Contour Measuring Instrument

Cutting-Edge Linear Motor Dramatically Boosts Precision
The New Standard in Contour Measuring

CONTOURECORD 1700DX
1700SD

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Higher Precision

● CONTOURECORD 1700 provides measuring accuracy of a level that is suitable for molds and other precision components. Measuring accuracy of a level that is normally associated with high-end machines greatly broadens the range of possible applications.

The First Application of Linear Motor Drive (Patent Pending)

● The new linear motor enables the fastest measurement speeds in the world and low vibration for stable, high-magnification measurement. A linear, non-contact drive unit and simple configuration (no feed screw or gear box) ensures vibration-free and stable long-term operation.

High Efficiency Measuring

● Teaching and playback functions automate the entire process, from multiple location measurements to creation of the final inspection report, which can be achieved by pasting data into it.
A maximum measuring speed of 20 mm/s and a maximum moving speed of 60 mm/s dramatically enhance measuring efficiency.

Smaller Footprint

● A new, modern design reduces the system footprint by about 25% (when compared with previous ACCRETECH models).
This means lower expenses when the system is installed in a temperature controlled room.

Easy Evaluation of General-Purpose Part Contours

Contours of parts that normally have been evaluated on a projector or tool microscope now can be obtained quickly and easily. Measured results can be incorporated into inspection reports.

Superior ACCRETECH Functions

Automatic Element Discrimination (AI Function)
Elements such as points, straight lines, and circles are determined automatically without being specified by the operator.

Dimension Display
Actual measured values such as parameters and geometric deviation can be displayed in measurement drawing.

Automatic Crowning
Workpiece maximum values and minimum values are detected automatically.

Calculation Point Repeat
General analysis of a workpiece that includes repeating profiles can be performed by analyzing a single pattern.

Workpiece Trace
A single manual trace can be used to determine the measuring range without setting values.
This function is ideal for measuring intricate profiles.

Import and Export
Image data can be pasted into measurement results and measurement waveform data can be pasted into commercially available software files.

Combination of Analog and Digital

The CONTROURECORD 1700 contour detector is a differentiated transducer type analog detector. ACCRETECH has met the challenge of high accuracy while maintaining the high resolution characteristics of this analog system. A more powerful computer that provides harmony between software correction technology and an integrated detector structure, provides a level of accuracy that is unheard of among the digital conversion contour detectors of today.

System Expandability (Option)

When roughness measurement becomes necessary following installation, the system can be upgraded to a multi-functional contour and roughness instrument simply by adding a roughness detector and roughness analysis program.
Full automatic operation is enabled by adding the CNC table system.

Y-axis CNC table (100mm)

θ-axis CNC table (vertical)

Adjustment Weight for Low Measuring Force

Support for 2mN low measuring force enables measuring of easily deformed workpieces.

Adjustment Weight for Low Measuring Force (0102406)

Min. Measuring Force: 2mN

Measuring Force Adjustment Range: 2mN to 10mN

Adjustment Amount: 1mN/Tic

Specifications

Model		CONTOURECORD 1700DX/SD
Measuring Range	Z-axis (vertical)	50mm
	X-axis (horizontal)	100mm
Accuracy	Z-axis indication accuracy	High mode ± (2.5 + l2Hl/100) μm, 20mm range or less
		Normal mode ± (+3.5 + l4Hl/100) μm, 50mm range
	Measuring resolution	0.1μm/5mm range, 0.4μm/20mm range, 1μm/50mm range
	X-axis indication accuracy	± (1+2L/100) μm L: Measuring Length (mm)
	Measuring resolution	0.1μm
Straightness accuracy		1μm/100mm
Sensing method	Z-axis	Differential transducer (trans)
	X-axis	Moiré striped scale
Record	Vertical magnification	0.01 to 10,000,000 (arbitrary or automatic)
	Horizontal magnification	0.01 to 10,000,000 (arbitrary or automatic)
Speed	Column up/down speed (Z-axis)	3 to 10mm/s
	Measuring speed (X-axis)	0.03 to 20mm/s
	Movement speed (X-axis)	0.03 to 60mm/s
Min. measurement pitch		0.1μm
Max. measuring points		100,000 (Max. 10 profiles)
Stylus radius		25μmR
Measuring Force		30mN or less
Measuring Feed Direction		Pull/push both directions
Measurement orientation		Up/down both directions
Stylus traceable angle		Ascend: 77˚max., Descend: 87˚max. (smooth surface)
Calculations		Point, line, circle, partial circle, ellipse, max. point/min. point, distance, coordinate difference, polar coordinate difference, orthogonal/polar coordinate difference display, intersecting elements (point-line, line-line, circle-line, circle-circle, line-ellipse), symmetric elements (point-point, point-circle, point-ellipse, line-line, circle-circle, circle-ellipse, ellipse-ellipse), coordinate control (origin setting, X-axis setting, parallel movement rotary movement), surface area calculation, over-pin calculation, dimension line display function, calculation result/design value collation, mirror reversal, profile synthesis function, macro function, automatic element discrimination, calculation point repeat function, workpiece trace function, peak and valley function, auto operation log/playback function
Dimentions and weight	Power Source	Single-phase AC100V ±10%, 50/60 Hz
	Power consumption	400VA
	Installation dimensions	1250 (W) ×850 (D) ×1500 (H) mm
	Weight	125kg

★Dimensions and weight are for the DX-12 Type.