

## ABSOLUTE AOS DIGIMATIC CALIPER

Equipped with AOS (Advanced Onsite Sensor) induction type encoder



# The **NEW** Generation **ABSOLUTE AOS Digimatic Caliper**

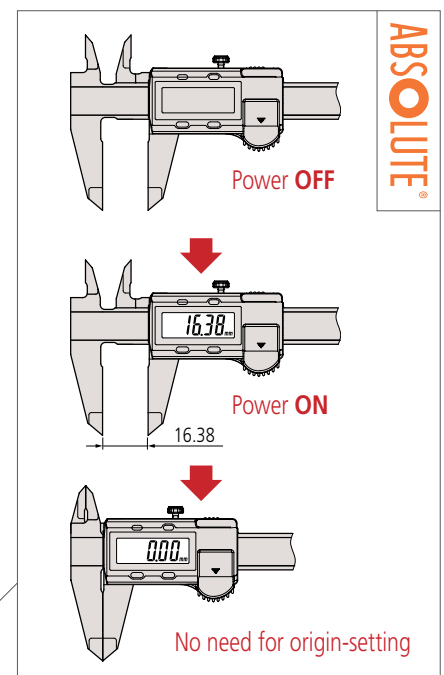


A new series of cost-effective standard Digimatic caliper born of Mitutoyo's ground-breaking encoder technologies developed over the last 30 years.

Now equipped with the same AOS (Advanced Onsite Sensor) induction type encoder used in top-of-the-line ABS coolant-proof calipers.

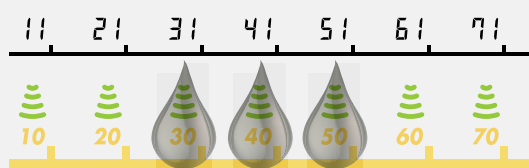
## Benefits

- Thanks to the adoption of the electromagnetic induction type ABS encoder, this caliper can be used without concern for contamination on the scale face during measurement. The detected signal is not affected by dirt (water, oil, etc.) on the surface of scale.
- Character height: 9 mm (high-contrast LCD alleviates eye fatigue).
- Carbide-tipped jaw models are ideally suited to the measurement of rough-machined workpieces, castings, grinding wheels, etc.
- A battery life of approximately 3.5 years (18,000 hr) has been achieved under normal use through the adoption of Mitutoyo's ABSOLUTE scale.
- The slider provides smooth, stable and comfortable operation.
- The data output function allows integration into statistical process control and measurement systems.
- The ABS (absolute) scale requires no origin setting after power-on and imposes no limit on slider speed.



## Electromagnetic Induction Absolute Encoder

Detection signal **IS NOT** affected by dirt (water, oil, etc.) on surface of a scale.

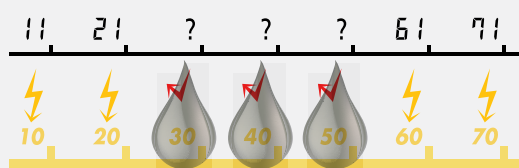


## Electrostatic Capacitive Absolute Encoder

Detection signal **IS** affected by dirt (water, oil, etc.) on surface of a scale.



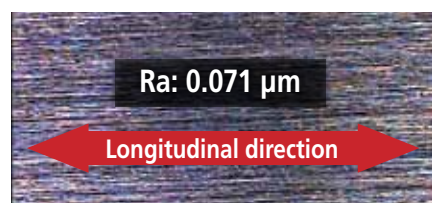
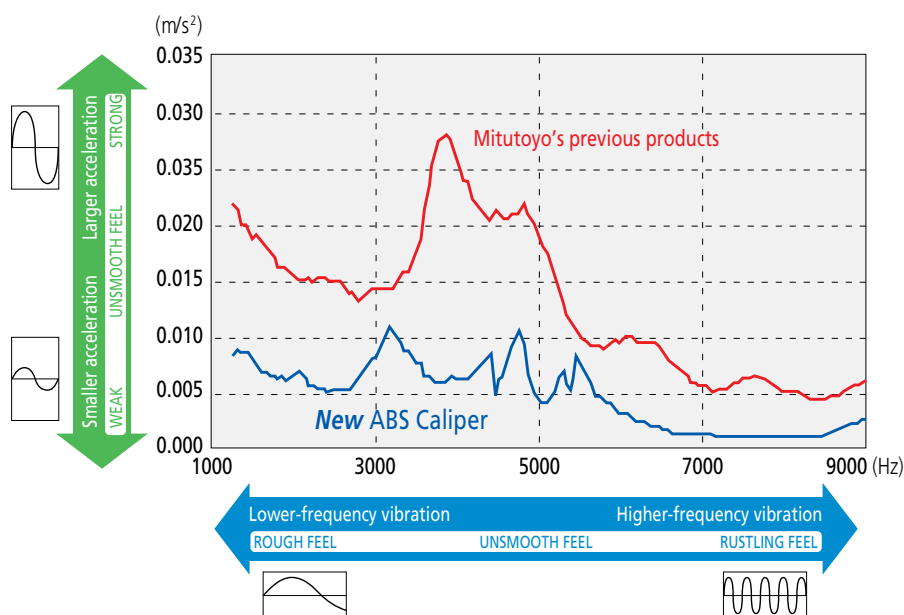
Display



Graduations

## Assessment of slider operating 'feel'

This assessment is obtained from a *Fast Fourier Transform* (FFT) analysis of vibrations during sliding with acceleration sensors mounted on the slider.



The quality of the slider bearing surface has improved due to use of the latest machining technology.

## Functions

### ABS (absolute) measurement

Enables absolute-mode measurement to be started without zero-setting after switch-on. The absolute origin position can be set, or reset, with the ORIGIN switch at any time.

### INC (incremental) measurement

Enables the display value to be set to zero, temporarily, at the current slider position to enable easy incremental-mode measurement.

### Data output

Allows measurement data to be sent for external analysis and storage using the optional data cable.

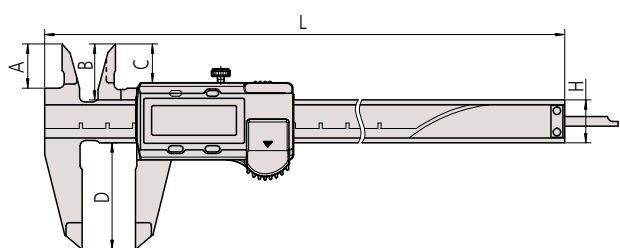
### Hold

Allows a measurement value to be temporarily held in the display using the optional Data Hold unit. (This function cannot be used if the data output function is in use.)

### Low battery alarm

Indicates (with a 'B' symbol in the display) that the battery needs replacing. This allows timely battery replacement before the caliper becomes unusable.

## Dimensions

							Unit: mm
Measuring range	A	B	C	D	H	L	
0-100	16.5	21	14.5	40	16	182	
0-150	16.5	21	14.5	40	16	233	
0-200	20	24.5	18	50	16	290	

Thickness of outer jaws: 3.5  
Thickness of beam: 3.5

## Specifications

Order No.	Range	Accuracy*	Mass	Data output	Thumb roller	Remarks
500-170-30	0-100 mm/0-4"	± 0.02 mm	143 g	■	■	Depth bar ø1.9 mm
500-195-30	0-100 mm/0-4"	± 0.02 mm	143 g			Depth bar ø1.9 mm
500-171-30	0-150 mm/0-6"	± 0.02 mm	168 g	■	■	–
500-174-30	0-150 mm/0-6"	± 0.02 mm	168 g	■	■	Carbide-tipped jaws for outside measurement
500-175-30	0-150 mm/0-6"	± 0.02 mm	168 g	■	■	Carbide-tipped jaws for outside and inside measurement
500-178-30	0-150 mm/0-6"	± 0.02 mm	168 g	■	■	Depth bar ø1.9 mm
500-196-30	0-150 mm/0-6"	± 0.02 mm	168 g		■	–
500-172-30	0-200 mm/0-8"	± 0.02 mm	198 g	■	■	–
500-176-30	0-200 mm/0-8"	± 0.02 mm	198 g	■	■	Carbide-tipped jaws for outside measurement
500-177-30	0-200 mm/0-8"	± 0.02 mm	198 g	■	■	Carbide-tipped jaws for outside and inside measurement
500-179-30	0-200 mm/0-8"	± 0.02 mm	198 g		■	–

\* Quantizing error excluded

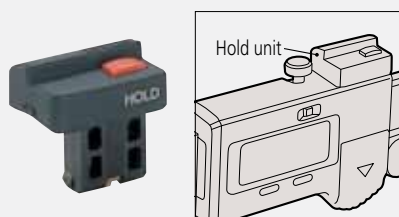
## Common specifications

- Resolution: 0.01 mm
- Repeatability: 0.01 mm (Quantizing error excluded)
- Power supply: Button-type silver oxide battery SR44 (No. 938882), 1 piece supplied as standard
- Battery life: Approx. 3,5 years (18,000 hr) in normal use
- Maximum response speed: Unlimited
- An inspection certificate is included standard with each caliper.



## Optional accessories\*

### Data hold unit 959143



### Digimatic cables

For use with DP-1VR Printer or DMX interface

1 m: 959149

2 m: 959150



### USB input tool direct

USB-ITN-C (2 m): 06ADV380C



### U-WAVE-T dedicated Digimatic cables

For standard use: 02AZD790C

For use with footswitch: 02AZE140C



\* These accessories are available only for those models with the measurement data output function.







Whatever the challenge, Mitutoyo supports you from start to finish.

Mitutoyo is not only a manufacturer of top quality measuring products but one that also offers qualified support for the lifetime of the equipment, backed up by comprehensive services that ensure your staff can make the very best use of the investment.

Apart from the basics of calibration and repair, Mitutoyo offers product and metrology training, as well as IT support for the sophisticated software used in modern measuring technology. We can also design, build, test and deliver bespoke measuring solutions and even, if deemed cost-effective, take your critical measurement challenges in-house on a sub-contract basis.



Scan QR-code for quick access to the Mitutoyo Video Channel and detailed information about the ABSOLUTE AOS Digimatic.

**Note:** All information regarding our products, and in particular the illustrations, drawings, dimensional and performance data contained in this printed matter as well as other technical data are to be regarded as approximate average values. We therefore reserve the right to make changes to the corresponding designs, dimensions and weights. The stated standards, similar technical regulations, descriptions and illustrations of the products were valid at the time of printing. In addition, the latest applicable version of our General Trading Conditions will apply. Only quotations submitted by ourselves may be regarded as definitive.

Coordinate Measuring Machines	
Vision Measuring Systems	
Form Measurement	
Optical Measuring	
Sensor Systems	
Test Equipment and Seismometers	
Digital Scale and DRO Systems	
Small Tool Instruments and Data Management	

#### Mitutoyo (UK) Ltd

West Point Business Park, Joule Road  
Andover, Hampshire SP10 3UX

T +44 (0)1264 353123

T +44 (0)1264 354883

enquires@mitutoyo.co.uk

www.mitutoyo.co.uk

# Mitutoyo