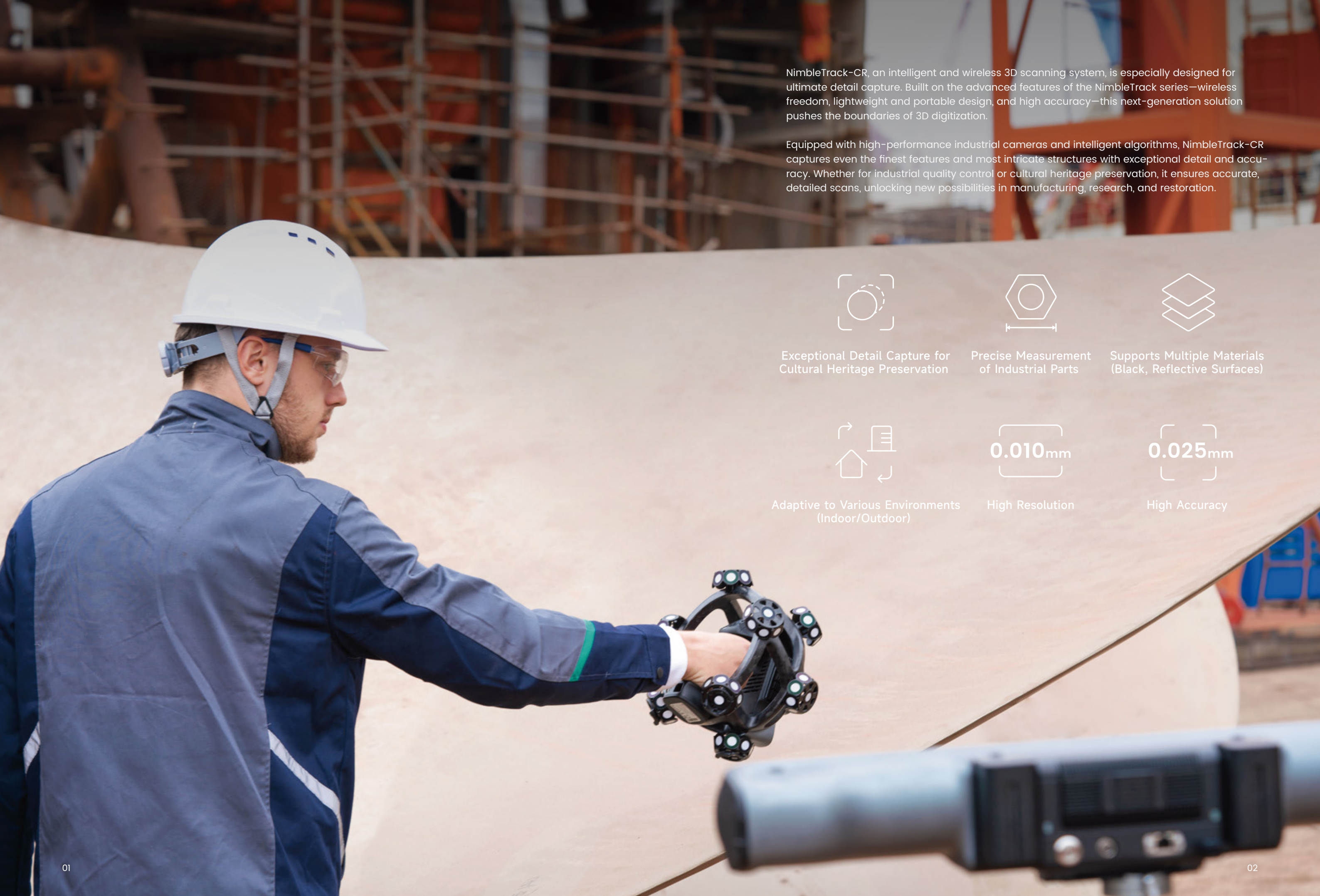Intelligent and Wireless 3D Scanning System

NimbleTrack-CR

Precision in Detail, Limitless in Measurement

NimbleTrack-CR, an intelligent and wireless 3D scanning system, is especially designed for ultimate detail capture. Buillt on the advanced features of the NimbleTrack series—wireless freedom, lightweight and portable design, and high accuracy—this next-generation solution pushes the boundaries of 3D digitization.

Equipped with high-performance industrial cameras and intelligent algorithms, NimbleTrack-CR captures even the finest features and most intricate structures with exceptional detail and accuracy. Whether for industrial quality control or cultural heritage preservation, it ensures accurate, detailed scans, unlocking new possibilities in manufacturing, research, and restoration.

Exceptional Detail Capture for Cultural Heritage Preservation

Precise Measurement of Industrial Parts

Supports Multiple Materials (Black, Reflective Surfaces)

Adaptive to Various Environments (Indoor/Outdoor)

0.010mm
High Resolution

0.025mm
High Accuracy

Unmatched Detail Capture

NimbleTrack-CR is equipped with a state-of-the-art optical imaging system and intelligent algorithms, enhanced by advanced cross technology and sub-pixel image processing for exceptional precision. This system captures fine details with high precision, achieving "what you see is what you get."

Art and Cultural Heritage

0.010mm

max resolution

Class I laser safety for cultural heritage preservation mode

Non-contact and damage-free

Its heritage preservation mode is class I laser certified, which ensures non-contact, damage-free 3D scanning. From delicate pottery and painted ceramics to intricate bronze patterns and inscribed steles, the system captures artifact details with metrology-grade precision while eliminating the risk of surface damage. This innovative solution provides a safe and reliable approach for archaeological restoration and cultural heritage documentation.

It delivers high-fidelity scans of artifacts, sculptures, and glazed surfaces, providing accurate data for digital archiving, restoration, and virtual exhibitions.

Industrial Measurement

Built on SCANTECH's expertise in industrial metrology, it ensures both excellent detail capture and precise measurement, making it a reliable tool for quality control and process optimization.

Designed for small to medium-sized parts, it accurately captures minor defects and intricate features, ensuring precise measurement of complex curves and contours, such as turbine blades.
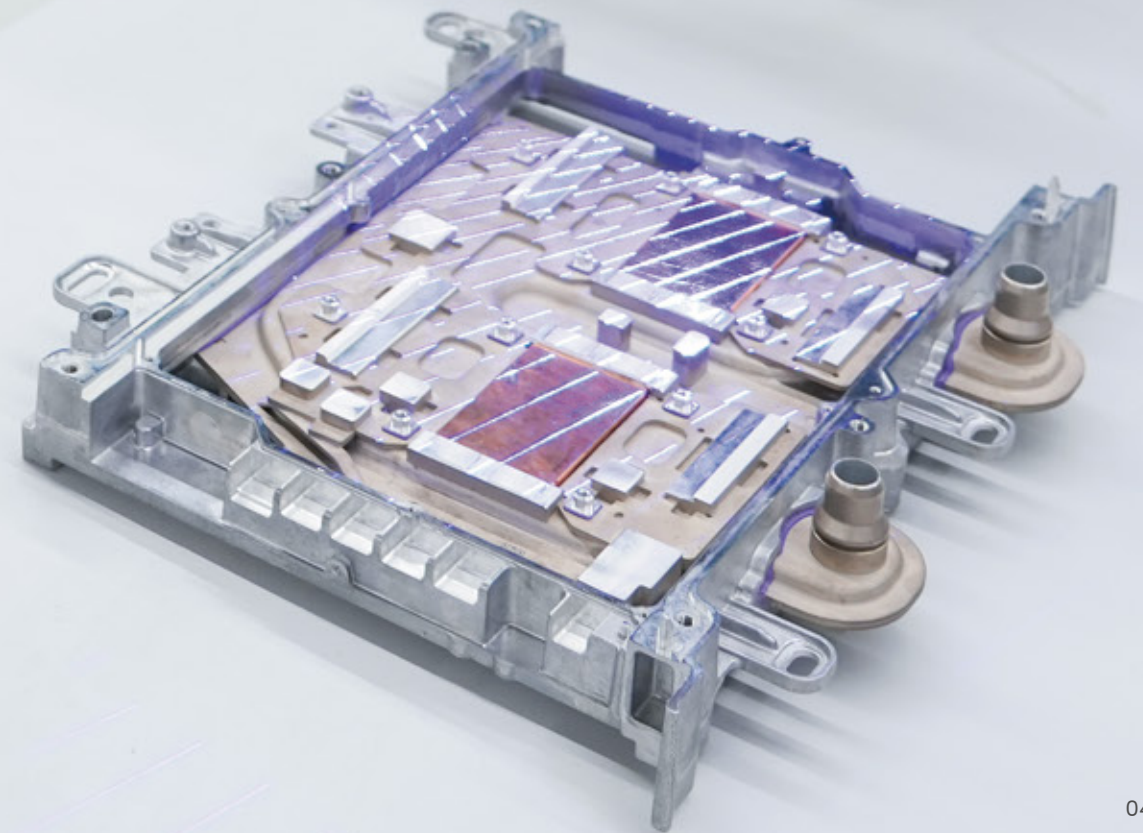
0.025mm

Accuracy for system

ISO

ISO 17025

Certified

0.020mm

Accuracy for scanner-only mode

Flexible and All-in-One

Multiple Scanning Modes

Supports ultra-fast scanning, hyper-fine scanning and deep hole scanning, adaptable to diverse scanning needs.

Adaptable to Different Environments

Handles various part sizes and types across indoor and outdoor settings, even under direct sunlight.

Multi-Material Compatibility

Scans textiles, ceramics, bronze, sheet metal, and more without needing spray coatings, protecting the surface from damage.

Excellent for Cultural Heritage Protection

Scan + Texture Mapping

Experience flawless cultural heritage preservation with SCANTECH's integrated digital workflow powered by robust 3D software and high-resolution texture mapping software. Leveraging high-precision 3D scanning and intelligent texture mapping, it faithfully reproduces colors, textures, and geometry for stunning, lifelike detail.
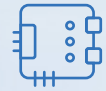
Wireless Measurement

The NimbleTrack-CR incorporates edge computing for fast and stable data processing. The built-in batteries on both 3D scanner and tracker ensure continuous scanning without external power sources, offering greater flexibility and efficiency in the scanning process.

Built-in batteries

On-board computing module

WNIC design

Lightweight and Portable Design

With a compact diameter of just 230mm and weighing only 1.3kg, the NimbleTrack-CR offers ultimate portability and convenience, easily fitting in a carrying case.
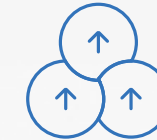
DIAMETER
230mm

WEIGHT
1.3kg

Software-Powered Measurement

AI

Smart Resolution

Automatically adjusts the scanning resolution based on object features and the environments before the scan begins.

Color Indicators

Displays scanned and unscanned areas in different colors, helping users identify blind spots or missing data in real time, enhancing scan completeness and accuracy.

HD

Real-time Multi-Resolution

Empower users to adjust resolution in real time during scanning process to match an object's complexity, ensuring every critical detail is captured with precision.
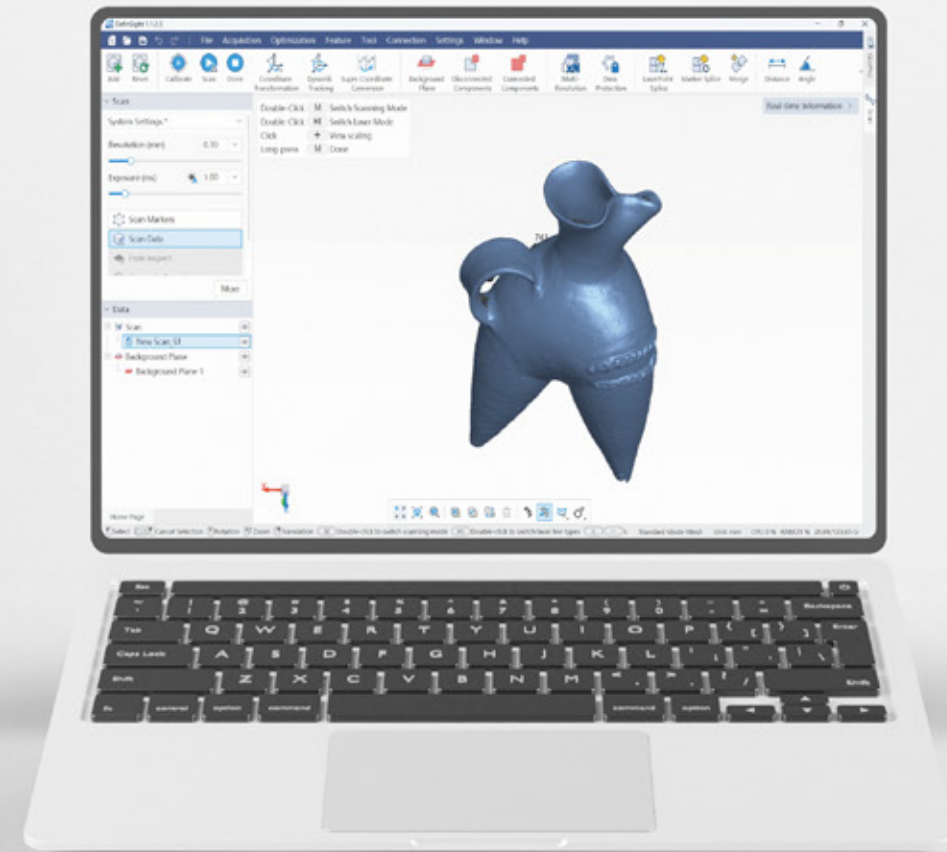
Flexible Compatibility

Intelligent Edge Detection

NimbleTrack boasts an optional module of precise edge detection, which is enabled by gray-value measurement. Users can inspect closed features such as holes, slots, edges precisely and obtain information such as positions and diameters.

i-Probe 500

It can be paired with a tracking i-Probe to probe inaccessible areas such as reference holes and hidden points. This contact measurement probe can ensure precise results with both wired and wireless options.

Multi-tracker Measurement

Its measurement range can be dynamically extended by adding more i-Trackers so that it can measure large-scale objects without compromising accuracy.

Automated Measurement

Based on the new 3D scanner architecture, we have customized a clamping method for automated measurement, making it more compatible with various types of robots. Its 360-degree evenly distributed target sets allow for all-round and precise tracking, facilitating forming efficient automated batch measurement systems.

Diverse Applications

Art Design

Cultural Heritage Digitization

Industrial Part Inspection

Educational Research

NimbleTrack-CR Technical Specifications

Scan mode	Ultra-fast scanning	17 blue laser crosses
	Hyperfine scanning	7 blue parallel laser lines
	Deep hole scanning	1 blue laser line
Accuracy for scanner-only mode (1)		Up to 0.020 mm
Accuracy for system (1)		Up to 0.025 mm
Tracking distance per i-Tracker		3200 mm
Volumetric accuracy (2) (Tracking distance 3.2 m)		0.064 mm
Volumetric accuracy (With MSCAN-L15 photogrammetry system)		0.044 mm + 0.012 mm/m
Hole position accuracy		0.050 mm
Laser class		Class II (eye-safe)
Resolution up to		0.010 mm
Stand-off distance		250 mm
Depth of field		300 mm
Scanning area up to		150 mm × 190 mm
Scanning frame rate		120 fps
Measurement rate up to		4,900,000 measurements/s
Dimension of i-Scanner		238 mm × 203 mm × 230 mm
Weight of i-Scanner		1.3 kg (Net weight)
		1.4 kg (Battery and wireless module included)
Dimension of i-Tracker		570 mm × 87 mm × 94 mm
Weight of i-Tracker		2.2 kg (Net weight)
		2.6 kg (Battery and wireless module included)
Size of protection case		1000 mm × 425 mm × 280 mm
Output format		.stl, .obj, .ply, .asc, .igs, .txt, .mk2, .umk and etc.
Operating temperature range		-10°C–40°C
Operating humidity (Non-condensation)		10% ~ 90% RH
Wireless operating mode		i-Scanner, i-Tracker, i-Scanner + i-Tracker, i-Tracker + i-Probe, Wireless multi-tracker tacking, Edge Inspection
Wireless standard		Wi-Fi 6，802.11a/b/g/n/ac
Interface mode		USB 3.0, Gigabit Ethernet
Patents		CN109000582B, CN211121096U, CN210567185U, CN111678459B, CN114001696B, CN114554025B, CN114205483B, CN113514008B, CN114627249B, CN112867136B, CN218103220U, CN218103238U, CN307756797S,CN113340234B, CN112964196B, CN115289974B, CN113188476B, CN218411072U, CN115325959B, CN218584004U, CN115661369B, CN218734448U, CN115493512B, CN110992393B, CN116136396B, CN113432561B, CN219834226U, CN219829788U, CN116244730B, CN116206069B, CN113766083B, CN222015590U, CN222027649U, CN308982243S, CN308982242S, CN222104664U, CN222279677U, CN222279678U, CN222321625U, CN222317979U, CN222317980U, CN222356423U, CN222353116U, CN222560923U, US10309770B2, US10309770B2, US11060853B2, KR102096806B1, EP3392831B1, US11493326B2

(1) ISO 17025 accredited: Based on VDI/VDE 2634 Part 3 standard and JJF 1951 specification, probing error (size) (PS) performance is evaluated.
(2) ISO 17025 accredited: Based on VDI/VDE 2634 Part 3 standard and JJF 1951 specification, sphere spacing error (SD) performance is evaluated.
*Our company reserves the right to interpret and modify the parameters and images in this manual within the scope of law.