

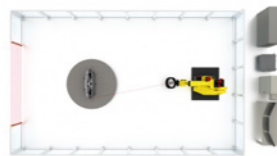
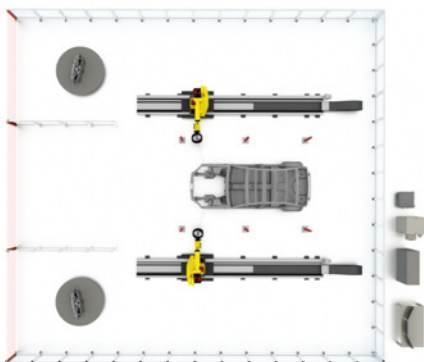
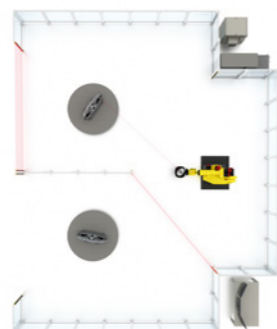
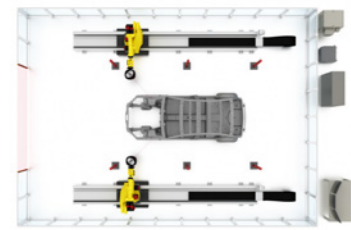
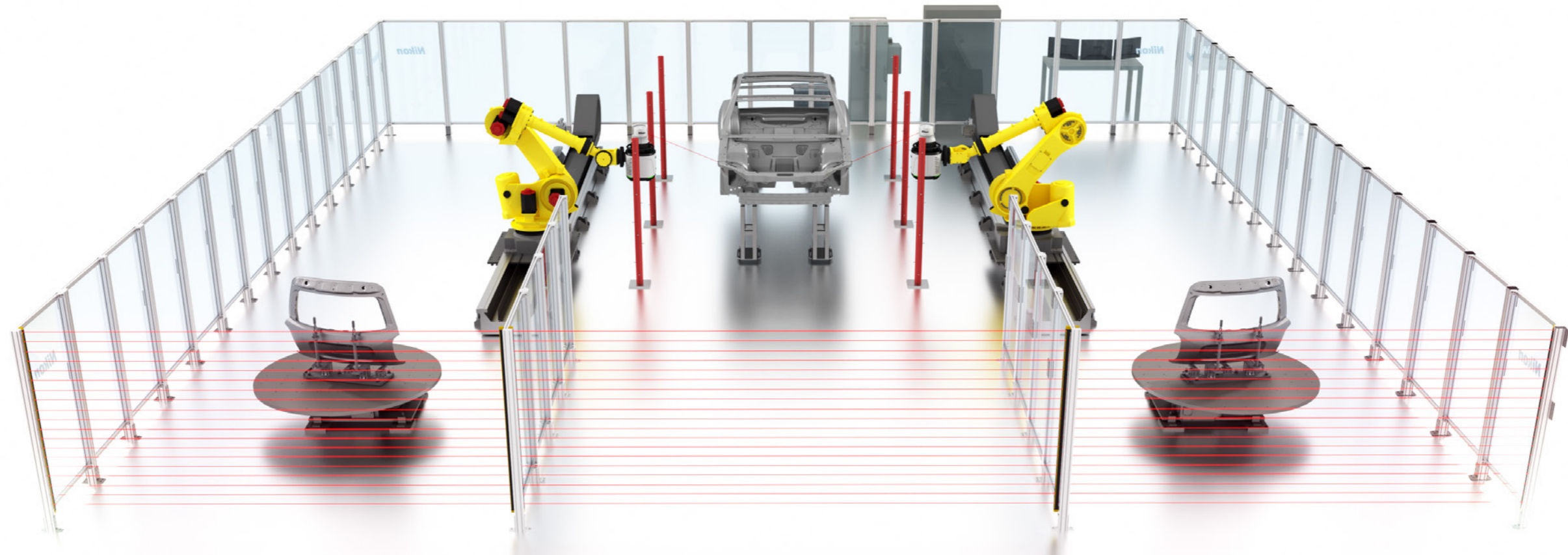
APDIS

APDIS Intelligent Quality Stations

Automotive-Focused
Inspection Systems

Introducing the APDIS Intelligent Quality Stations

APDIS is the new generation of the Nikon Laser Radar. It introduces a new design with new benefits, whilst maintaining the inherent features that make the Laser Radar a truly unique metrology system.



FLEXIBLE OPTIONS FOR THE SHOP FLOOR OR METROLOGY ROOM

The APDIS Intelligent Quality Stations provide self-contained, accurate, precision CMM systems for a range of component sizes from car doors to a full vehicle chassis.

Choose from a single Laser Radar setup for smaller components, through dual turntables and dual Laser Radars for the ultimate level of measurement productivity on larger components, equally at home in a metrology room, or on the shop floor right where you need it.

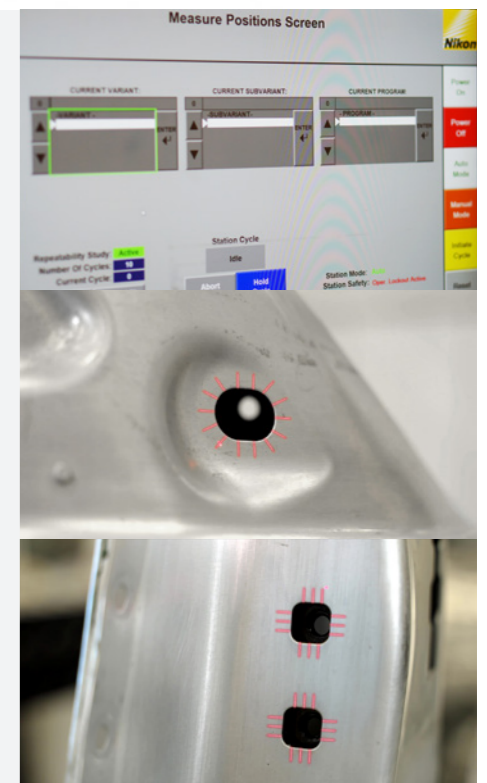


INTELLIGENT MEASUREMENTS, INTELLIGENT ANALYSIS, INTELLIGENT QUALITY

Intelligent measurement allows measurements over 6 times faster than a traditional CMM, without adapters, coatings or reference targets. The long range capability also allows measurements of previously inaccessible areas greatly increasing measurement coverage.

Intelligent analysis allows you to measure only what you need, where you need, how you need. With minimal post processing, real-time feedback and analysis is possible allowing you to identify problems faster. Whether it is 1 or 1000 features, the IQ stations can give fast results in absolute, traceable coordinates.

Intelligent quality therefore means inspection where it is needed, when it is needed, whether that is in a metrology room, or on the shop floor for maximum efficiency. Minimal setup with simplified programming and modification makes for a truly flexible and easy-to-use system. Measurements can be made by simply choosing from pre-set routines, further reducing inspection and analysis times.



Exploiting the power of the APDIS Laser Radar

 Learn more at www.industry.nikon.com



Innovative frequency modulated steered laser beam for precision measurements. Combines angle and range data to give high accuracy, absolute measurements in a large volume.



APDIS LASER RADAR TECHNOLOGY

Already used by global automotive OEMs to measure 1000s of cars each day, Laser Radar technology is a long-range, non-contact, accurate CMM.

LARGE OFFSET FOR SAFETY

NO PROBES, TARGETS OR ADAPTERS FOR SIMPLE SETUP

LATEST GENERATION APDIS MV430E LASER RADAR

FAST MEASUREMENTS FOR HIGH PRODUCTIVITY

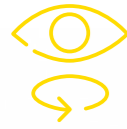
PRECISION FEATURE MEASUREMENTS FOR SMALL DATA SETS

LONG RANGE FOR EXCELLENT COVERAGE

IP54 FOR SHOP FLOOR ENVIRONMENTS

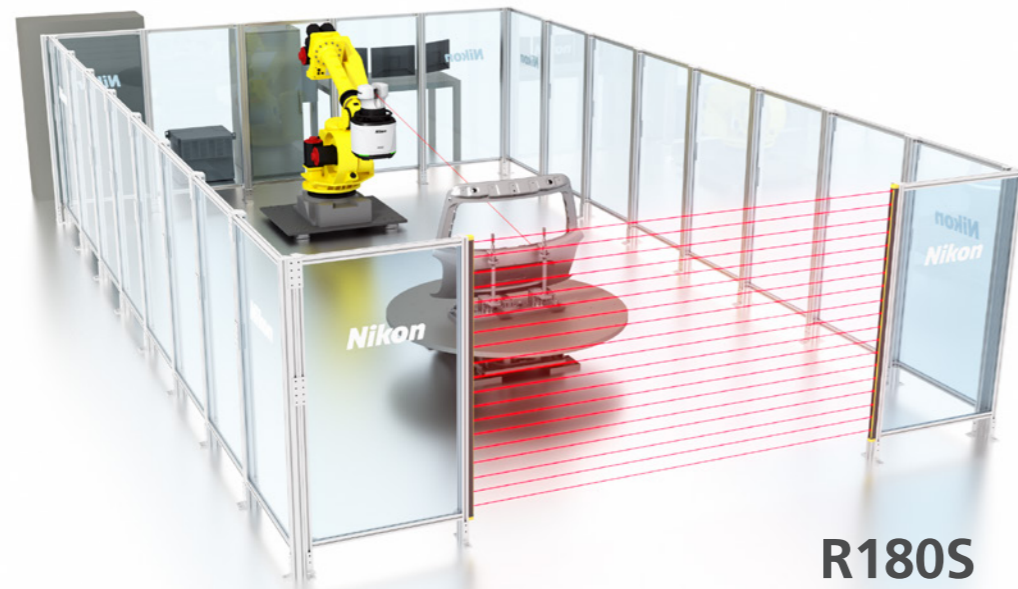
R-Series Productive panel machines

Choose from 1 or 2 turntables for measurement efficiency.



ALL-ROUND VISIBILITY

A turntable allows the part to be rotated to the optimal orientation for measurement, whilst the robot gives visibility of features from above or below.

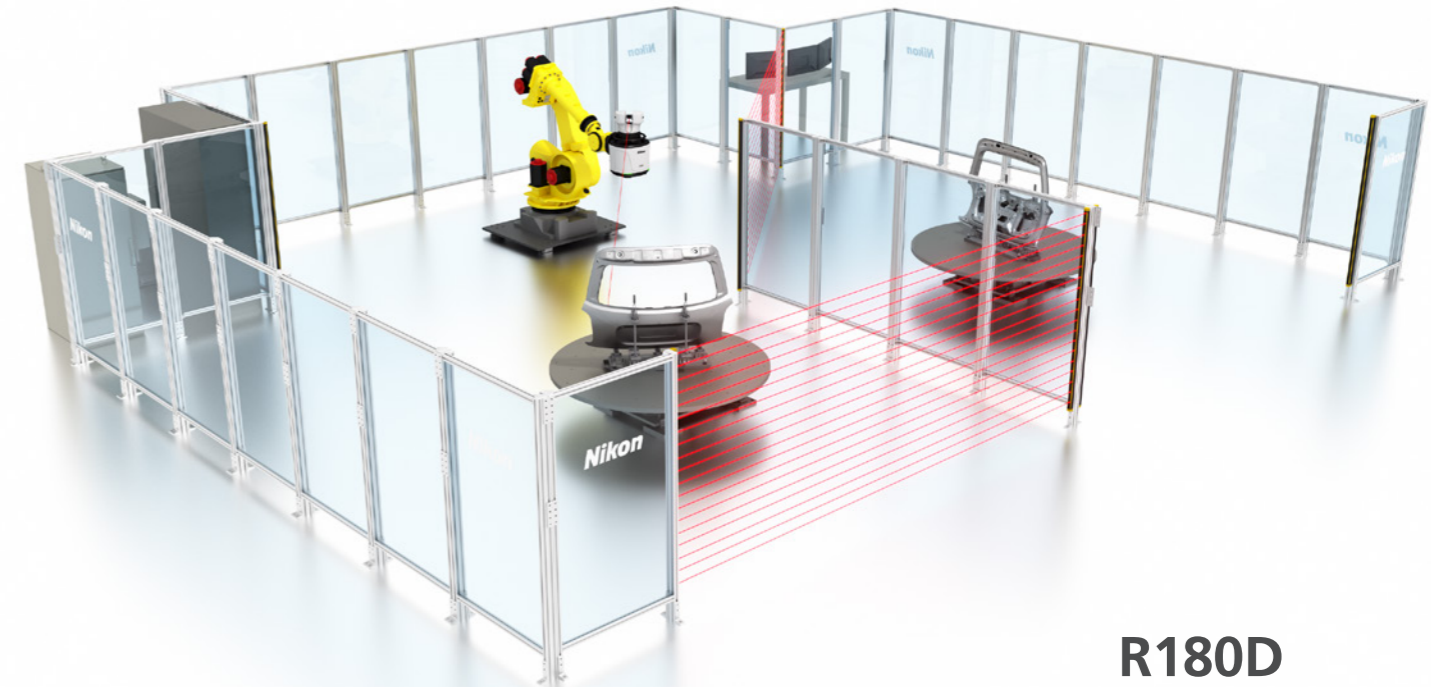


R180S



SMALL TO MEDIUM SIZED PARTS

A 1.8m diameter turntable plate with a pre-drilled hole pattern allows for varying part sizes to be accommodated.



R180D



NO SETUP, NO FUSS

Directly measure features with no adapters, probes or coatings. Setup is as easy as putting the part in place.



DUAL TURNTABLES FOR INCREASED PRODUCTIVITY

With the dual turntable option, different fixtures can be installed allowing for minimal swap out time. One turntable can be loaded whilst the other one is being measured.



SIMPLIFIED PROGRAMMING

Pre-defined positions for the turntable and robot make programming easy, with the number of positions automatically minimized for each part. No complex robot programming required.



FIXTURE ALIGNMENT

Tooling balls define the fixture alignment independently of the part from all angles, allowing for minimal measurement routines and keeping accuracies independent of the robot.



SAFE OPERATION

Certified to international safety standards, floor scanners and light curtains give easy load and unload access whilst maintaining operator safety when running a measurement.



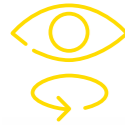
INSTALL WHERE YOU NEED

Able to operate within a wide temperature range and with no effects from background lighting, the R-Series is equally at home on the shop floor or in the metrology room. The environment is open.

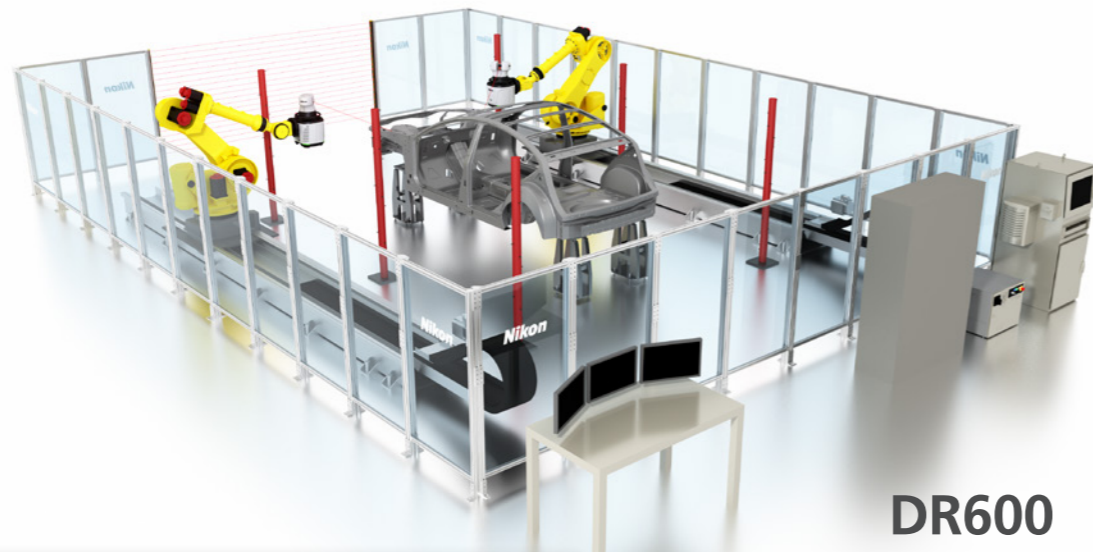
DR-Series Large Volume CMM

Designed with body in white, underbody and larger components in mind, two Laser Radars drive ultimate measurement productivity.

ALL-ROUND VISIBILITY



With two Laser Radars, two robots and two rails, measurements are possible for all-around large components. Even measure features deep inside a car body with the long standoff of the Laser Radar.



DR600

LOW MAINTENANCE



Minimal robot moves means minimal impact on cables and moving parts, requiring minimal maintenance.

FIXTURE ALIGNMENT



Tooling balls define the fixture alignment independently of the part from all angles, allowing for minimal measurement routines and keeping accuracies independent of the robot.

SIMPLIFIED PROGRAMMING



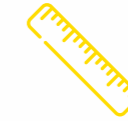
Pre-defined positions for the robots make programming easy, with the number of positions automatically minimized for each part. No complex robot programming required.

FAST AND PRECISE



With an average of 2-3 seconds per feature and simultaneous measurements from both sides, measurement routines are fast and you only need to measure what you need to measure, whether it's one or one hundred features.

LARGE VOLUME



With a large internal measurement volume of over 70m³, the DR series can cope with a wide variety of large parts and components.

NO PREPARATION, NO FUSS



Directly measure features with no adapters, probes or coatings. Setup is as easy as putting the part in place.



DR600T

DUAL TURNTABLES FOR INCREASED PRODUCTIVITY



By choosing the dual turntable option, smaller components can be measured independently, whilst larger parts are loaded and unloaded out of the main body of the station.

INSTALL WHERE YOU NEED



Able to operate within a wide temperature range and with no effects from background lighting, the DR-Series is equally at home on the shop floor or in the metrology room. The environment is open.



Configurations

	Name	Configuration
R-Series	R180S	Robot and Turntable 1 x MV430E
	R180D	Robot and dual Turntables 1 x MV430E
DR-Series	DR600	Dual robot on rails 2 x MV430E
	DR600T	Dual robot on rails 2 x MV430E

Specifications

	Name	Install Size ¹ (mm)			Measurement volume ² (mm)			TT Diameter (mm)	Rail Travel ³ (mm)
		L	W	H	X	Y	Z		
R-Series	R180S	8000	5000	4000	1800	1800	2200	1800	n/a
	R180D	9000	11000	4000	2 x 1800	2 x 1800	2 x 2200	1800	n/a
DR-Series	DR600	11000	8000	4000	9000	4000	3000	n/a	6000
	DR600T	13000	13000	4000	9000 + 2 x 1800	4000 + 2 x 1800	3000 + 2 x 2200	1800	6000

¹ Fenceline and minimum clearance height
² Approximate internal measurement volume
³ Rail travel can vary depending on rail used

Benefits Summary

MORE DATA, FASTER
 Over 6x faster than traditional CMM, no part preparation and 2-3 seconds per feature on average.
 ▶ React to problems more quickly.

LOW MAINTENANCE
 Minimal robot moves for minimal wear and tear
 ▶ High availability.

PRECISION MEASUREMENTS
 Only measure what is required with real-time results, whether 1 or 1000 features.
 ▶ Faster measurements, faster analysis.

INSTALLATION FLEXIBILITY
 Shop floor or metrology room installation.
 ▶ Results where you need them with minimal transport time.

SIMPLIFIED SETUP
 No adapters, no coatings, no stickers.
 ▶ Directly measure even difficult features.

PART SAFE
 >500mm standoff for zero risk of collision in normal use.
 ▶ No damage, no downtime, no scrap.

ALL ROUND VISIBILITY
 Long range measurements and wide field of view even inside a vehicle.
 ▶ Excellent feature coverage.

EASY PROGRAMMING
 Pre-configured robot positions and software optimization.
 ▶ Simple and fast programming and modifications.

Measurement Specifications	MV430E		
Data Rate	4000Hz		
Scanning Speed ¹	1000 pts/sec 1 sec/cm2		
Feature Measurement ²	Enhanced Feature Scan		
Vibration Measurement	2000Hz Max ; 1µm/m displacement sensitivity		
	Range	Azimuth	Elevation
Working limit	0.5m – 30m	± 180°	± 45°
Accuracy (MPE)	20µm + 5µm/m	13.6µm/m	

¹ Default settings - stacking 4, point spacing 0.1mm, line spacing 1mm
² Up to twice the feature measurement speed versus standard system. Exact speed depends on settings

[View more specifications at www.industry.nikon.com](http://www.industry.nikon.com)



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