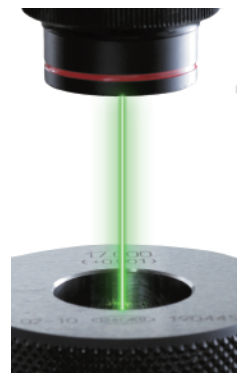




# Anyone can easily and quickly perform high-precision measurements.

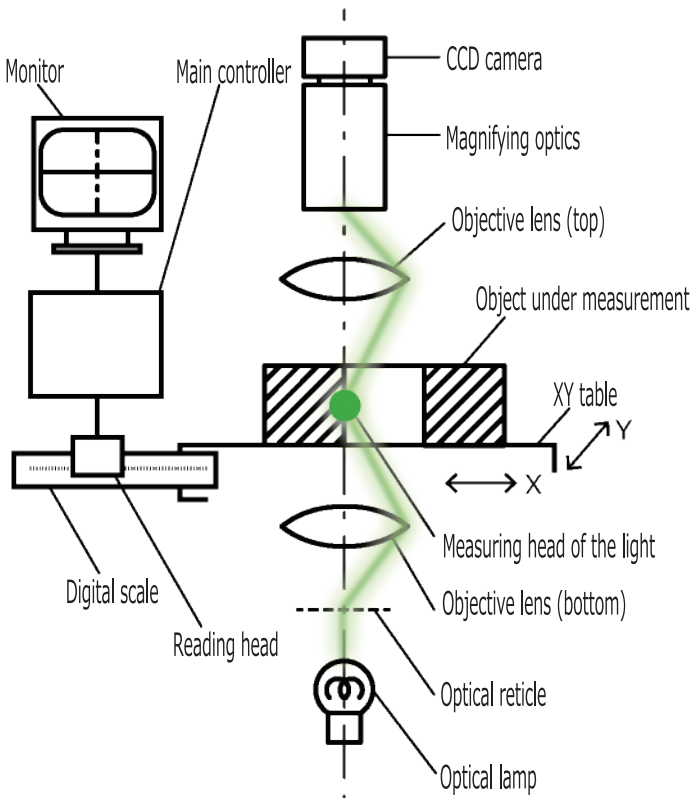
## MEASURING MACHINE SMALL INTERNAL DIAMETER

# IDM-30EX2/100EX2



- Optical, non-contact method that allows for absolute measurements
- Enables anyone to measure accurately and easily
- Despite being a high-precision measuring device, measurements are completed in just a few seconds
- The repeatability is an astonishing  $\sigma \leq 0.1 \mu\text{m}$
- Measures inner diameters with a precision of  $0.1 \mu\text{m}$
- Non-contact nature prevents damage to the measured object, making it possible to measure even soft workpieces
- Allows measurement of inner diameter height and thickness at any position (the height setting range is 0-24mm)

### 《Schematic of IDM structure》



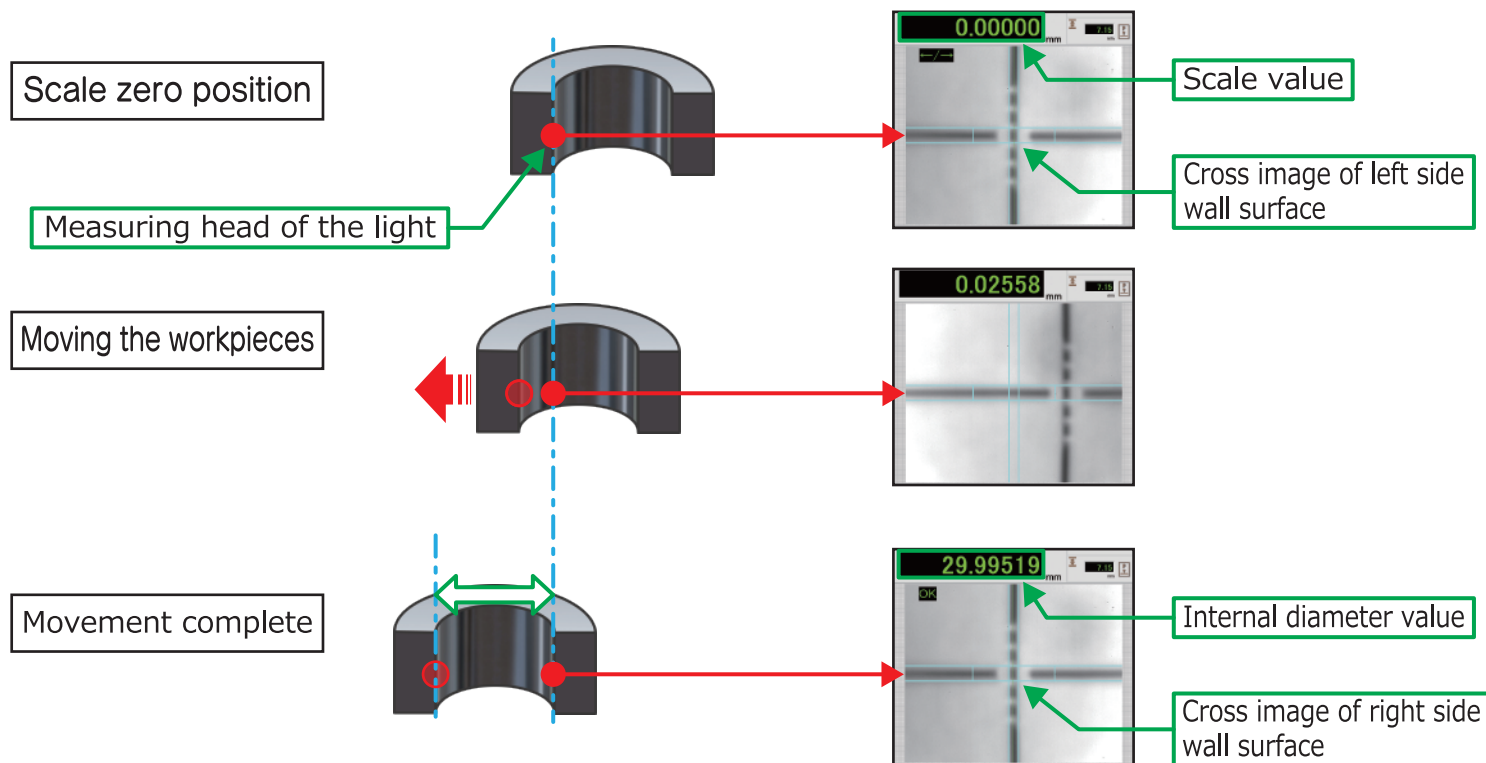
### 《Specifications》

	IDM-30EX2	IDM-100EX2
Measuring range	0.1 ~ 30mm	0.1 ~ 100mm
Thickness range	0.5 ~ 49mm	
Measuring surface slope	Half angle 2.5° (Taper 1/10)	
Measuring surface roughness	RZ 5 $\mu\text{m}$	
Minimum reading	0.00001mm (0.01 $\mu\text{m}$ )	
Repeatability	$\sigma \leq 0.1 \mu\text{m}$	

# Measurement principle

IDM uses the measuring head of the light reflected onto the wall surface of a workpieces  
 The measuring head of the light can be observed from a camera as a cross image, and follows the movement of the work pieces.  
 Furthermore, the system finds the distance (measurement) of the wall surface gap by the scale with which the movement is detected.

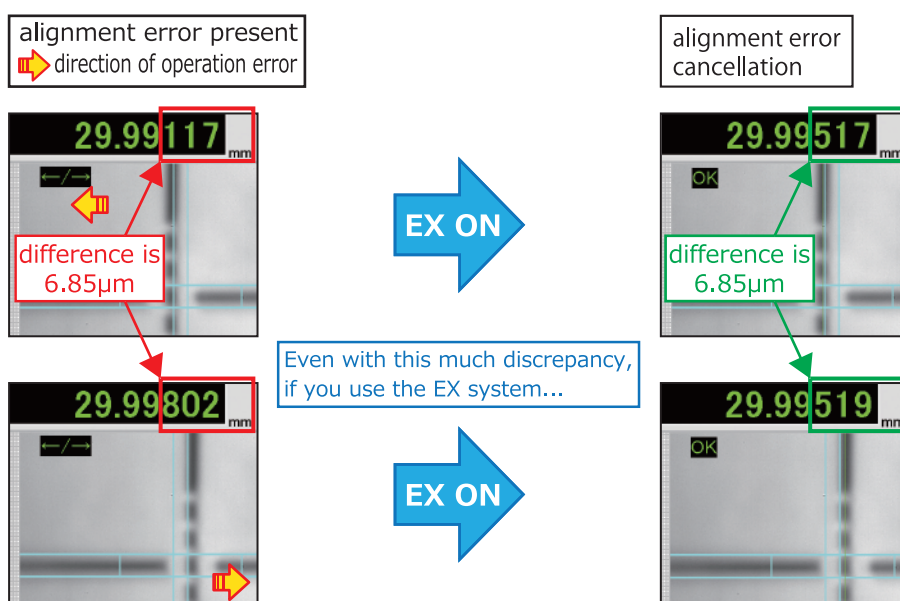
## 《Example of ring gauge measurement》



## High repeatability

The cross image alignment shown on the camera must be done manually, and a slight misalignment will result in a measurement error. That is where we used our original image recognition processing, and prepared a system to cancel the alignment errors (EX system) . Using this EX system, anyone can "easily" and "quickly" achieve the high repeatability of  $\sigma=0.1\mu\text{m}$ .

## 《EX System》



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