AOS Absolute Digimatic Caliper

CD-AX/APX Series

Bulletin No. 2129

A new series of digimatic calipers derived from 30 years of accumulated Mitutoyo technologies. Equipped with the electromagnetic induction type absolute encoder and AOS (Advanced Onsite Sensor) applied for ABS coolant-proof calipers.

- Patent registered (in Japan, USA, China, Germany, UK, France, Switzerland and India)
- Design patent pending (in Japan, USA, EU and China)

NDTKALA.co
Non-Destructive Test (NDT) Equipment
تامین تجهیزات و مواد مصرفی تست های غیر مخرب ایران
۰۹۱۲۰۲۴۶۲۷۰ | ۰۳۱-۷۱۰۵۳۸۸۸

Mitutoyo

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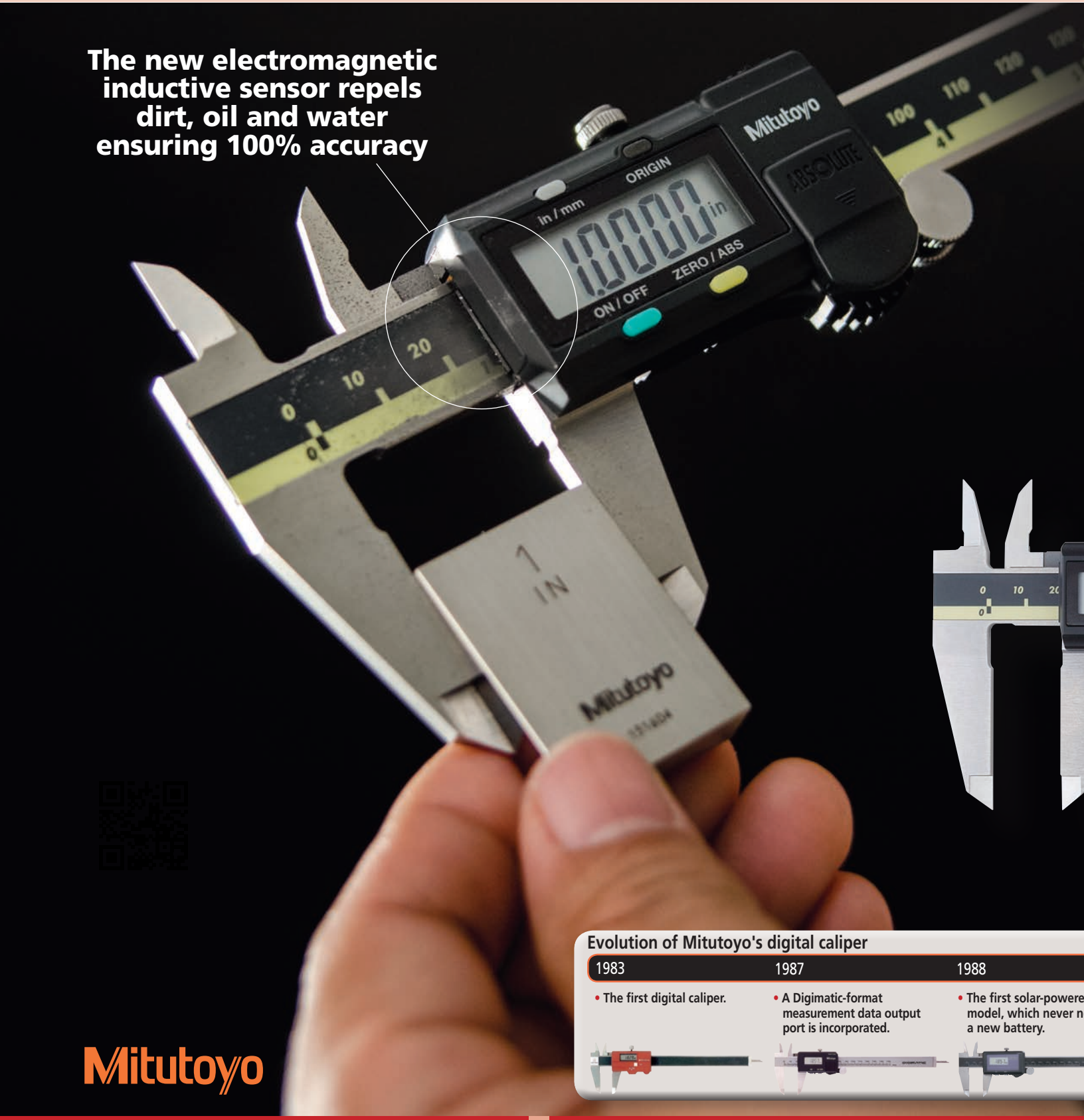
AOS Absolute Digimatic Caliper

A new series of digimatic calipers derived from 30 years of accumul

induction type absolute encoder and AOS (Advanced Onsite Sensor) a

The new electromagnetic inductive sensor repels dirt, oil and water ensuring 100% accuracy



Evolution of Mitutoyo's digital caliper

1983	1987	1988
• The first digital caliper.	• A Digimatic-format measurement data output port is incorporated.	• The first solar-powere model, which never n a new battery.

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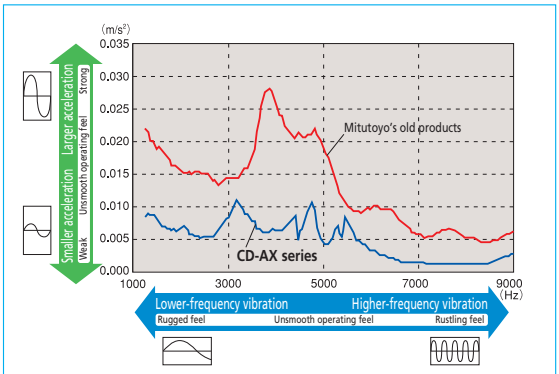
ated Mitutoyo technologies. Equipped with the electromagnetic applied for ABS coolant-proof calipers.

500-151-30
Slider with measurement data output port and thumb roller

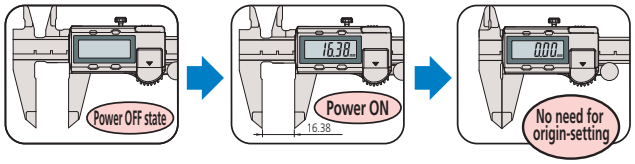
The slider provides smooth, stable and comfortable operation.

The quality of the slider working surface has improved with the latest machining technology.



Assessment of slider operating 'feel'
This assessment is obtained from FFT analysis of vibrations during sliding with acceleration sensors mounted on the slider.

The ABS (absolute) scale requires no origin setting after power-on and also has no limit to response speed.



ABSOLUTE™

500-197-30
Slider without a measurement data output port but with a thumb roller

- A battery life of approximately 3.5 years has been achieved under normal use through the adoption of Mitutoyo's ABSOLUTE scale.
- The slider configuration features an ergonomic, thumb-friendly shape.
- Step-measurement capable.
- Font height: 9mm,alleviation of fatigue with the high-contrast LCD
- Carbide-tipped jaw models are ideally suited to the measurement of rough-machined workpieces, castings, grindstones, etc.
- The data output function allows integration into statistical process control and measurement systems.

Mitutoyo guarantees the product quality. Mitutoyo guarantees the product quality. PROPRIETARY INSPECTION CERTIFICATE

An inspection certificate is included standard with each caliper.

1993	2000	2003	2005	2013
eeds	• Introduction of an ABSOLUTE encoder caliper offering IP65-level coolant-proof performance.	• Introduction of an induction type ABSOLUTE encoder caliper offering IP67-level coolant-proof performance.	• Introduction of a solar-powered ABSOLUTE encoder caliper offering IP67-level coolant-proof performance.	• The AOS induction type ABSOLUTE encoder is introduced to a standard caliper.
• Introduction of Mitutoyo's electrostatic capacitance ABSOLUTE encoder caliper.				

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Common Specifications

- Resolution: 0.01mm
- Repeatability: 0.01mm
- Power supply: Button-type silver oxide battery SR44 (No. 938882), 1 piece supplied as standard (The standard supplied battery is for the monitor.)
- Battery life: Approx. 3.5 years under normal use
- Maximum response speed: Unlimited

Functions

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

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

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.

External output function:
Allows measurement data to be exported using the optional data cable.

Hold function:
Allows a display value to be held using the optional Data Hold unit. (This function cannot be used along with the external output function.)

SPECIFICATIONS

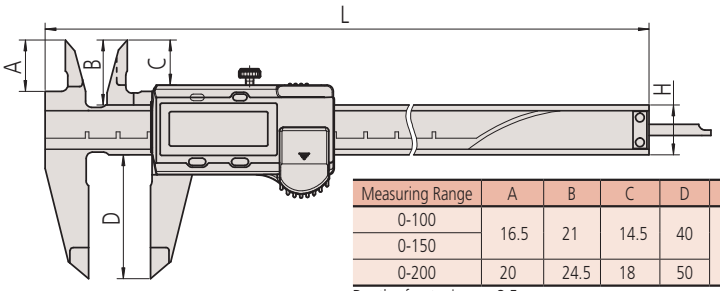
Metric

Order No.	Range	Accuracy	Mass	Measurement data output port	Thumb roller	Remarks
500-150-30	0-100mm	±0.02mm	143 g	✔	✔	Depth bar ø1.9mm rod
500-180-30				–	–	
500-151-30	0-150mm		168 g	✔	✔	–
500-154-30						Carbide-tipped jaws for outside measurement
500-155-30						Carbide-tipped jaws for outside and inside measurement
500-158-30						Depth bar ø1.9mm rod
500-181-30				–	–	–
500-152-30	0-200mm		198 g	✔	✔	–
500-156-30						Carbide-tipped jaws for outside measurement
500-157-30						Carbide-tipped jaws for outside and inside measurement
500-182-30				–	–	–

Inch

Order No.	Range	Accuracy	Mass	Measurement data output port	Thumb roller	Remarks
500-170-30	0-4"	±0.001"	143 g	✔	✔	Depth bar ø3/40" rod
500-195-30				–		
500-171-30	0-6"		168 g	✔		–
500-174-30						Carbide-tipped jaws for outside measurement
500-175-30						Carbide-tipped jaws for outside and inside measurement
500-178-30						Depth bar ø3/40" rod
500-196-30				–		–
500-159-30						Carbide-tipped jaws for outside measurement
500-160-30						Carbide-tipped jaws for outside and inside measurement
500-172-30	0-8"		198 g	✔		–
500-176-30						Carbide-tipped jaws for outside measurement
500-177-30						Carbide-tipped jaws for outside and inside measurement
500-197-30				–		–
500-163-30						Carbide-tipped jaws for outside measurement
500-164-30						Carbide-tipped jaws for outside and inside measurement

External View/Dimensions Chart



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

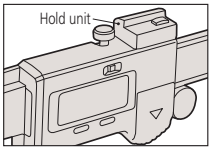
Depth of outer jaws = 3.5mm
Depth of main scale = 3.5mm

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

Optional Accessories

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

- **Data Hold unit**
  Order No.959143



- **USB direct input tool**
  USB-ITN-C (2m): **Order No.06ADV380C**

- **Connecting cable**
  Used for input tool DP-1VR or MUX-10F.
  1m cable: **Order No.959149**
  2m cable: **Order No.959150**

- **U-WAVE-T dedicated connecting cable**
  Cable for standard use: **Order No.02AZD790C**
  Cable for foot switch: **Order No.02AZE140C**

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