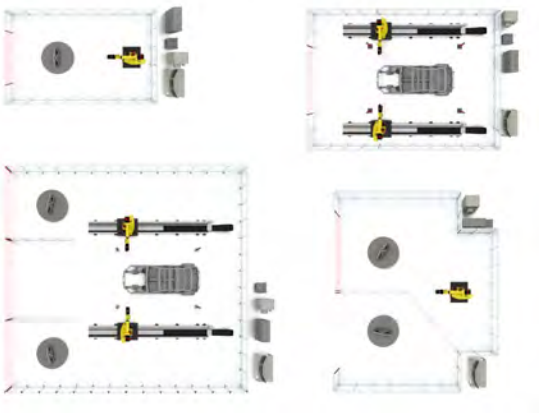
HIGH-THROUGHPUT AUTOMATED INSPECTION

APDIS INTELLIGENT QUALITY STATIONS

Introducing the APDIS Intelligent Quality (IQ) Stations

The APDIS MV5X is the newest model of the Nikon Laser Radar. With its compact, lightweight design, the MV5X delivers fast feature and surface measurements at the core of the IQ Stations.



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

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 thousands of cars each day, Laser Radar technology is a long-range, non-contact, accurate CMM.

NO PROBES, TARGETS OR ADAPTERS FOR SIMPLE SETUP

LATEST GENERATION APDIS MV5X LASER RADAR

FAST MEASUREMENTS FOR HIGH PRODUCTIVITY

LARGE OFFSET FOR SAFETY

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

NO SETUP, NO FUSS

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

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

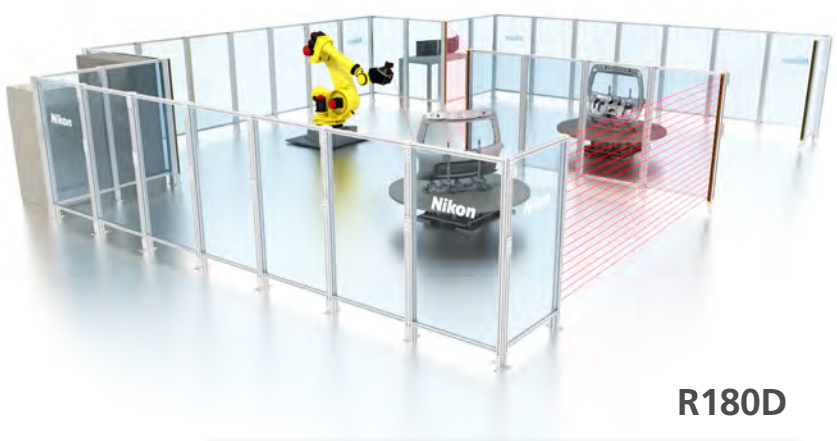
Tooling balls define the fixture alignment independently of the part from all angles, allowing for minimal measurement routines and keeping accuracies independent of the robot.

FAST AND PRECISE

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

SMALL TO MEDIUM SIZED PARTS

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



R180D

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.

SAFE OPERATION

Certified to international safety standards, floor scanners and light curtains give easy load and unload access while 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.

LARGE VOLUME

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

FAST AND PRECISE

With an average of 2-3 seconds per feature and simultaneous measurements from both sides, measurement routines are fast.

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.

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
Greater than 500 mm 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.**

Configurations

	Name	Configuration
R-Series	R180S	Robot and Turntable 1 x MV5X
	R180D	Robot and dual Turntables 1 x MV5X
DR-Series	DR600	Dual robot on rails 2 x MV5X
	DR600T	Dual robot on rails 2 x MV5X

Specifications

	Name	Install Size[1] (mm) L	W	H	Measurement volume[2] (mm) X	Y	Z	TT Diameter (mm)	Rail Travel[3] (mm)
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

Measurement Specifications	MV5X
Data Rate	24000 Hz
Measurement Speed*	6000 pts/s scanning
Measurement Volume	~ 3,000m³
Laser Safety	IEC Class I (IR)

* Exact speed depends on measurement settings

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