL

- Body : Steel

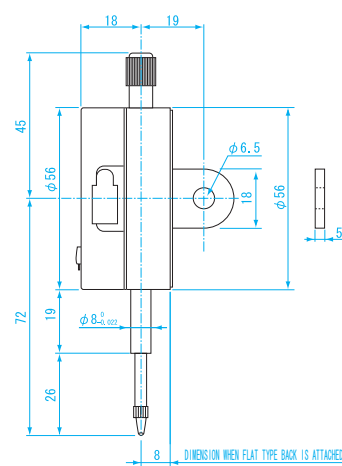
FEATURES

- Easy to read digital display
- Display hold function
- Auto power off function (after 5 min.)
- Resolution 0.01mm, Measurement range 12.7mm
- Flat type back and center-lug back included
- One CR2032 (Lithium) battery included for testing



DIMENSIONS

Units : mm



Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Maximum permissible Error* (μ m)	Measuring Force less than (N)	Weight
151715	DEI-127	0-12.7	0.01	$\pm$ 20	1.5	95g

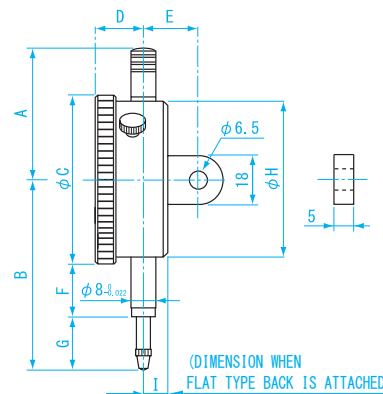
※ Quantization Error ($\pm$ 1 digit) not included



DIAL GAUGES



DIMENSIONS



T 237

Units : mm

Model No.	A	B	C	D	E	F	G	H	I
DI-10	45	67	60	16	20	21	20	55	9

- USE**
- Measuring surface flatness, checking tool set up, axial runout, checking squareness

MATERIALS

- Body : Steel

FEATURES

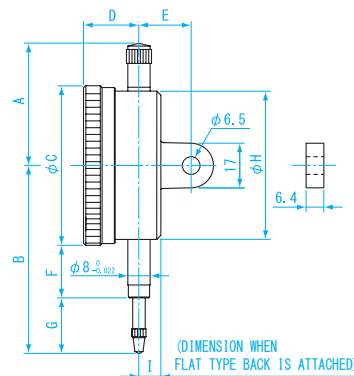
- Measuring Range: 0-10mm/ 0.01mm Graduation
- Limit indicator clips included
- O-Ring sealed between inner and outer lid to protect from water or oil
- White scale plate
- Flat type back and center-lug back included

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Dial Reading (mm)	Backlash Error (μm)	Measuring Force less than (N)	1 Revolution (mm)	Indication Error 1/10 rev (μm)	Error over entire range (μm)	Repeatability (μm)	Weight
151044	DI-10	0.01	0~10	± 0.100	5	1.5	1	8	± 20	5	150g

DIAL GAUGES



DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G	H	I
DI-1058	43.5	68.5	58	16.5	19	18.5	21	53.5	8

- USE**
- Measuring surface flatness, checking tool set up, axial runout, checking squareness

MATERIAL

- Body : Steel

FEATURES

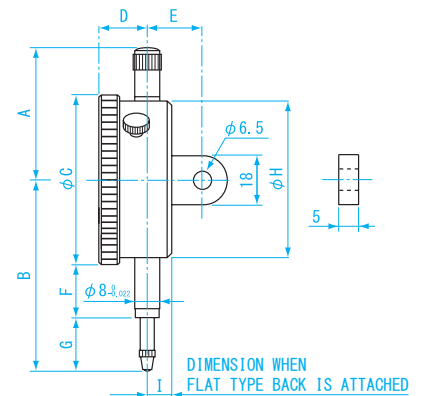
- Limit indicator clips included
- O-Ring sealed between inner and outer lid to protect from water or oil
- Jeweled bearings
- Yellow scale plate
- Flat type back and center-lug back included

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Dial Reading (mm)	Backlash Error (μm)	Measuring Force less than (N)	1 Revolution (mm)	Indication Error 1/10 rev (μm)	Error over entire range (μm)	Repeatability (μm)	Weight
151504	DI-1058	0.01	0~10	± 0.100	5	1.5	1	8	± 20	5	180g



DI-1060SC

DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G	H	I
DI-0560SC	45	67	60	16	20	21	20	55	9
DI-1060SC	45	67	60	16	20	21	20	55	9

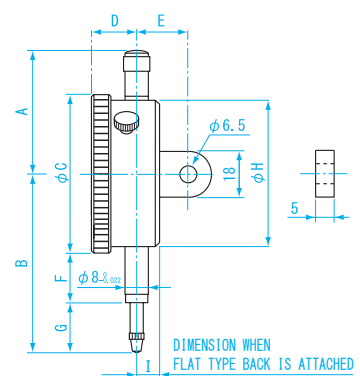
- USE**
 - Measuring surface flatness, checking tool set up, axial runout, checking squareness
- MATERIAL**
 - Body : Steel
- FEATURES**
 - Limit indicator clips included
 - O-Ring sealed between inner and outer lid to protect from water or oil
 - Jeweled bearings
 - White scale plate
 - Flat type back and center-lug back included.
 - Shock proof spindle mechanism protects the gear from abrupt motion.

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Dial Reading (mm)	Backlash Error (μm)	Measuring Force less than (N)	1 Revolution (mm)	Indication Error 1/10 rev (μm)	Error over entire range (μm)	Repeatability (μm)	Weight
151671	DI-0560SC	0.01	0~ 5	± 0.100	3	1.5	1	8	± 12	3	130g
151672	DI-1060SC	0.01	0~10	± 0.100	3	1.5	1	8	± 14	3	150g

DIAL GAUGES



DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G	H	I
DI-0160SC	40	60	60	16	20	21	13	55	9

- USE**
 - Measuring surface flatness, checking tool set up, axial runout, checking squareness
- FEATURES**
 - Body : Steel
 - Measuring Range: 0-10mm/ 0.001mm graduation
 - Limit indicator clips included
 - O-Ring sealed between inner and outer lid to protect from water or oil
 - Jeweled bearings
 - White scale plate
 - Flat type back and center-lug back included
 - Shock proof spindle mechanism protects the gear from abrupt motion.

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Dial Reading (mm)	Backlash Error (μm)	Measuring Force less than (N)	1 Revolution (mm)	Indication Error 1/10 rev (μm)	Error over entire range (μm)	Repeatability (μm)	Weight
151670	DI-0160SC	0.001	0~1	± 0.100	2.5	3	0.1	3.5	± 5	0.4	150g



LONG STROKE DIAL GAUGES



DI-10078



DI-8058

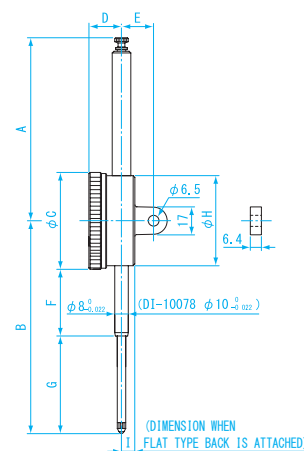


DI-5058



DI-3058

DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G	H	I
DI-3058	37.5	86.5	58	19	19.5	19.5	38	53.5	8.5
DI-5058	108.5	126	58	19	19.5	39.5	57.5	53.5	8.5
DI-8058	138.5	168.5	58	19	19.5	51.5	88	53.5	8.5
DI-10078	167.5	208	78	20	20.5	61	108	69	10

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Dial Reading (mm)	Backlash Error (μm)	Measuring force less than (N)	1 Revolution (mm)	Indication Error 1/10 rev (μm)	Error over entire range (μm)	Repeatability (μm)	Weight
151505	DI-3058	0.01	0~ 30	0-100	7	3.0	1	14	±35	5	210g
151506	DI-5058	0.01	0~ 50	0-100	9	3.5	1	15	±40	5	270g
151507	DI-8058	0.01	0~ 80	0-100	11	4.0	1	—	±50	6	290g
151508	DI-10078	0.01	0~100	0-100	15	4.5	1	—	±50	6	530g

※ For vertical measurements please keep measurement head above shaft

DIAL GAUGES

DIAL GAUGES

DIAL INDICATORS

THICKNESS GAUGES

BORE GAUGES

CALIPER GAUGES

HARDNESS-TENSION GAUGE

MAGNETIC BASE

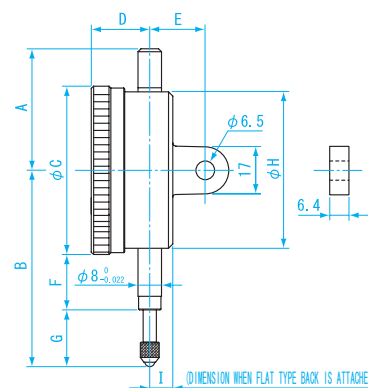


DI-0342



DI-0542

DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G	H	I
DI-0342	31	46	42	14	18	14.5	10	40	7
DI-0542	31	48	42	14	18	14.5	12	40	7

USE • Measuring surface flatness, checking tool set up, axial runout, checking squareness.

MATERIALS

• Body : Steel

FEATURES

- Limit indicator clips included
- O-Ring sealed between inner and outer lid to protect from water or oil
- Jeweled bearings
- White scale plate
- Flat type back and center-lug back included.

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Dial Reading (mm)	Backlash Error (μm)	Measuring Force less than (N)	1 Revolution (mm)	Indication Error 1/10 rev (μm)	Error over entire range (μm)	Repeatability (μm)	Weight
151509	DI-0342	0.01	0~3	±0.50	6	1.5	0.5	8	±14	5	100g
151510	DI-0542	0.01	0~5	±0.50	6	1.5	0.5	9	±16	5	100g

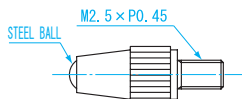
DIAL GAUGE REPLACEABLE TIP



DI-CP

DIMENSIONS

Units : mm



USE • Dial gauge probe tip

MATERIALS

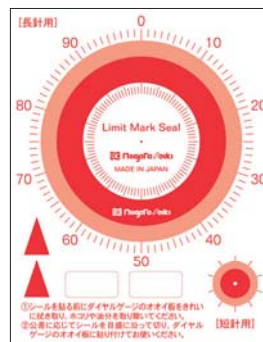
• Measurement tip : steel ball

Compatibility Table

Model No.	Applicable Dial Indicator		
DI-CP	DI-1058	DI-3058	DI-5058
	DI-8058	DI-10078	DI-0342
	DI-0542		
	• Ex-model No. DI-1220A DI-1220AS DI-1102A DI-1810A		
DI-CPK	DI-10 (Rev. since 2007)		
	DI-1060SC	DI-0560SC	DI-0160SC

Order No.	Model No.
151500	DI-CP
151675	DI-CPK

DIAL GAUGE LIMIT MARK STICKER



USE • GO/ NO GO judgment for diameter inspection

MATERIAL

• Pobick #100Rt-H (High strength, transparent, removable)

FEATURES

- Acceptable range is clearly visible. Ideal for inspection of mass produced parts.
- Includes arrow pointers for use with notes, indicating alert points, etc.

SPECIFICATIONS

- Applicable dial gauge : DIAL face more than $\phi 52\text{mm}$
- Sticker outside diameter : long indicator... $\phi 51.5\text{mm}$
Short indicator ... $\phi 10\text{mm}$
- Contains 10pcs

Order No.	Model No.	Quantity	Weight
151674	DI-LMS	10	20g

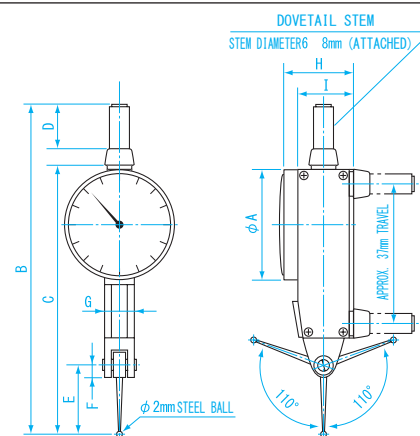


DIAL INDICATORS



TI-8038

DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G	H	I
TI-8032	32	96.5	75	13	22	4	8	24	17
TI-8038	38	96.5	75	13	22	4	8	24	17

USE • Measuring surface flatness, straightness, axial runout.

MATERIAL

- Body: Steel

FEATURES

- Compact with long reach for measuring in deep and confined spaces
- Jeweled bearings

※ Replacement probes also available.

■ Dial indicator steel ball probes

Order No.	Model No.
151696	TI-S80

※ Applicable to TI-8032, TI-8038

※ Requires calibration with standard when replacing gauge head

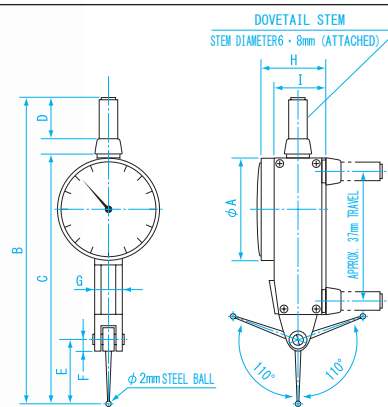
Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Dial Reading	Error over entire range (μm)	Backlash Error (μm)	Measuring Force less than (N)	Repeatability (μm)	Indication Error 1/10 rev (μm)	Weight
151692	TI-8032	0.01	0~0.8	0-40-0	13	3	0.5	3	5	47g
151693	TI-8038	0.01	0~0.8	0-40-0	13	3	0.5	3	5	50g

DIAL INDICATORS



TI-2040

DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G	H	I
TI-2032	32	92	72.5	13	17	4	8.5	25	17
TI-2040	40	92	72.5	13	17	4	8.5	25	17

USE • Measuring surface flatness, straightness, axial runout

MATERIAL

- Body : Steel

FEATURES

- Compact with long reach for measuring in deep and confined spaces
- Jeweled bearings

※ Replacement probes also available

■ Dial indicator steel ball probes

Order No.	Model No.
151695	TI-S20

※ Applicable to TI-2032, TI-2040

※ Requires calibration with standard when replacing gauge head

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Dial Reading	Indication Error over Entire Range (μm)	Backlash Error (μm)	Measuring Force less than (N)	Repeatability (μm)	Indication Error 1/10 rev (μm)	Weight
151690	TI-2032	0.002	0~0.2	0-100-0	4	2	0.5	1	2	53g
151691	TI-2040	0.002	0~0.2	0-100-0	4	2	0.5	1	2	65g



Ruby ball attributes

- High abrasion resistance
- Not electrically conductive
- Non magnetic

USE • Measuring surface flatness, straightness, axial runout

MATERIAL

- Body : Steel
- Probe : Ruby

FEATURES

- Compact with long reach for measuring in deep and confined spaces
- Jeweled bearings

※ Replacement probes also available

■ Dial indicator ruby ball probes

Order No.	Model No.
151706	TI-S80R

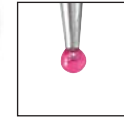
※ Applicable to TI-8032R, TI-8038R

※ Requires calibration with standard when replacing gauge head

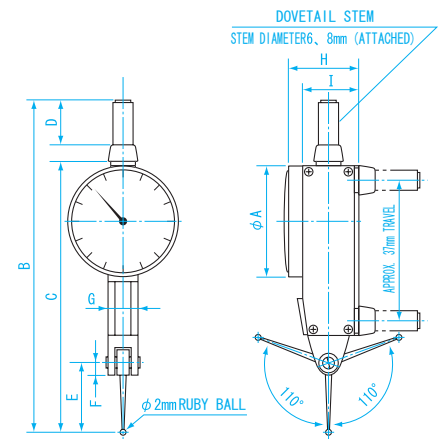


TI-8038R

Measurement head enlarged view



DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G	H	I
TI-8032R	32	96.5	75	13	22	4	8	24	17
TI-8038R	38	96.5	75	13	22	4	8	24	17

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Dial Reading	Indication Error over Entire Range (μm)	Backlash Error (μm)	Measuring Force less than (N)	Repeatability (μm)	Indication Error 1/10 rev (μm)	Weight
151702	TI-8032R	0.01	0~0.8	0-40-0	13	3	0.5	3	5	47g
151703	TI-8038R	0.01	0~0.8	0-40-0	13	3	0.5	3	5	50g

DIAL INDICATORS



Ruby ball attributes

- High abrasion resistance
- Not electrically conductive
- Non magnetic

USE • Measuring surface flatness, straightness, axial runout

MATERIAL

- Body : Steel
- Probe : Ruby

FEATURES

- Compact with long reach for measuring in deep and confined spaces
- Jeweled bearings

※ Replacement probes also available

■ Dial indicator ruby ball probes

Order No.	Model No.
151705	TI-S20R

※ Applicable to TI-2032R, TI-2040R

※ Requires calibration with standard when replacing gauge head

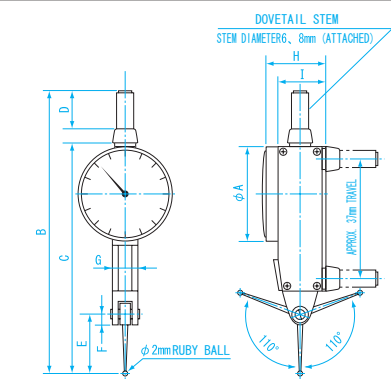


TI-2040R



Measurement head enlarged view

DIMENSIONS



Units : mm

Model No.	A	B	C	D	E	F	G	H	I
TI-2032R	32	92	72.5	13	17	4	8.5	25	17
TI-2040R	40	92	72.5	13	17	4	8.5	25	17

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Dial Reading	Indication Error over Entire Range (μm)	Backlash Error (μm)	Measuring Force less than (N)	Repeatability (μm)	Indication Error 1/10 rev (μm)	Weight
151700	TI-2032R	0.002	0~0.2	0-100-0	4	2	0.5	1	2	53g
151701	TI-2040R	0.002	0~0.2	0-100-0	4	2	0.5	1	2	65g

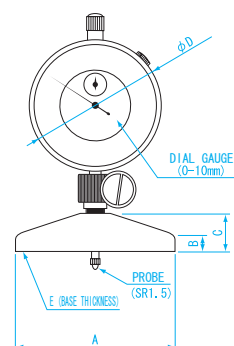


DIAL DEPTH GAUGES



DD-1050

DIMENSIONS



Units : mm

Model No.	A	B	C	D	E
DD-1050	50	7	18	60	16
DD-10100	100	7	18	60	16

USE • Depth measuring

MATERIALS

- Body, probe: steel

FEATURES

- Includes multiple extension rods (10mm•20mm•40mm•60mm•80mm), combined up to 210mm depths can be measured

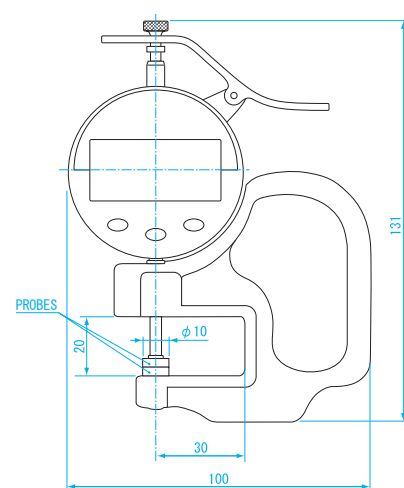
Order No.	Model No.	Measuring Range (mm)	Graduation (mm)	Weight
151711	DD-1050	Depth: up to 210 Dial gauge :10	0.01	280g
151712	DD-10100	Depth:up to 210 Dial gauge:10	0.01	350g

DIGITAL THICKNESS GAUGES



DIMENSIONS

Units : mm



USE • One touch thickness measurement of sheet material

MATERIAL • Body : Steel
• Probes : Ceramic

FEATURES • Digital display for easy reading
• Easy to operate for quick measurements
• Auto power off function (after 5 min.)
• Display hold function
• One CR2032 (Lithium) battery included for testing

Order No.	Model No.	Resolution (mm)	Measuring Range (mm)	Insert Depth (mm)	Accuracy* (μm)	Measuring Faces	Weight
151720	DES-3010	0.01	0-10	30	±20	φ10mm Flat	180g

※ Quantization Error (± 1 digit) not included



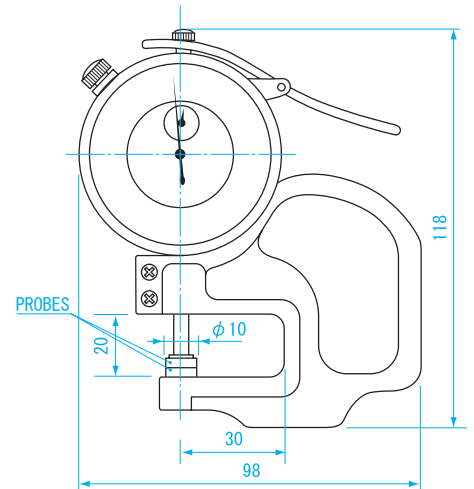
Example of mounting
DSB-3010S



※ Photo shows with optional base

DIMENSIONS

Units : mm



- USE**
 - One touch thickness measurement of sheet material
- MATERIAL**
 - Body : Steel
 - Probes : Ceramic
- FEATURES**
 - Easy to operate for quick measurements
 - Shock proof spindle mechanism protects the gear from abrupt motion
 - Dedicated base DSB-3010S sold separately (for DS-3010S only)

Order No.	Model No.	Graduation (mm)	Measurement Range (mm)	Insertion Depth (mm)	Accuracy (μm)	Measuring Faces	Weight
151680	DS-3010S	0.01	0~10	30	±20	φ10mm Flat	200g

Dial thickness gauge dedicated base

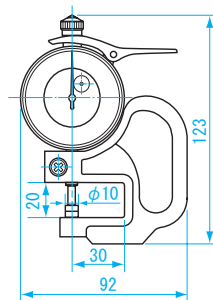
Order No.	Model No.	Weight
151685	DSB-3010S	370g

DIAL THICKNESS GAUGES



DIMENSIONS

Units : mm



- USE**
 - One touch thickness measurement of sheet metal
- MATERIAL**
 - Body : Steel
 - Probes : Steel
- FEATURES**
 - Easy to operate for a quick measurement



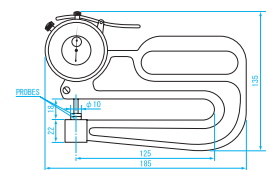
Order No.	Model No.	Graduation (mm)	Measurement Range (mm)
151532	DS-1211	0.01	0~10
Insertion Depth (mm)	Accuracy (μm)	Measuring Faces (mm)	Weight
30	±20	φ10mm Flat	260g

DIAL THICKNESS GAUGES



DIMENSIONS

Units : mm



- USE**
 - One touch thickness measurement of sheet material
- MATERIAL**
 - Body : Steel
 - Probes : Ceramic
- FEATURES**
 - Easy to operate for quick measurement
 - Long throat for greater measurement depth
 - Shock proof spindle mechanism protects the gear from abrupt motion

Order No.	Model No.	Graduation (mm)	Measurement Range (mm)
151681	DS-12510S	0.01	0~10
Insertion Depth (mm)	Accuracy (μm)	Measuring Faces (mm)	Weight
125	±20	φ10mm Flat	480g



DIGITAL BORE GAUGES



Includes digital gauge and protective cover

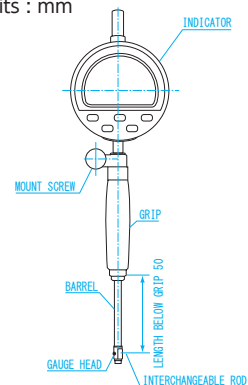


Measuring Head



DIMENSIONS • PARTS NAME

Units : mm



- USE** • Bore measurement
- MATERIAL** • Body : Steel
- FEATURES** • Includes digital gauge and protective cover
• Digital display for easy reading
• One CR2032(Lithium)battery included for testing

Order No.		Model No.		Weight			
151730		CDI-10D		250g			
Resolution (mm)	Measurement Range (mm)	Error over Entire Range* (μm)*	Indication Error 1/10 rev* (μm)*	Repeatability* (μm)*	Effective Stroke of Gauge Head (mm)	Interchangeable Rod	Interchangeable Washer
0.002	6-10	12	5	3	0.6	9 pcs (0.5mm step)	None

※ Quantization Error (± 1 digit) not included

* Including attached digital gauge

DIGITAL BORE GAUGES



Includes digital gauge and protective cover



CDI-18D Measuring Head CDI-35D Measuring Head



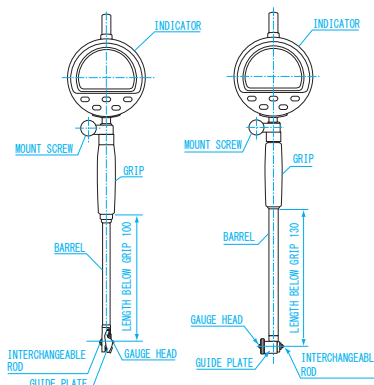
CDI-18D



CDI-35D

DIMENSIONS • PARTS NAME

Units : mm



CDI-18D

CDI-35D

- USE** • Bore measurement
- MATERIAL** • Body : Steel
- FEATURES** • Includes digital gauge and protective cover
• Digital display for easy reading
• One CR2032 (Lithium) battery included for testing

Order No.	Model No.	Weight
151731	CDI-18D	270g
151732	CDI-35D	350g

Resolution (mm)	Measurement Range (mm)	Error over Entire Range* (μm)*	Indication Error 1/10 rev* (μm)*	Repeatability* (μm)*	Effective Stroke of Gauge Head (mm)	Interchangeable Rod	Interchangeable Washer
0.002	10-18	12	5	3	0.8	9 pcs (1.0mm step)	0.5mm - 1pc
0.002	18-35	15	5	3	1.2	9 pcs (2.0mm step)	0.5+1mm - 1 pc each

※ Quantization Error (± 1 digit) not included

* Including attached digital gauge

Includes digital gauge and protective cover



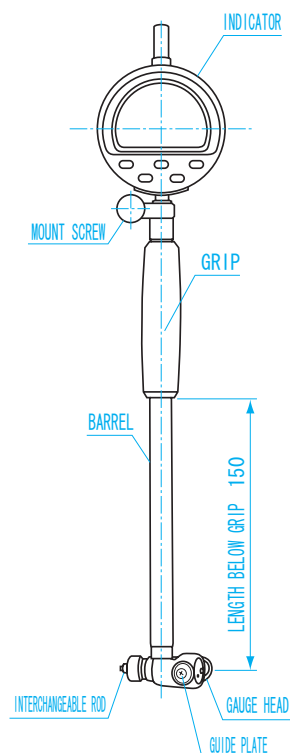
CDI-160D



Measuring Head

DIMENSIONS • PARTS NAME

Units : mm



- USE** • Bore measurement instrument
- MATERIAL** • Body : Steel
- FEATURES** • Includes digital gauge and protective cover
• Digital display for easy reading
• One CR2032(Lithium) battery included for testing

Order No.	Model No.	Weight
151733	CDI-50D	400g
151734	CDI-100D	450g
151735	CDI-160D	450g

Resolution (mm)	Measurement Range (mm)	Error over Entire Range* (μm)*	Indication Error 1/10 rev* (μm)*	Repeatability* (μm)*	Effective Stroke of Gauge Head (mm)	Interchangeable Rod	Interchangeable Washer
0.002	35- 50	15	5	3	1.2	4 pcs (5.0mm step)	0.5•1.2•3mm 1 pc each
0.002	50-100	18	6	3	1.6	11pcs (5.0mm step)	
0.002	50-160	18	6	3	1.6	12 pcs (5.0mm step) 1pc sub rod	

※ Quantization Error (± 1 digit) not included

* Including attached digital gauge



DIAL BORE GAUGES



Includes dial gauge and protective cover

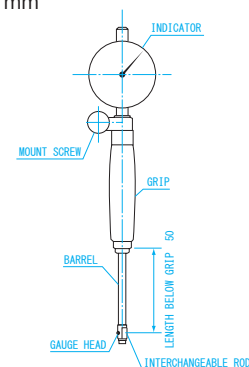


Measuring Head



DIMENSIONS • PARTS NAME

Units : mm



- USE** • Bore measurement
- MATERIAL** • Body : Steel
- FEATURES** • Includes dial gauge and protective cover

Order No.		Model No.		Weight			
151591		CDI-10		520g			
Graduation (mm)	Measurement Range (mm)	Error over entire range (μm) *	Indication Error 1/10 rev (μm) *	Repeatability (μm) *	Effective stroke of Gauge head (mm)	Interchangeable Rod	Interchangeable Washer
0.01	6~10	12	5	3	0.7	9 pc (0.5mm step)	None

* Including attached dial gauge

DIAL BORE GAUGES



Includes dial gauge and protective cover



CDI-18 Measuring Head



CDI-35 Measuring Head



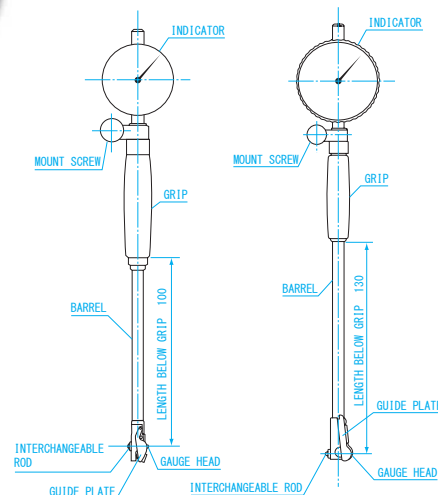
CDI-18



CDI-35

DIMENSIONS • PARTS NAME

Units : mm



CDI-18

CDI-35

- USE** • Bore measurement
- MATERIAL** • Body : Steel
- FEATURES** • Includes dial gauge and protective cover

Order No.	Model No.	Weight
151592	CDI-18	520g
151593	CDI-35	680g

Graduation (mm)	Measurement Range (mm)	Error over Entire Range (μm)*	Indication Error 1/10 rev (μm)*	Repeatability (μm)*	Effective Stroke of gauge head (mm)	Interchangeable Rod	Interchangeable Washer
0.01	10~18	12	5	3	0.9	9 pc (1.0mm step)	1 pc 0.5mm
0.01	18~35	15	5	3	1.0	7 pc (2.5mm)	None

* Including attached dial gauge

Includes dial gauge and protective cover



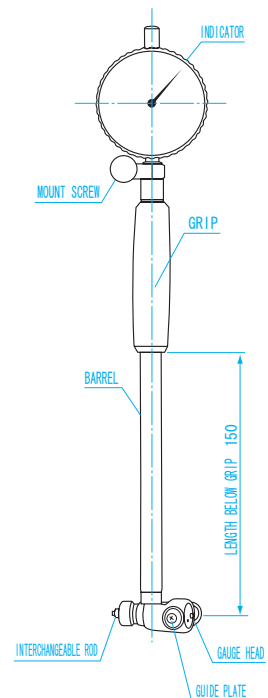
CDI-100



Measuring head

DIMENSIONS • PARTS NAME

Units : mm



- USE** • Bore measurement
- MATERIAL** • Body : Steel
- FEATURES** • Includes dial gauge and protective cover

Order No.	Model No.	Weight
151594	CDI-50	1 kg
151595	CDI-100	1.1 kg
151596	CDI-160	1.15kg

Graduation (mm)	Measurement Range (mm)	Error over Entire Range (μm)*	Indication Error 1/10 rev (μm)*	Repeatability (μm)*	Effective Stroke of Gauge Head (mm)	Interchangeable Rod	Interchangeable Washer
0.01	35~ 50	15	5	3	1.2	4 pcs(5.0mm step)	0.5•1•2•3mm 1 pc each
0.01	50~100	18	6	3	1.6	11 pcs (5.0mm step)	
0.01	50~160	18	6	3	1.6	12 pcs (5.0mm step) 1 pc Sub rod	

* Including attached dial gauge

DIGITAL CALIPER GAUGE

Wide measuring range of 0-150mm!

USE

- For outside diameter measurement

MATERIAL

- Body : Steel, Plastic

FEATURES

- Digital display for easy reading
- Wide measuring range of 0-150mm

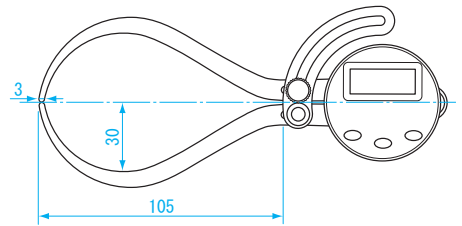
POWER

- One CR2032 (Lithium) battery included for testing



DIMENSIONS

Units : mm

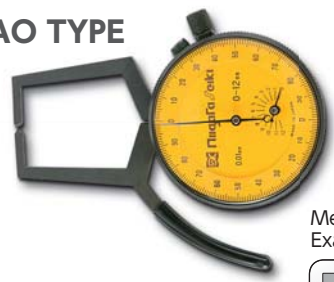


Order No.	Model No.	Resolution (mm)	Measuring Range (mm)	Accuracy* (mm)	Weight
NEW 152053	EDC-A1150	0.1	0-150	±0.2	140g

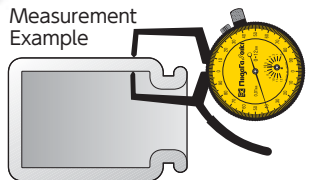
※ Quantization Error (± 1 digit) not included

DIAL CALIPER GAUGES (OUTSIDE)

AO TYPE



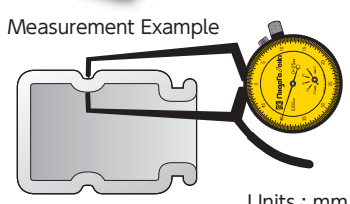
AO-1



BO TYPE

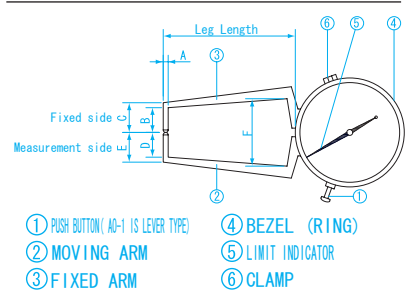


BO-1



DIMENSIONS

Units : mm



USE

- Measuring wall thickness and irregular parts

MATERIAL

- Body : Steel

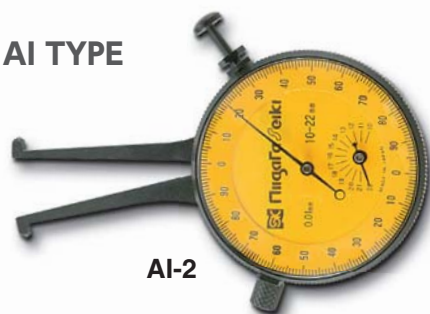
Model No.	Leg Length	A	B	C	D	E	F
AO-1	40	2.3	11.5	14.5	11.5	14.5	27
AO-2	40	2.3	18.5	20.5	11.5	14.5	45
AO-3	40	2.3	8.5	10.5	11.5	14.5	49
BO-1	80	2.3	8.5	10.5	8.5	10.5	27.5
BO-2	80	2.3	8.5	10.5	8.5	10.5	46.5
BO-3	80	2.3	8.5	10.5	8.5	10.5	55.5

※ Gauge head : φ 1.6mm ball

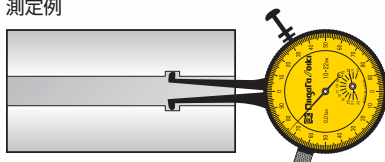
※ Custom shape product available by special order

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Accuracy (mm)
151561	AO-1	0.01	0~12	±0.05
151562	AO-2	0.01	10~22	±0.05
151563	AO-3	0.01	20~32	±0.05
151571	BO-1	0.025	0~25	±0.05
151572	BO-2	0.025	10~35	±0.05
151573	BO-3	0.025	20~45	±0.05

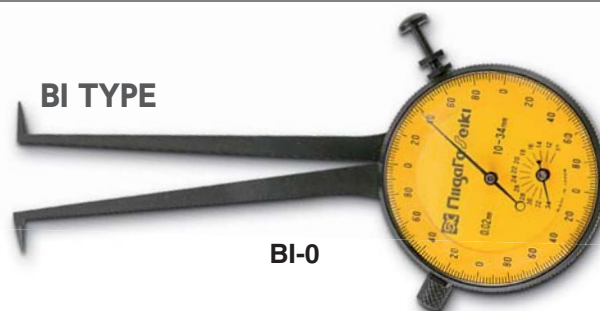
AI TYPE



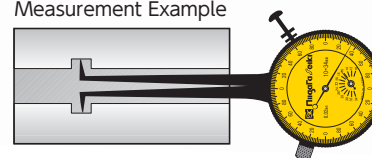
測定例



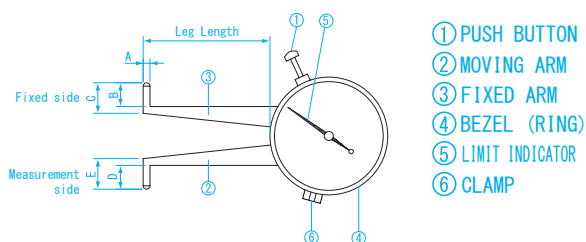
BI TYPE



Measurement Example



DIMENSIONS



Units : mm

Model No.	Leg Length	A	B	C	D	E
AI-0	40	2.3	1.1	2.8	1.1	2.8
AI-1	40	2.3	1.1	2.8	1.1	2.8
AI-2	40	2.3	2.7	4.5	2.3	4.8
AI-3	40	2.3	8	11	4.4	6.7
AI-4	40	2.3	18	21	4.4	6.7
AI-5	40	2.3	28	31	4.4	6.7
BI-0	80	Tip 0.5	7	9	7	9
BI-1	80	2.3	2.6	4.6	2.6	4.6
BI-2	80	2.3	5.1	7.1	4.8	6.8
BI-3	80	2.3	7.5	10	8.6	10.6
BI-4	80	2.3	17.5	20	8.6	10.6
BI-5	80	2.3	27.5	30	8.6	10.6

USE

- For measuring bore size

MATERIAL

- Body : Steel

※ Custom shape product available by special order

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Accuracy (mm)
151540	AI-0	0.01	3~ 9	±0.05
151541	AI-1	0.01	6~18	±0.05
151542	AI-2	0.01	10~22	±0.05
151543	AI-3	0.01	20~32	±0.05
151544	AI-4	0.01	30~42	±0.05
151545	AI-5	0.01	40~52	±0.05
151550	BI-0	0.02	10~34	±0.05
151551	BI-1	0.025	10~35	±0.05
151552	BI-2	0.025	20~45	±0.05
151553	BI-3	0.025	30~55	±0.05
151554	BI-4	0.025	40~65	±0.05
151555	BI-5	0.025	50~75	±0.05



DIGITAL CALIPER GAUGES



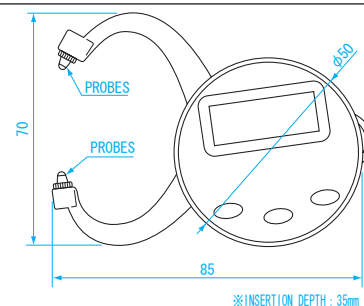
EDC-A125



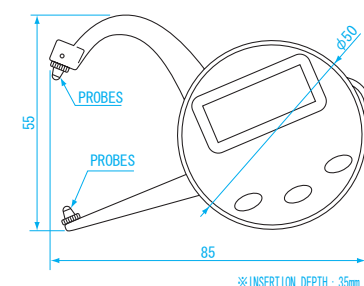
EDC-A225

DIMENSIONS

Units : mm

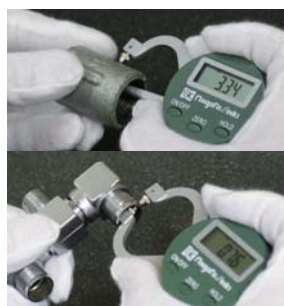


EDC-A125



EDC-A225

- USE**
- One touch thickness measurement of tube, casting, etc.
- MATERIAL**
- Body : Steel, Plastic
- FEATURES**
- Easy to read digital display
 - Display hold function, Auto power off function (after 2 min.)
 - One CR2032 (Lithium) battery included for testing



Order No.	Model No.	Resolution (mm)	Measuring Range (mm)	Accuracy (mm)	Weight
152051	EDC-A125	0.02	0-25	0.00- 5.00mm:±0.04 5.02-25.00mm:±0.08	90g
152052	EDC-A225	0.02	0-25	0.00- 5.00mm:±0.04 5.02-25.00mm:±0.08	90g

DIAL CALIPER GAUGES



DIAL GAUGES

DIAL INDICATORS

THICKNESS GAUGES

BORE GAUGES

CALIPER GAUGES

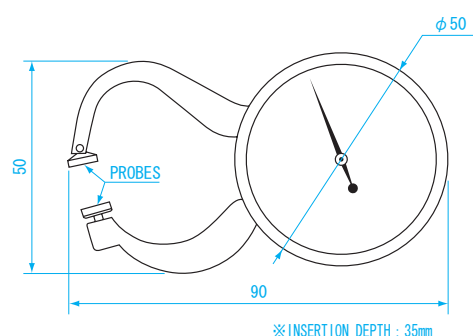
HARDNESS-TENSION GAUGE

MAGNETIC BASE



DIMENSIONS

Units : mm



- USE**
- Measure thickness of thin material
- MATERIAL**
- Body : Steel, Silver finish
- FEATURES**
- Convenient portable size
 - Flat probe surface for sheet metal thickness measurement

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Accuracy (mm)	Weight
151585	DCG-MG1	0.05	0~10	±0.1	75g



DCG-MA1

USE • Ideal for measuring tube and fitting thickness

MATERIAL • Body : Steel, Silver finish

FEATURES

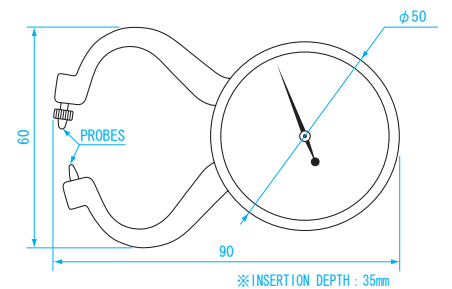
- Convenient portable size
- Round probe tip for measuring irregular shapes



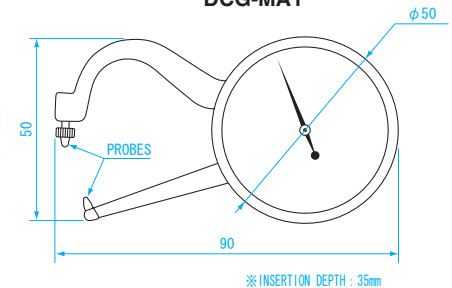
DCG-MA2

DIMENSIONS

Units : mm



DCG-MA1



DCG-MA2

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Accuracy (mm)	Weight
151581	DCG-MA1	0.05	0~10	±0.1	75g
151582	DCG-MA2	0.05	0~10	±0.1	75g

DIAL CALIPER GAUGES



DCG-MA115

USE • Ideal for measuring tube and fitting thickness

MATERIAL • Body : Steel, Silver finish

FEATURES

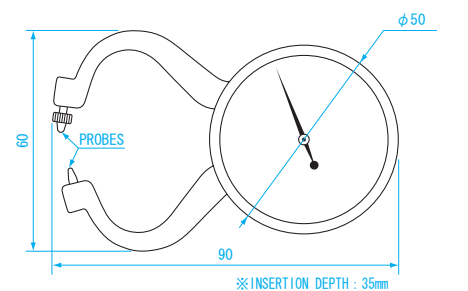
- Convenient portable size
- Round probe tip for measuring irregular shapes



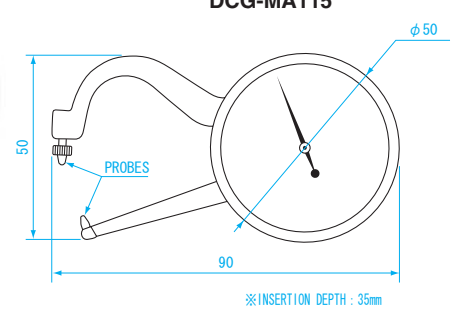
DCG-MA215

DIMENSIONS

Units : mm



DCG-MA115



DCG-MA215

Order No.	Model No.	Graduation (mm)	Measuring Range (mm)	Accuracy (mm)	Weight
151575	DCG-MA115	0.05	0~15	±0.1	75g
151576	DCG-MA215	0.05	0~15	±0.1	75g



DUROMETER



New product! Measure hardness of rubber or plastic. Conforms to JIS, ISO standards



ADM-A



- USE** • Checking the hardness of a material such as rubber or plastic

MATERIAL

- Body: aluminum
- Presser foot: HM35 (SKH55) tool steel

FEATURES

- Presser foot geometry and spring force in compliance with the following standards:
- ISO 7619(E) 『Rubber-Determination of indentation hardness by means of pocket hardness meters』

ACCESSORIES

- Block to check wear (ADM-A, ADM-D)

Model No.	ADM-A	ADM-D	ADM-E
Hardness Range	A20 ~ A90	Greater than A90	Less than A20
Material for test	Rubber, Soft plastic, Tires, Medium elastomers	Hard Rubber, Plastic, Ebonite rubber, High hardness elastomers	Soft rubber, Eraser, Roll film, Low hardness elastomers
Specimen thickness	6.0mm or greater	6.0mm or greater	10.0mm or greater
Display accuracy	± 1 Gradation		

Order No.	Model No.	Weight
151721	ADM-A	160g
151722	ADM-D	160g
151723	ADM-E	170g

DUROMETER STAND



Stand to provide stable measurements for durometer testing



DMS-D



- USE** • Stand for holding durometer

MATERIAL

- Stem, Weight : Iron
- Base: Cast iron

FEATURES

- When durometer is attached, provides constant pressure for consistent measurements.

Order No.	Model No.	Applicable durometer	Weight
151713	DMS-AE	ADM-A ADM-E	5.5kg
151714	DMS-D	ADM-D	9.5kg

New product! Portable hardness tester for measuring hardness of metals



LHT-300D



USE • Measuring hardness of metal

MATERIAL • Body: ABS

FEATURES

- Suitable for general metal hardness testing. Excellent for high high volume use.
- Can be converted to display in any of 6 hardness scales - HRC, HV, HL, HRB, HS, HB
- Average can be automatically calculated for between 2 to 8 measurements.
- Includes software for recording measured values to PC
- DL stylus for measuring hardness in narrow spaces such as the bottom of groove in a large gear. (LHT-300DL)

SPECIFICATIONS

- Material for test : Steel • Cast steel • Alloy tool steel • Stainless steel • High temperature steel
- Cast iron • Ductile iron • Aluminum alloy • Brass • Bronze • Copper

ACCESSORIES

- Master block • AC adapter • USB cable • Dedicated software
- DL Stylus (LHT-300DL only)

Order No.	Model No.	Measuring Range *	Resolution	Accuracy	Weight
151751	LHT-300D	Minimum 174 to maximum 900HL	0.1	± 1.2%	120g
151752	LHT-300DL	Minimum 174 to maximum 900HL	0.1	± 1.2%	120g

※ For D gauge head, HL units within range. Unit of measure varies depending on material to be measured.

DIAL TENSION GAUGE

New product! Measures the spring force to press button



DITG-50P



Measuring head



USE • Button pressing force, spring tension

MATERIAL

- Main body : ABS
- Measuring element : steel

FEATURES

- Max indication needle for easily recording the maximum value required for button press.

Order No.	Model No.	Range (N)	Resolution (N)	Accuracy	Weight
151534	DITG-30P	0.03 ~ 0.30	0.01	less than ± 1.5	60g
151535	DITG-50P	0.06 ~ 0.50	0.02	less than ± 1.5	60g
151536	DITG-100P	0.10 ~ 1.00	0.05	less than ± 1.5	60g
151537	DITG-150P	0.15 ~ 1.50	0.05	less than ± 1.5	60g
151538	DITG-300P	0.30 ~ 3.00	0.10	less than ± 1.5	60g
151539	DITG-500P	0.60 ~ 5.00	0.20	less than ± 1.5	60g



MAGNETIC BASE

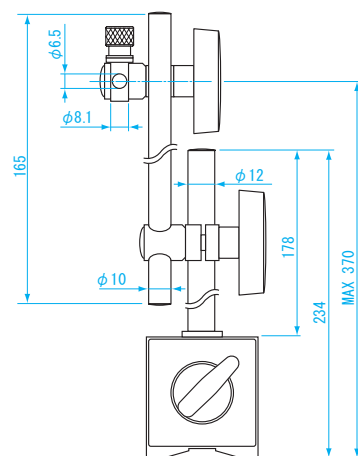


Standard type



DIMENSIONS

Units : mm



- USE** • Measurements that require a dial gauge or dial indicator to be held in fixed position

MATERIAL

- Ferrite magnet

FEATURES

- Standard type
- Removable, with ON/ OFF lever operation
- Magnetic adsorption : approx. 800N (180 lb)
- Stem holder : ϕ 6mm · ϕ 8mm
- Main post screw : M8 × P1.25

P262 Magnet Types and Characteristics

Order No.	Model No.	Base Dimension (mm)	Surface magnetic flux density (mT)	Weight
012870	SB-6C	50×60×55	Max100	1.5kg

MAGNETIC BASE

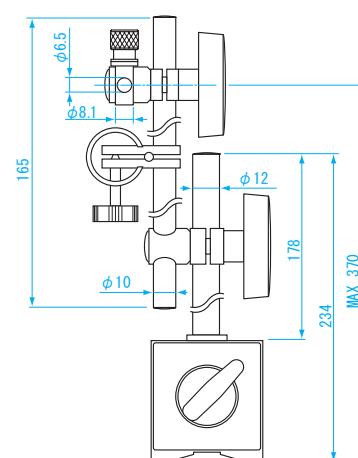


Fine Adjustment type



DIMENSIONS

Units : mm



- USE** • Measurements that require a dial gauge or dial indicator to be held in fixed position

MATERIAL

- Ferrite magnet

FEATURES

- With fine adjustment (2mm adj. range)
- Removable, with ON/ OFF magnet operation
- Magnetic force : approx. 800N (180 lb)
- Stem holder : ϕ 6mm · ϕ 8mm
- Main post screw : M8 × P1.25

P262 Magnet Types and Characteristics

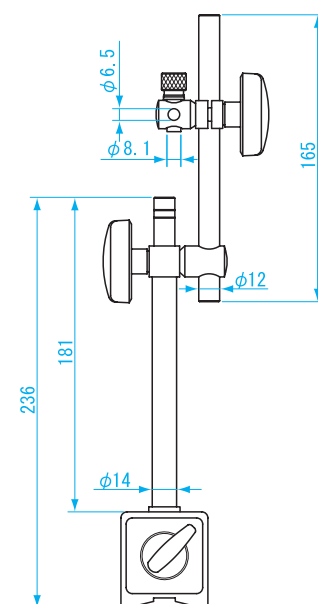
Order No.	Model No.	Base Dimension (mm)	Surface magnetic flux density (mT)	Weight
012871	SB-6B	50×60×55	Max100	1.5kg

MAGNETIC BASE

Thick Main Post type



DIMENSIONS Units : mm



USE • Measurements that require a dial gauge or dial indicator to be held in fixed position

MATERIAL

- Ferrite magnet

■ FEATURES

- Thick main post type
- Removable, with ON/ OFF magnet operation
- Magnetic force : approx. 800N (180 lb)
- Stem holder : ϕ 6mm $\cdot$ ϕ 8mm
- Main post screw : M8 $\times$ P1.25

P262 Magnet Types and Characteristics

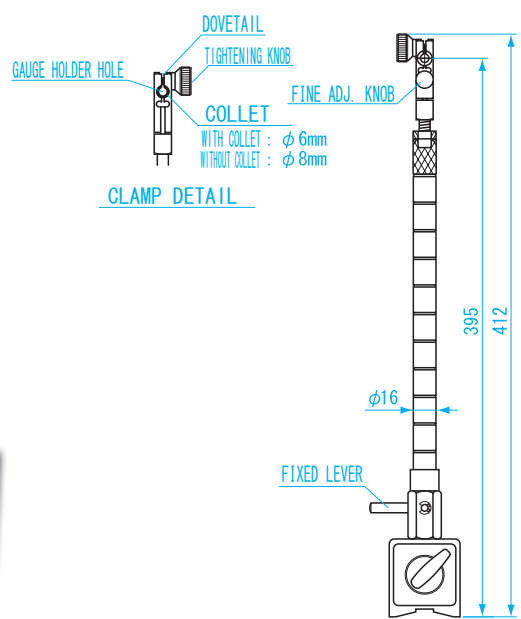
Order No.	Model No.	Base Dimension (mm)	Surface magnetic flux density (mT)	Weight
012873	SB-80P	50×60×55	Max100	1.5kg

MAGNETIC BASE

Flexible type



DIMENSIONS Units : mm



USE • Measurements that require a dial gauge or dial indicator to be held in fixed position

MATERIAL

- Ferrite magnet

■ FEATURES

- Flexible shaft for quick and easy positioning.
One touch lever to fix position securely
- Removable, with ON/OFF magnet operation
- Magnetic Force : approx. 800N (180 lb)
- Stem holder : ϕ 6mm $\cdot$ ϕ 8mm
- With dovetail mount
- Main post screw : M8 $\times$ P1.25

P262 Magnet Types and Characteristics

Order No.	Model No.	Base Dimension (mm)	Surface magnetic flux density (mT)	Weight
012874	SB-80F	50×60×55	Max100	1.3kg



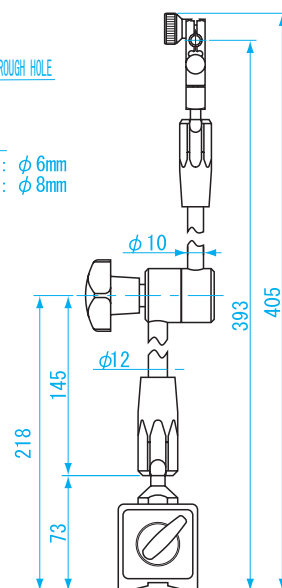
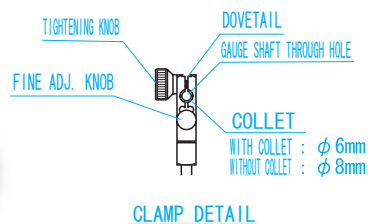
MAGNETIC BASE



Locking type

DIMENSIONS

Units : mm



- USE**
- Measurements that require a dial gauge or dial indicator to be held in fixed position

MATERIAL

- Ferrite magnet

FEATURES

- Mechanical lock knob tightens all joints with a single operation
- Removable, with ON/OFF magnet operation
- Magnetic force : approx.1000N (225 lb)
- Stem holder : ϕ 6mm $\cdot$ ϕ 8mm
- With dovetail mount
- Main post screw : M8 $\times$ P1.25

P262 Magnet Types and Characteristics

Order No.	Model No.	Base Dimension (mm)	Surface magnetic flux density (mT)	Weight
012875	SB-100G	50 $\times$ 75 $\times$ 55	Max100	1.7kg

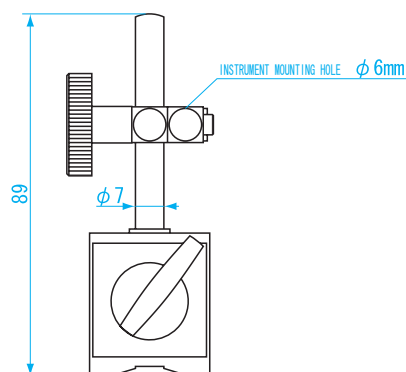
MAGNETIC BASE MINI TYPE



Mini type

DIMENSIONS

Units : mm



- USE**
- Measurements that require a dial indicator to be held in fixed position

MATERIAL

- Ferrite magnet

FEATURES

- Compact size
- Removable, with ON/ OFF magnet operation
- Magnetic force : approx. 250N (55 lb)
- Stem holder : ϕ 6mm
- Main post screw : M5 $\times$ P0.8

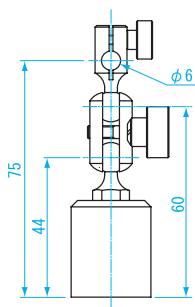
P262 Magnet Types and Characteristics

Order No.	Model No.	Base Dimension (mm)	Surface magnetic flux density (mT)	Weight
012872	SB-25M	30 $\times$ 35 $\times$ 35	Max100	270g

MINI MAGNETIC BASE

Mini type

DIMENSIONS Units : mm



USE • Measurements that require a dial indicator to be held in fixed position

MATERIAL • Alnico magnet

FEATURES

- Excellent holding force using high power alnico magnet
- Fixed type
- Magnetic force : approx. 80N (18 lb)
- Stem holder : ϕ 6mm
- Main post screw : M5 $\times$ P0.8

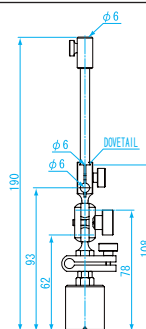
P262 Magnet Types and Characteristics

Order No.	Model No.	Base Dimension (mm)	Surface magnetic flux density (mT)	Weight
012700	B-2	ϕ 25 $\times$ 30	Max50	160g

MINI MAGNETIC BASE

Mini/ Fine Adjustment type

DIMENSIONS Units : mm



USE • Measurements that require a dial indicator to be held in fixed position

MATERIAL • Alnico magnet

FEATURES

- Excellent holding force using high power alnico magnet
- 90mm arm
- With fine adjustment (0.5mm adj. range)
- Magnetic Force : approx. 65N (15 lb)
- Stem holder : ϕ 6mm
- With dovetail mount
- Main post screw : M5 $\times$ P0.8

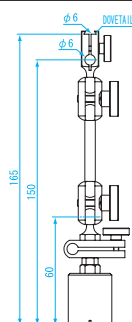
P262 Magnet Types and Characteristics

Order No.	Model No.	Base Dimension (mm)	Surface magnetic flux density (mT)	Weight
012701	B-3	25 $\times$ 25 $\times$ 25	Max50	230g

MINI MAGNETIC BASE

Mini / Fine Adjustment/ Long type

DIMENSIONS Units : mm



USE • Measurements that require a dial indicator to be held in fixed position

MATERIAL • Alnico magnet

FEATURES

- Excellent holding force using high power alnico magnet
- Two joints, with long arm
- With fine adjustment (0.5mm adj. range)
- Magnetic force : approx. 85N (20 lb)
- Stem holder : ϕ 6mm
- With dovetail mount
- Main post screw : M5 $\times$ P0.8

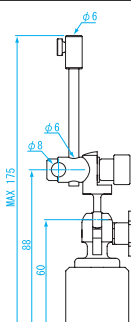
P262 Magnet Types and Characteristics

Order No.	Model No.	Base Dimension (mm)	Surface magnetic flux density (mT)	Weight
012702	B-4	25 $\times$ 25 $\times$ 30	Max50	280g

MINI MAGNETIC BASE

Universal/ Mini type

DIMENSIONS Units : mm



USE • Measurements that require a dial indicator to be held in fixed position

MATERIAL • Samarium Cobalt (Sm-Co) magnet

FEATURES

- Strong holding force using samarium cobalt magnet
- Universal joint can be set to any angle
- Locking knob for easy tightening
- Magnetic force : approx. 200N (45 lb)
- Stem holder : ϕ 6mm $\cdot$ ϕ 8mm
- With clamp for mounting dial gauge
- Main post screw : M5 $\times$ P0.8

Order No.	Model No.	Base Dimension (mm)	Surface magnetic flux density (mT)	Weight
012703	B-5	ϕ 35 $\times$ 32	Max90	270g



MINI MAGNETIC BASE

Universal/ Mini/ Fine Adjustment type

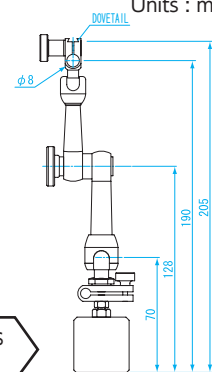
- USE** • Measurements that require a dial indicator to be held in fixed position
- MATERIAL**
- Samarium Cobalt (Sm-Co) magnet
- FEATURES**
- Strong holding force using samarium cobalt magnet
 - Universal joint can be set to any angle
 - Locking knob for easy tightening
 - With fine adjustment (0.5mm adj. range)
 - Magnetic force : approx. 200N (45 lb)
 - Stem holder : $\phi 8$ mm
 - With dovetail mount
 - Main post screw : M5 $\times$ P0.8



P262 Magnet Types and Characteristics

DIMENSIONS

Units : mm



Order No.	Model No.	Base Dimension (mm)	Surface magnetic flux density (mT)	Weight
012704	MB-6	$\phi 35 \times 32$	Max90	510g

MINI MAGNETIC BASE



Small/ Lock type

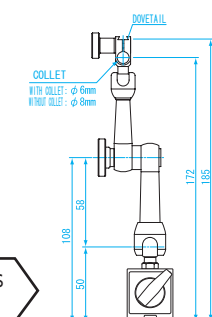
- USE** • Measurements that require a dial indicator to be held in fixed position
- MATERIAL**
- Ferrite magnet
- FEATURES**
- Mechanical lock knob tightens all three joints with a single operation
 - Removable, with ON/ OFF magnet operation
 - Magnetic force : approx. 250N (55 lb)
 - Stem holder : $\phi 6$ mm $\cdot$ $\phi 8$ mm
 - With dovetail mount
 - Main post screw : M5 $\times$ P0.8



P262 Magnet Types and Characteristics

DIMENSIONS

Units : mm



Order No.	Model No.	Base Dimension (mm)	Surface magnetic flux density (mT)	Weight
012705	MB-7	30 $\times$ 35 $\times$ 35	Max100	550g

VACUUM CLAMPING BASE

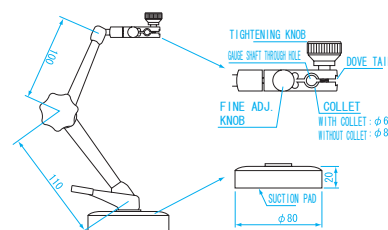


- USE** • For mounting dial indicator
- MATERIAL**
- Main body : Aluminum
 - Suction cup : Rubber
- FEATURES**
- Suction cup for fixing to non-magnetic surface such as granite surface plate
- SPECIFICATIONS**
- Holding force : approx. 200N (45 lb)
 - Stem holder : $\phi 6$, $\phi 8$ (with dovetail groove)
 - Shaft diameter : M8



DIMENSIONS

Units : mm



Order No.	Model No.	Base Dimension (mm)	Weight
011755	VB-20	$\phi 80 \times 20$	550g