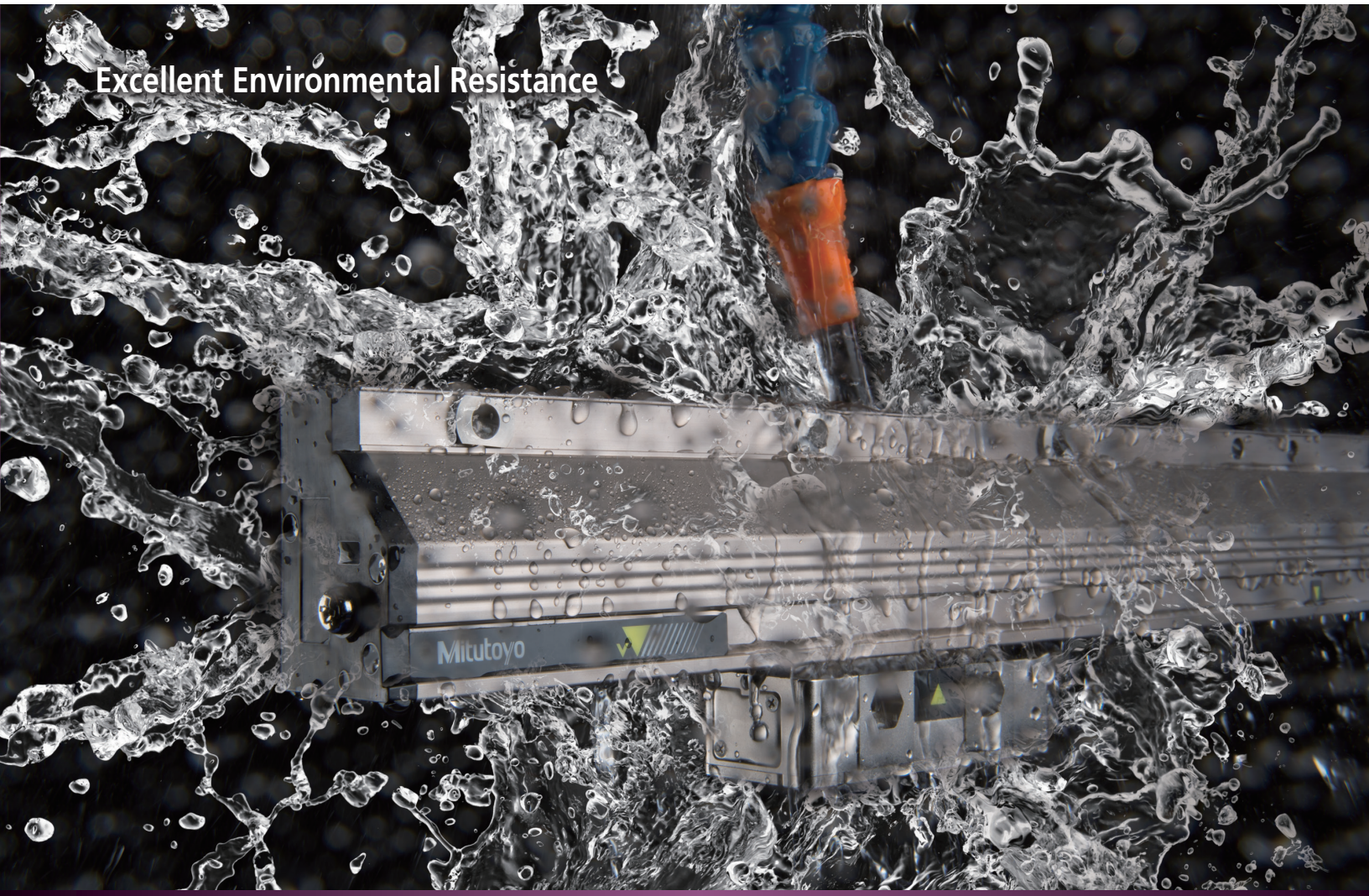
Bulletin No. 2226

Mitutoyo

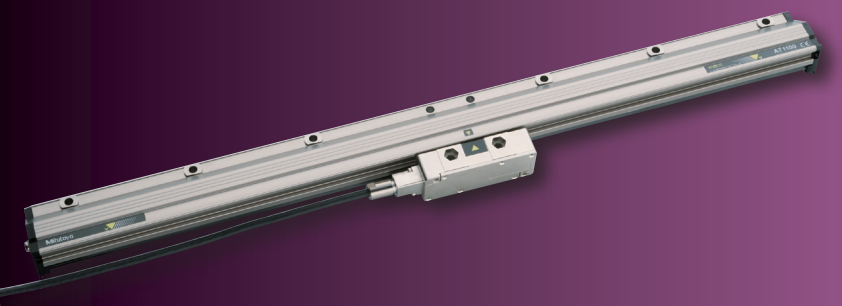
Latest Generation of Absolute Assembly-Type Linear Scale

ABS AT1100

Mitutoyo Quality



Digital Scale and DRO Systems



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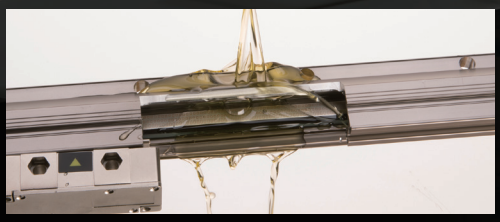
Stands Up to Harsh Environmental Conditions

Outstanding Environmental Resistance

This scale leverages Mitutoyo's unique electromagnetic induction technology to provide excellent resistance to oil, water and other contaminants when compared with optical linear encoders, thereby elevating the ABS AT1100 to the level of a highly reliable NC machine-tool scale suitable for tough shop-floor conditions.

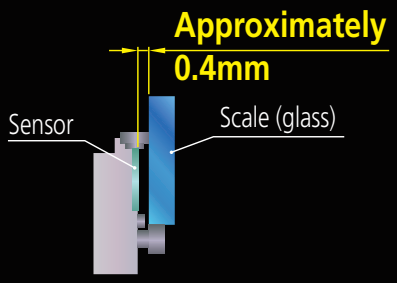


Robust Housing

Additional factors that contribute to the high performance of the ABS AT1100 are the innovative shape and location of the detector track in the aluminum frame, as well as the extreme coolant resistance of the track-seal material. Together these provide an effective first defense against contamination of the scale and sensor, even in harsh environments.

World's Largest Air Gap

The sensor-to-scale air gap is approximately 0.4mm, almost four times as wide as conventional optical or electromagnetic induction designs, making issues due to dust or oil contamination unlikely. This air gap is the largest in the world for a machine-tool scale.



Specifications

	ABS AT1100
Detection method	Electromagnetic induction
Maximum effective range	3040mm
Resolution	0.05µm
Accuracy (at 20 °C)	(3+5L/1000)µm L= 140 to 2040mm (5+5L/1000)µm L= 2240 to 3040mm
Maximum response speed	3 m/s
Cross-section size	85×37 (mm)
Thermal expansion coefficient	≈ 8±1.5x10^{-6} / K
Vibration resistance (at 55 to 2000Hz)	20*g*
Impact resistance (at 11ms, 1/2sin)	35*g* L=140 to 2040mm 30*g* L=2240 to 3040mm
Compatible interfaces *1	FANUC Corporation's Serial αi Interface
	Mitsubishi Electric Corporation's High-speed Serial Interface

*1: For details about connection of any applicable system, contact each manufacturer for confirmation.

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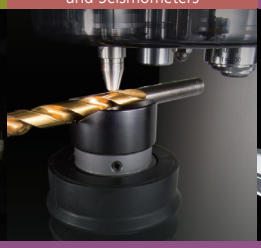
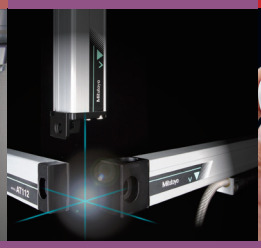
Sensor Systems

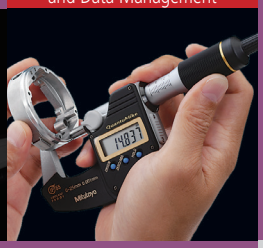
Test Equipment and Seismometers



Digital Scale and DRO Systems



Small Tool Instruments and Data Management



Whatever your challenges are, 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.

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