

## Inspection Instrument for Indicators i-Checker



## For efficient in-house calibration

**Bore Gages**



**Digimatic Indicators**



**Dial Indicators**



## Various types of indicators can be

### Features

- Inspection can be performed 2.5 times faster compared to the previous model.
- This instrument achieves the highest accuracy in its class (Mitutoyo survey, February 2016) and, therefore, guarantees ultra-reliable inspection results.
- Digital indicators equipped with a data output function are efficiently checked due to spindle positioning at the inspection points and records fully automatic measurement results.
- Analog indicators are inspected in semi-automatic mode with the pointer of the indicator manually adjusted at each measuring point with automatic transfer of inspection results and movement to the next measuring point.
- The latest standard for dial test indicators, ASME and DIN, are applied.
- Operators can customize inspection standards and inspection certifications.

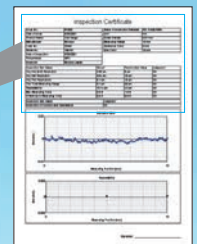


Inspection using analog indicator



Inspection using digimatic indicator

Inspection Certificate			
Order No.	M1002	Name of Inspection Standard	ISO 9001:2000
Date of Issue	9/25/2001	Unit	mm
Product Name	Test Gauge	Scale Interval	0.01 mm
Manufacturer	Mitutoyo	Measuring Range	10 mm
Code No.	20141	Reference Point	0 mm
Serial No.	100101	Unit Point	10 mm
Date of Inspection	9/25/2001		
Inspector	2070		
Inspector	M. Kojima		
Inspection Item Name		Result	Permissible Value
Any One-Point Resolution		0.02 mm	0.05 mm
Any Two-Point Resolution		0.05 mm	0.10 mm
Any Three-Point Resolution		0.10 mm	0.15 mm
The Total Measuring Range		0.1 mm	0.20 mm
Repeatability		0.01 mm	0.02 mm
Max. Measuring Force		0.5 N	1.5 N
Reference Measuring Force		0.2 N	0.5 N
Inspection Item Name		Judgment	
Inspection of Function and Appearance		OK	



## Dial Test Indicators



# Inspection Instrument for Indicators i-Checker

## Linear Gages

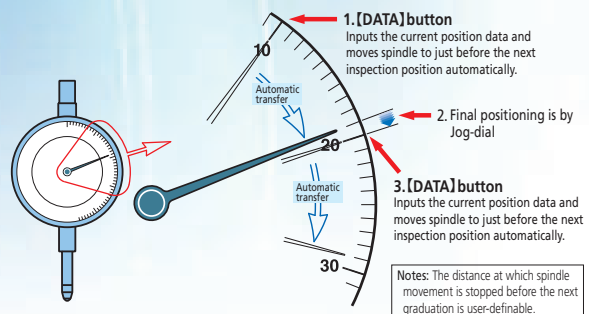
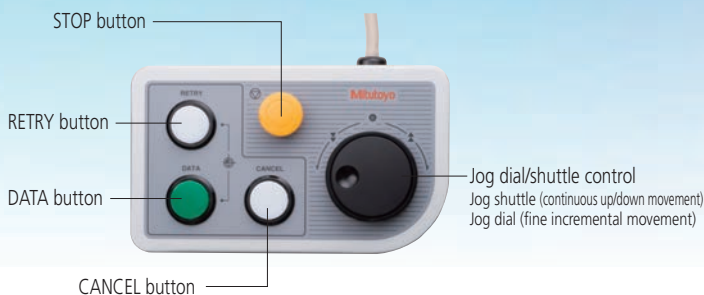


## Lever Probes



inspected with a single tester.

- A laptop can be connected using a USB cable.
- All functions necessary for inspection are combined in the control box, eliminating operator fatigue.

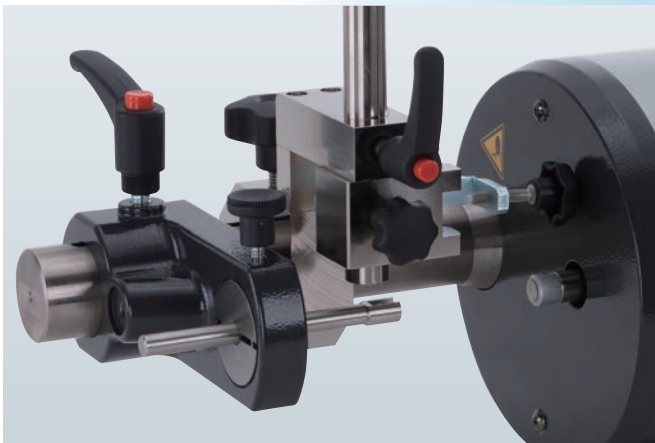


## Optional Accessories and Applications

### Applications for Bore Gage Accessory Set

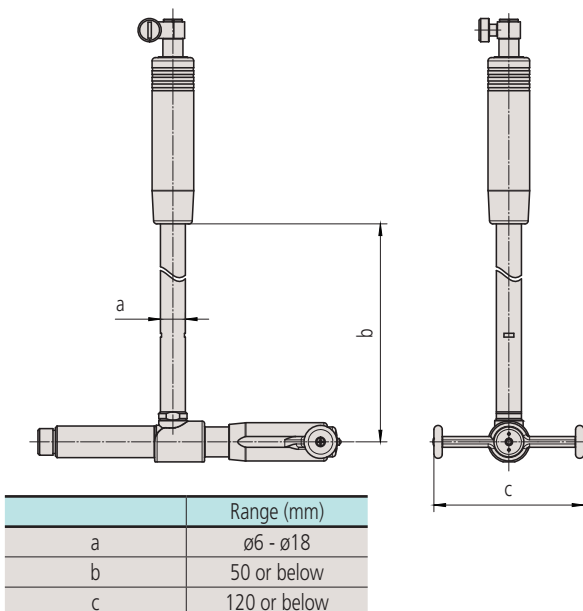


Applications for bore gage measurement accessory set (type C)

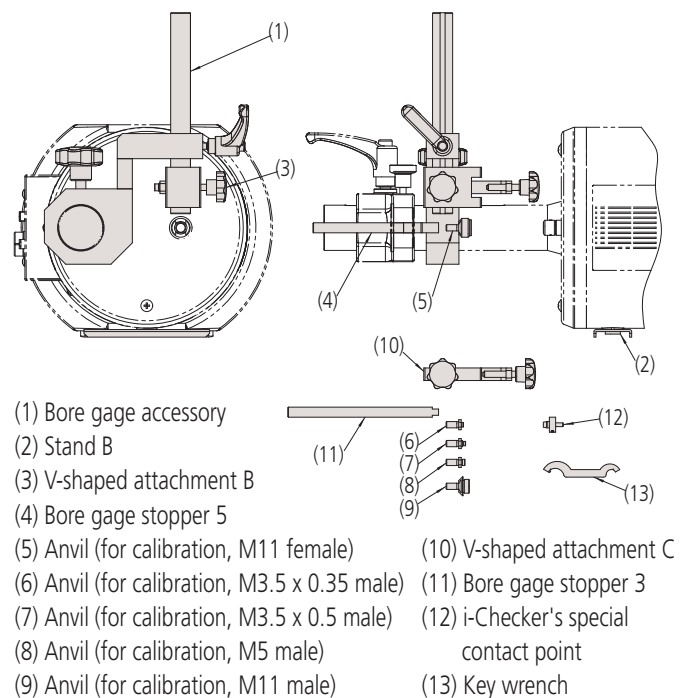


Application for mounting bore gage accessory set (type C)  
Order No. 02ASU161

### i-Checker mountable bore gages



### List of components for bore gage accessory set (type C) Order No.02ASU161





## Applications for Dial Test Indicator Accessory Set



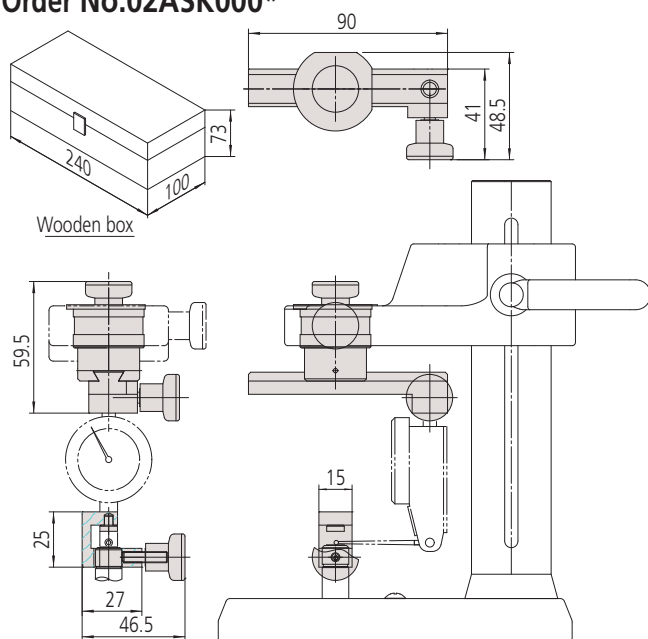
Applications for dial test indicator accessory set (for horizontal type)



Applications for dial test indicator accessory set (for vertical type)



## Dial test Indicator accessory set (for $\phi 6$ stem)\* Order No.02ASK000\*



\* other set sizes available



## Optional accessories

### Attachments/Stem bushing/Others/Connecting cables

Order No.	Item	Usage and remarks
Attachment		
<b>02ASK000</b>	Test indicator accessory set (for ø6mm stem)	For attachment of ø6 stem test indicator
<b>02ASK180</b>	Test indicator accessory set (for ø8mm stem)	For attachment of ø8 stem test indicator
<b>02ASK370</b>	Test indicator accessories set (for ø6 stem)	Holder to fix ø6 stem to 02ASK180
<b>02ASK380</b>	Test indicator accessories set (for ø8 stem)	Holder to fix ø8 stem to 02ASK000
<b>902803</b>	ø6 dovetail grooved stem	Stem to attach Mu-Checker with knurled clamp ring (lever head) to test indicator accessory set (02ASK000)
<b>902804</b>	ø8 dovetail grooved stem	Stem to attach Mu-Checker with knurled clamp ring (lever head) to test indicator accessory set (02ASK180)
<b>02ASU162</b>	Bore gage accessory set (type C)	Accessory set for holding grip bore gage
Stem bushing		
<b>02ASK040</b>	Stem bushing ø6	
<b>02ASJ856</b>	Stem bushing ø8	
<b>02ASK150</b>	Stem bushing ø8, short	For attachment of cartridge head MCHP-341
<b>02ASL150</b>	Stem bushing ø10	
<b>02ASK050</b>	Bushing ø9.5 - ø15	For attachment of LGB2 fixing nut with stem diameter ø9.5 Stem bushing (ø15mm) is required separately.
<b>02ASK060</b>	Stem bushing ø12	
<b>02ASK070</b>	Stem bushing ø15	
<b>02ASK080</b>	Stem bushing ø20	
<b>02ASK710</b>	Stem bushing ø28	
<b>02ASK090</b>	Stem bushing ø3/8 in	For attachment of indicator with stem diameter ø9.525mm
<b>02ASK130</b>	Wooden box for No. 02ASK130 stem bushings	Storage of 7 stem bushings and 1 bushing (ø9.5 - ø15mm)
Others		
<b>937179T</b>	Foot switch	Used instead of [DATA] button in the operation box.
<b>02ASK730</b>	Observation mirror	
Connecting cables		
<b>905338</b>	Connecting cable (1m)*1	Used for connecting with Digimatic Indicators (ID-C, ID-S, ID-U, and IDU)
<b>905409</b>	Connecting cable (2m)*1	
<b>936937</b>	Connecting cable (1m)*1	(ID-F, ID-F, Digimatic power supply unit and between the testers)
<b>965014</b>	Connecting cable (2m)*1	
<b>937387</b>	Connecting cable (1m)*1	Used for connecting with Digimatic Indicators (IDC and IDA)
<b>965013</b>	Connecting cable (2m)*1	
<b>965275</b>	Digimatic power supply unit*2	Used for the Digimatic Indicators that require external power supply

\*1 Use the cable described in the user's manual.

\*2 Confirm the specification in the user's manual.

## Dedicated software (i-Pak specification)

### • Supported OS

Windows10 (64bit)

### • Supported Industrial Standards

ISO, JIS, JMAS, ANSI/ASME, DIN, VDI/VDE/DGQ, BS

### • Basic inspection functions

- Creation of inspection standard conformed to the industrial standard
- Creation and editing of original inspection standard by customizing the industrial standard
- Inspection of indicator using the inspection standard (inspection for accuracy and repeatability)
- Graphical display of measurement result
- Creation, editing and printing of simplified inspection certificate

### • Function

- Retry "measurement positioning"
- Re-measurement
- Data cancellation
- Change of speed for jog shuttle

### • Input/Output specifications

- Digimatic data connector (rear side of i-Checker main unit)\*3
- PC serial-data input port (RS-232C)
- Printing of simplified inspection certificates

\*3 Automatic measurement requires the indicator's connecting cable.

## Supported indicators

- Dial Indicator
- Dial Test Indicator
- Mitutoyo Hicator
- Bore Gage
- Digimatic Indicator
- Linear Gage
- Mu-Checker

\* It cannot inspect the indicator with accuracy that is higher than the main unit accuracy of the tester.

\* Resolution of Mu-checker is greater than 1µm (e.g. 1µm/5µm/10µm/50µm).

## Supported Industrial Standards

	Dial Indicator	Dial Test Indicator	Hicor	Bore Gage	Digimatic Indicator	Linear Gage	Mu-Checker
ANSI/ASME	B89.1.10M-2001 B89.1.10M-1987	B89.1.10M-2001 B89.1.10M-1987	—	—	B89.1.10M-2001	—	—
ISO	463-2006 R463-1965	9493-2010	—	—	—	—	—
JIS	B7503-2011 B7503-1997 B7503-1992	B7533-2015 B7533-1990	B7519-1994	B7515-1982	—	—	B7536-1982
JMAS	2001-1998 2001-1994 2003-1994	—	—	5009-1988	—	—	5003-1962
DIN	878-2006 878-1983	2270-1985	879-1983	—	—	—	—
VDI/VDE/DGQ	2618 Blatt11-1991	2618 Blatt11.3-2002 2618 Blatt20-1991	2618 Blatt21-1991	—	—	—	2618 Blatt26-1991
BS	907-1965	2795-1981	—	—	—	—	—
Mitutoyo Standard	—	—	—	—	✓	✓	—

## Specifications

Order No.	64PKA148 †
Measuring Range	100mm / 4"
Resolution	0.01μm / .1μin
Accuracy (20°C)	vertical position (0.1+0.4L/100) μm L = Arbitrary length (mm) lateral position (0.15+0.6L/100) μm L = Arbitrary length (mm)
Feed speed	Maximum 10mm/s
Drive method	Motor drive, semi-automatic, fully automatic (Fully automatic only for indicators with SPC data output)
Measuring Unit	Separate linear encoder
Thermal expansion coefficient of measurement mode	1.5×10 <sup>-6</sup> / K
Measurement method	Semi-automatic measurement Fully automatic measurement (only when using an indicators equipped with data output function) *1,*2
Mass	20kg
Operating temperature range	20°C±0.5°C

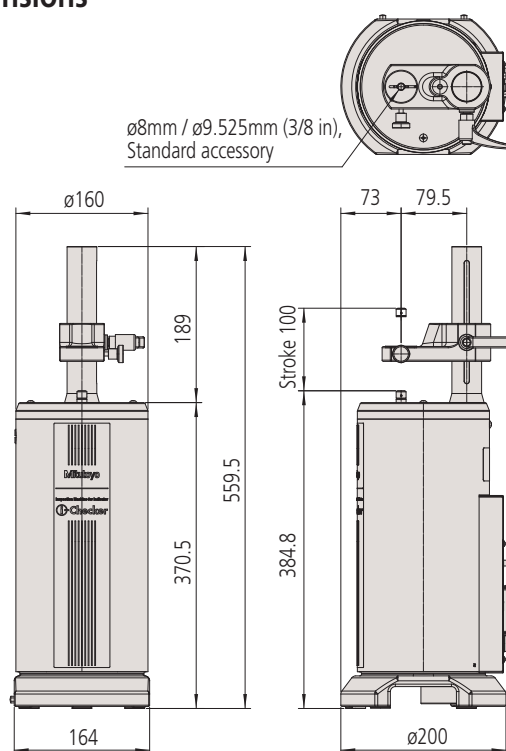
\*1 Automatic measurement requires the indicator's connecting cable.

\*2 The indicator measured via RS-232C has the capability to receive data from the main unit and output the counter value.

† Recommended PC package: 64PKA149D

## Dimensions

Unit: mm



## Standard accessories supplied Order No.64PKA148

Order No.	Item	QTY.
02AST250	Tester main unit	1
02AST780	Controller ICMC-2	1
02NJA004	i-Pak 2.0	1
02ZAA010	AC Cable	1
02AST830	Control box	1
02ASU001	EXT. Signal Cable	1
02ASU002	EXT. Motor Cable	1
02ASU003A	EXT. USB2.0 Cable	1
02ASJ856	Stem bushing 8mm	1
02ASK091	Stem bushing 9.525mm (3/8 in)	1
601614-2	Dust cover	1
99MBD063A	User's Manual (English)	1
—	Inspection certificate, Certification of calibration and Traceability chart (English)	1

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