

2021  
2022



# MEASURING INSTRUMENTS

CATALOGUE NO. 104



# QUALITY | INNOVATION | SERVICE | VALUE



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Measuring Length		Permissible Error	Error		Measuring Length		Permissible Error	Error	
			External	Internal				External	Internal
0.4 Dk		+0,0005 -0,0010	/	0,0005	Φ10		+0,01 -0,02	/	0,01
2		±0,0010	-0,0005	/	50		±0,02	-0,01	/
4			-0,0005	/	100			-0,01	/
6			-0,0010	/	150			-0,02	/
8			/	/	200			/	/
10		±0,0015	/	/	250			/	/
12			/	/	300		±0,03	/	/



Please scan QR code to watch the videos of products.



How to search:

1. Search for products according to category in PRODUCT INDEX (next 5 pages)
2. Search for products in CODE NO. INDEX (page 471-474)
3. Search for products in APPLICATION INDEX OF MEASURING TOOLS (page 475-480)

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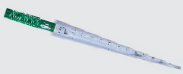
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TAPER SLOT GAGES



TAPER GAGES



TAPER BORE GAGES



WELDING GAGES



AMERICAN STANDARD WIRE GAGE



U.S. STANDARD SHEET METAL GAGE



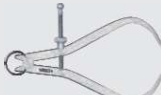
DRILL POINT GAGE



DRILL ANGLE GAGE



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OUTSIDE CALIPERS



DIVIDERS



MEASURING TAPES



MEASURING WHEELS



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COMBINATION SQUARE SETS



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SCRIBERS



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PRECISION VISES



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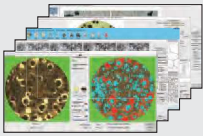
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MAGNIFIERS



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INFRARED THERMAL CAMERAS



THERMAL SCANNERS



THERMOHYGROMETERS



LUX METERS



DIGITAL ANEMOMETERS



DIGITAL MOISTURE METERS



DIGITAL SOUND LEVEL METERS



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FORCE GAGES



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ULTRASONIC HARDNESS TESTER



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CUTTING MACHINE

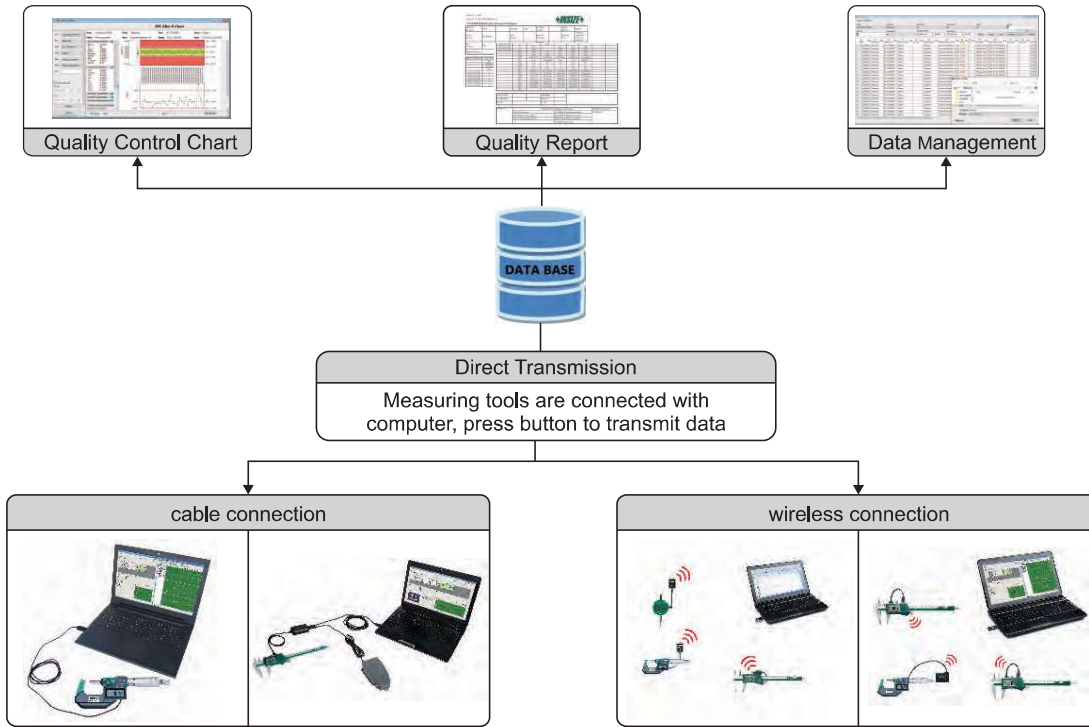


GRINDER AND POLISHER



MOUNTING PRESS

# MEASURING DATA MANAGEMENT SOFTWARE CODE 7316-10

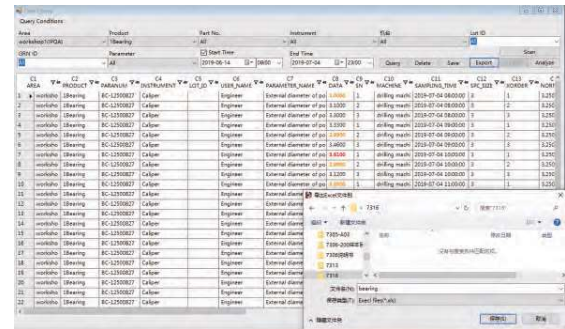
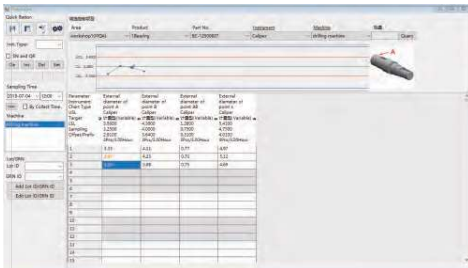


## Direct Transmission

- Transmit data through cables or wireless systems

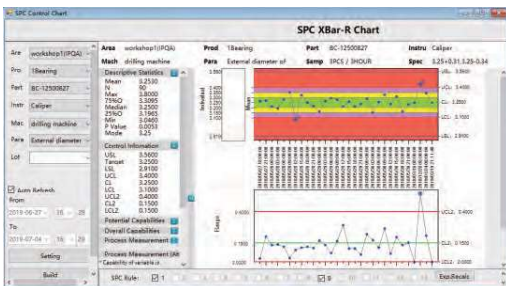
## Data Management

- Measuring data are stored in database



## Quality Control Chart

- Analyze the tendency of data, make production adjustment in advance



## Quality Report

- Generate different EXCEL report formats according to requirements

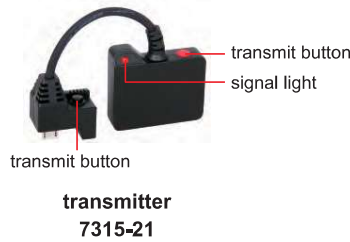



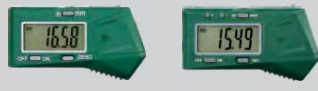
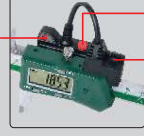


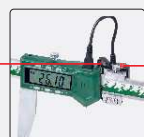













## WIRELESS DATA TRANSMISSION SYSTEM

- Transmission distance is 10 meter
- Press the button to transmit data
- 7315-2 is supplied with EXCEL directional input software, each measuring tool is only displayed in the specified area

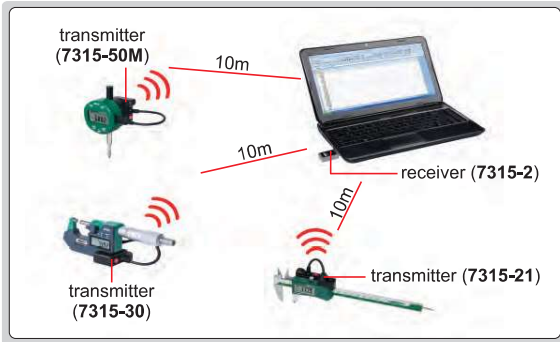


Code	Description	Plug to product	Remark
7315-2	multichannel receiver		<ul style="list-style-type: none"> <li>Connected with maximum 8 transmitters, each of them has unique identification code.</li> <li>Text format virtual com port, converted to keyboard format with supplied software (data can be transmitted to EXCEL, WORD etc. and any software which receives keyboard signal)</li> <li>Using EXCEL directional input software, the measurement data of different measuring tools can be transmitted to the specified area in the sheet.</li> </ul>
7315-3	single channel receiver		<ul style="list-style-type: none"> <li>Connected with 1 transmitter only, transmitter can be changed as needed.</li> <li>Recognized as HID keyboard device by computer, no need to install drivers and softwares</li> <li>Data can be transmitted to Excel, Word, txt and other files (press transmit button of transmitter, which is recognized by the computer as keyboard input data and press enter, such as 12.34)</li> <li>Suitable for any softwares which can receive keyboard signal</li> </ul>
7315-21	transmitter for digital calipers		  <p>digital calipers and digital depth gages</p>
7315-22	transmitter for large digital calipers		  <p>large digital calipers (range ≤1000mm) and digital height gages</p>
7315-30	transmitter for digital micrometers		  <p>digital micrometers</p>
7315-50M	transmitter for digital indicators		  <p>digital indicators, digital thickness gages and digital internal/external caliper gages</p>
7315-60	transmitter for high precision digital indicators		  <p>2140-6 and 2133 series high precision digital indicators 3350 series high precision digital snap gages</p>

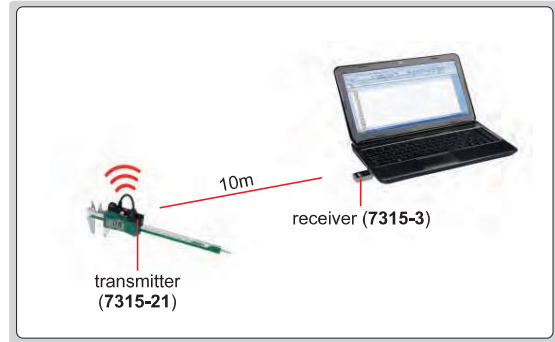
To be continued

Continued from previous page

7315-2 application (multichannel)



7315-3 application (single channel)



Excel directional input software (included in 7315-2), application example 1

Set the display area of caliper at B4-B9, the readings of caliper are displayed at B4, B5...B9. Set the display area of micrometer at C4-C9, the readings of micrometer are displayed at C4, C5... C9. Set the display area of height gage at D4-D9, the readings of height gage are displayed at D4, D5... D9.

	A	B	C	D
1	Project	Length	Width	Height
2	Dimension and Tolerance	50±0.05	24±0.01	10±0.05/-0.06
3	Measuring tool	Caliper	Micrometer	Height gage
4	1	50.02	24.004	9.98
5	2	50.01	24.010	10.01
6	3	49.99	23.990	10.02
7	4	50.00	23.996	9.99
8	5	50.04	24.000	10.01
9	6	Channel 1	Channel 2	Channel 3

Serial of workpieces

The next data display area is indicated in green

Excel directional input software (included in 7315-2), application example 2

Set the display area of micrometer at B4-C9, data input is from the left to the right, the readings of micrometer are displayed at B4, C4, B5, C5... B9, C9. Set the display area of caliper at D4-D9, the readings of caliper are displayed at D4, D5... D9. Set the display area of depth gage at E4-E9, the readings of depth gage are displayed at E4, E5... E9.

	A	B	C	D	E
1	Project	External diameter1	External diameter2	Length	Depth
2	Dimension and Tolerance	Φ23+0.01/-0.02	Φ21+0.01/-0.02	50±0.04	28±0.05
3	Measuring tool	Micrometer	Micrometer	Caliper	Depth gage
4	1	23.010	21.008	49.98	28.01
5	2	23.010	21.000	49.98	27.98
6	3	22.999	21.000	50	28
7	4	23.007	20.998	50	28
8	5	23.000	20.985	50.01	28.01
9	6	23.008	Channel 1	Channel 2	Channel 3

Serial of workpieces

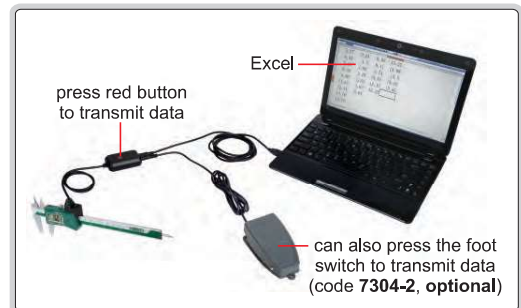
The next data display area is indicated in green

## DATA OUTPUT CABLES (KEYBOARD FORMAT)



7302-40M

application



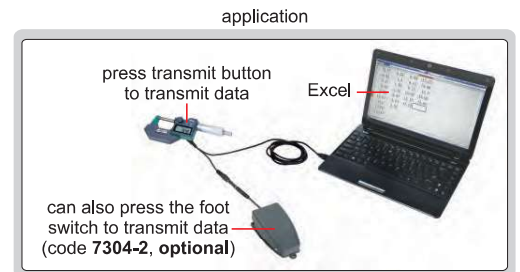
- Recognized as HID keyboard device by computer, no need to install drivers and softwares
- Data can be transmitted to Excel, Word, txt and other files (press transmit button, which is recognized by the computer as keyboard input data and press enter, such as 12.34↵)
- Suitable for any softwares which can receive keyboard signal
- Optional accessory: foot switch (code: 7304-2), hub (code: 7302-HUB, 7302-HUB7) extension cables (code: 7302-ADD5, 7302-ADD10)

To be continued

Continued from previous page

**SEPARATED BUTTON**

Code	Description	Plug to product	Plug to computer	Applicable products
7302-21	cable for digital calipers (length 3m)	transmit button		 digital calipers and digital depth gages
7302-22	cable for large digital calipers (length 2.5m)			 large digital calipers (range ≤1000mm) and digital height gages
7302-30	cable for digital micrometers (length 2.5m)			 digital micrometers
7302-40M	cable for digital indicators (length 2.5m)			 digital indicators
7302-50M	cable for digital gages (length 2.5m)			 digital thickness gages and digital internal/external caliper gages
7302-60	cable for high precision digital indicators (length 2.5m)			 2140-6 and 2133 series high precision digital indicators 3350 series high precision digital snap gages



**INTEGRATED BUTTON**

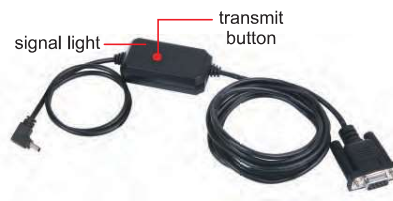
Code	Description	Plug to product	Plug to computer	Applicable products
7302-SPC10	cable for digital micrometers (length 1.8m)			 digital micrometers (code with suffix Q, such as 3101-25ACQ)

## DATA OUTPUT CABLES (TEXT FORMAT, VIRTUAL COM PORT)

application


























7305-40M



7305-R40M

- Optional accessory: foot switch (code: 7304-2), hub (code: 7302-HUB, 7302-HUB7)





### Single transmission (can be switched to continuous transmission)

Code	Description	Plug to product	Plug to computer	Applicable products
7305-21	cable for digital calipers (length 3m)	 transmit button		  
7305-R21				
7305-22	cable for large digital calipers (length 2.5m)			  
7305-R22				
7305-30	cable for digital micrometers (length 2.5m)			 
7305-R30				
7305-50M	cable for digital gages (length 2.5m)			  
7305-R50M				

To be continued

Continued from previous page

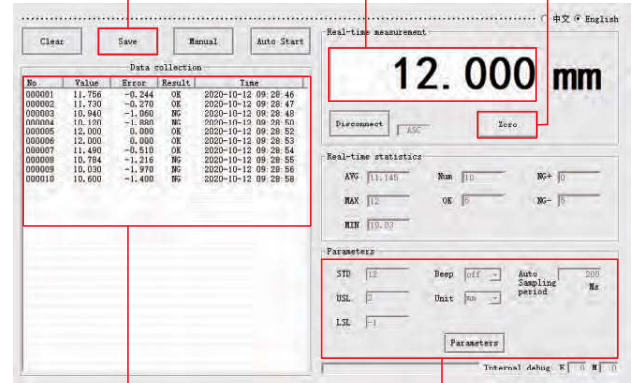
**Continuous transmission (can be switched to single transmission)**

Code	Description	Plug to product	Plug to computer	Applicable products
7305-40M *	cable for digital indicators (length 2.5m)			 <p>digital indicators</p>
7305-R40M *				

\* Supplied with software

**Software (included in 7305-40M and 7305-R40M)**

- Real-time display
- Tolerance setting, automatic judgment, out-of-tolerance alarm
- Real time statistics: max, min, average, Go/No-Go number
- Data transmission: single transmission with button on cable/foot switch, single transmission operated on computer, continuous transmission operated on computer
- Can save results as EXCEL



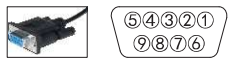
Export Excel      Real-time display      Setting zero of measuring tools

Measurement results and judgment      Setting tolerance and sampling period

Communication protocol

- Baud: 9600bps
- Data bit: 8
- Stop bit: 1
- Check bit: None
- No flow control

Pin definition of RS232 plug:



Pin No.	Symbol	Description
2	TXD	Data OUT
3	RXD	Data IN
4	VDD	+5V Power
5	GND	Ground

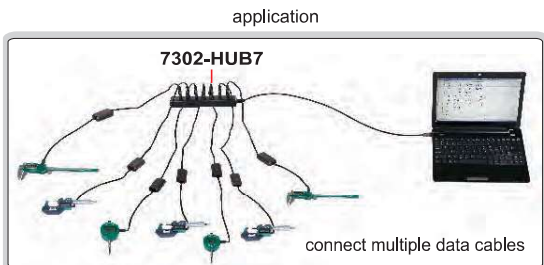
Data output format

D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
Data section (floating point)									CR

Data format example

Display	Output
1.234	+0001.234 ✓
-1.234	-0001.234 ✓

**HUBS**



7302-HUB



7302-HUB7

- Suitable for USB plug data cable

Code	Description	Applicable products
7302-HUB	4-channel hub (length 0.3m, USB computer plug)	7302 series data cables
7302-HUB7	7-channel hub (length 1m, USB computer plug)	7305 series data cables (USB plug)

## FOOT SWITCH

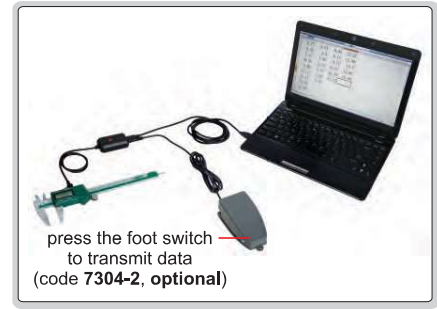
- For data transmission



7304-2

Code	Description	Applicable products
7304-2	data transmission foot switch with cable (length 2m)	7302 series data cables 7305 series data cables

application



## EXTENSION CABLES

Code	Description	Applicable products
7302-ADD5	Data extension cable (length 5m, USB plug)	7302 series data cables 7305 series data cables (USB plug)
7302-ADD10	Data extension cable (length 10m, USB plug)	



7302-ADD5

application



## ADAPTERS FOR DATA OUTPUT CABLE



7323-OTGM



7323-OTGC



7323-OTGC4

- Connect data output cables or wireless receivers to mobile phones, tablet computers (Type-C or Micro-USB interface)
- Data can be transmitted to any app that can receive keyboard signal (such as Excel, WPS, memorandum and other data management softwares)

application

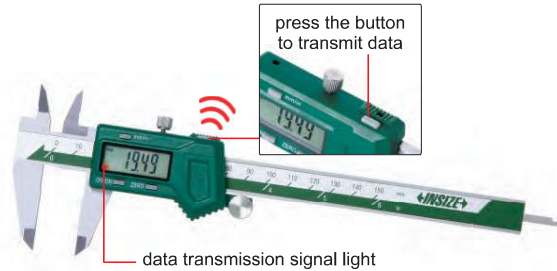
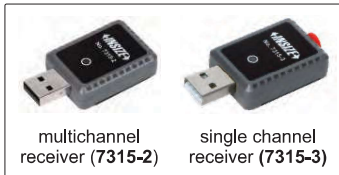


Code	Type	Applicable interface of mobile phones or tablet computers	Plug type	Applicable products
7323-OTGM	One to one	Micro-USB		
7323-OTGC	One to one	Type-C		
7323-OTGC4	One to four	Type-C		

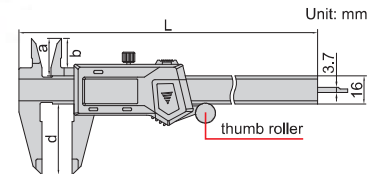
## WIRELESS DIGITAL CALIPERS



receiver (optional)

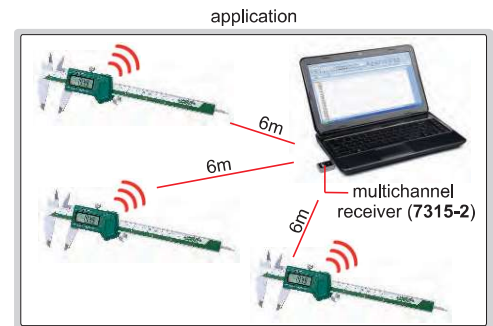


1113-150



- Built-in wireless data transmission module, Zigbee signal
- Transmission distance is 6 meter
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch, data transmission
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel
- Optional accessory: receiver (code 7315-2, 7315-3)

Code	Range	Accuracy	Thumb roller	L	a	b	d
1113-150 *	0-150mm/0-6"	±0.03mm	with	236	21	16	40
1113-200 *	0-200mm/0-8"	±0.03mm	with	286	24	19	50
1113-300 *	0-300mm/0-12"	±0.03mm	with	400	25	20.5	60
1113-150W *	0-150mm/0-6"	±0.03mm	without	236	21	16	40
1113-200W *	0-200mm/0-8"	±0.03mm	without	286	24	19	50
1113-300W *	0-300mm/0-12"	±0.03mm	without	400	25	20.5	60



\*Supplied with manufacturer inspection certificate traceable to DKD Germany

ATTENTION: IT IS NECESSARY TO SET ZERO AFTER POWER ON EACH TIME

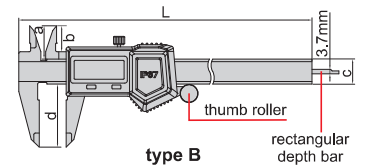
ATTENTION: NO DATA OUTPUT

**IP67**  
WATERPROOF

## IP67 WATERPROOF DIGITAL CALIPERS



1118-150B



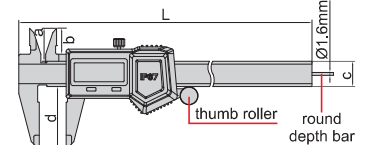
type B

rectangular depth bar

- IP67 dust/waterproof
- Resolution: 0.01mm/0.0005"
- Button function: zero, on/off, mm/inch, ABS/REL, hold
- Battery CR2032
- Meet DIN862
- Made of stainless steel



1118-150R



type R

round depth bar

Code	Range	Accuracy	Thumb roller	Type	L	a	b	c	d
1118-150B *	0-150mm/0-6"	±0.03mm	with	B	236mm	21mm	16mm	16mm	40mm
1118-200B *	0-200mm/0-8"	±0.03mm	with	B	286mm	24mm	19mm	16mm	50mm
1118-300B *	0-300mm/0-12"	±0.03mm	with	B	400mm	25mm	20.5mm	16mm	60mm
1118-150BW *	0-150mm/0-6"	±0.03mm	without	B	236mm	21mm	16mm	16mm	40mm
1118-200BW *	0-200mm/0-8"	±0.03mm	without	B	286mm	24mm	19mm	16mm	50mm
1118-300BW *	0-300mm/0-12"	±0.03mm	without	B	400mm	25mm	20.5mm	16mm	60mm
1118-150R *	0-150mm/0-6"	±0.03mm	with	R	236mm	21mm	16mm	16mm	40mm

\*Supplied with manufacturer inspection certificate traceable to DKD Germany