



HEXAGON

Product catalogue

# Structured light scanners and photogrammetry

Version 2.1





This catalogue contains the complete range of products and accessories available for Hexagon structured light scanners and photogrammetry solutions.

All systems and accessories offer the same high-end, straight-forward design and quality users expect from Hexagon products.

Please direct any questions about Hexagon products or accessories to an authorised local sales representative to receive competent guidance and assistance in making an appropriate purchasing decision.

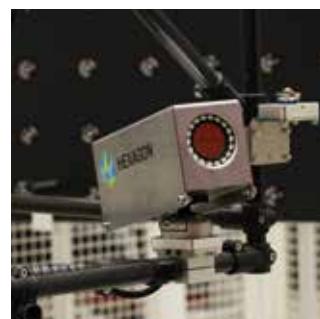
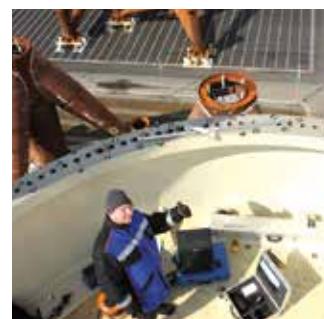
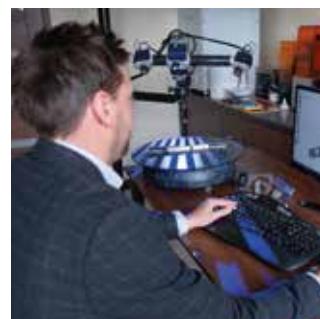
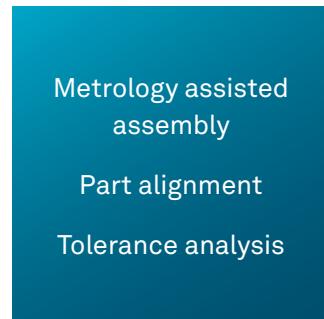
#### **Important Note**

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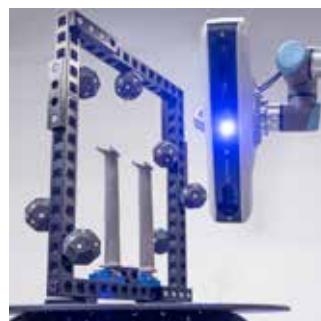
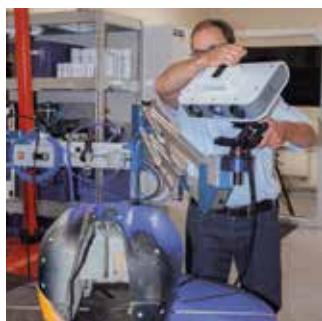
In-process checks

Machine part  
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# Structured light scanner systems

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# High-speed, high-resolution, high-accuracy measurement

Structured light scanning, sometimes referred to as white or blue light scanning, is a method of measuring surfaces in three dimensions that involves projecting light patterns onto the measurement surface. High-resolution cameras are then used to capture this projection at predefined viewing angles, and the resulting images are then analysed and used to derive highly accurate dimensional information about the measurement surface.

This means that a structured light scanning system measures the entire visible surface of the measurement object at once, resulting in an exceptionally high measuring point density. This not only delivers extremely precise real measurement data, but also a very high level of resolution. The process is also very fast, with an individual measurement sequence completed within one-to-several seconds.

The entire measuring process takes between a few seconds and several minutes and is completed as soon as images from all sides of the object have been captured. Individual scans of different sides of the measurement object are then aligned by geometry or with the aid of targets placed around the object before measurement. Subsequently, all individual scans are merged to a single triangle mesh.

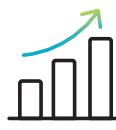
# Structured light scanning technology



Structured light scanners collect high-density surface data at extremely fine accuracy levels, making them ideal for complete object digitisation as well as for high-accuracy feature inspection.



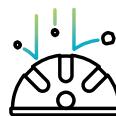
Hexagon's range of structured light scanners uses a fringe projection light pattern, in which a projector emits a sequence of fringe patterns onto the surface that is to be measured.



Advancements in fringe projection technology mean that scanning of glossy and dark surfaces can typically be achieved with no need for pre-treatments such as spraying.



StereoScan neo introduces the Smart Phase Projection (SPP) technology, which employs a new fringe projection pattern to yield the highest quality data on even the most difficult surfaces.



High-quality hardware and adapted measuring strategies allow Hexagon structured light scanning systems to measure reliably in even challenging industrial environments.



The 3D triangle mesh output of the scanner is instantly available as a dataset in various formats, compatible with any type of further processing program.



Structured light scanners can be used mounted on a robot for fully automated inspection processes as well as combined with a turntable or turn-tilt unit for a semi-automated measurement.

**Probing option**  
Compatible with the MI.Probe mini for measuring areas out of sight of the scanner**Multi-surface**

Scanning of glossy and dark surfaces without pre-treatment

**High resolution**

Maximum degree of feature accuracy through high-resolution camera sensors and rigid design of the body

**Robust construction**

High-stability scanning based on a foundation of strong design and construction materials

**Intelligent scanning**  
Smart Data Capture technology allows for fast acquisition and variable resolution**Photogrammetry add-on**  
Combinable with photogrammetry systems in the DPA Series for increased accuracy and capability for large-volume measurement

# SmartScan VR800

The SmartScan VR800 fundamentally changes the conversation on structured light scanning. With a dual stereo camera setup combining four 20 MP setup plus a patented mechanical optical zoom projection unit, the need for multiple base lengths and complex lens changing and recalibration processes are now a thing of the past.

Get the resolution and coverage needed the moment it's needed, no screwdriver required. With the VR800, simply change the settings through the software to alter the size of the measurement area or the resolution of the measurement results.



reddot winner 2024



131662

## SmartScan VR800

3D structured light scanner with blue light projection, automatic projector zoom lens for variable resolution, dual stereo camera setup with high resolution 20 MP cameras and Hexagon structured light scanner software plug-in.

Includes:

- SmartScan VR800 power supply and sensor cable (10 m)
- SmartScan VR800 transportation case
- Calibration plate VR800
- Hexagon Structured Light Scanner software plug-in licence
- Targets noncoded white Ø1 = 3 mm removable Ø2 = 5 mm with ring, 1000 targets
- Scanner remote control
- SmartScan VR800 Software Maintenance Agreement (SMA) 12 months
- HASP Dongle black license key

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SMARTSCAN  
VR800



# StereoScan neo R16.2

As Hexagon's high-end structured light scanner, the StereoScan neo combines superior resolution and accuracy with an arsenal of innovative features that fundamentally improve the scanning experience, also in automated applications mounted on a robot.



130954

## **StereoScan neo R16.2 basic system incl. software, without field of view**

StereoScan neo R16.2 high-end 3D scanner with 16 MP monochrome cameras, and digital high resolution true color projection system incl. Hexagon structured light scanner software plug-in.

Includes:

- StereoScan neo R16.2 basic sensor without field of view
- Hexagon Structured Light Scanner software plug-in licence
- OptoCat software incl. software modules Back Projection and Texture Mapping
- StereoScan neo R16.2 Software Maintenance Agreement (SMA) 12 months
- HASP Dongle black license key

# StereoScan neo R16.2

## Field of view sets

All field of view sets include:

- Objective set selected measuring range FOV
- Precision calibration incl. certification for optical measuring systems according to VDI/VDE 2634
- Deployment of sensor data

130955	<b>StereoScan neo R16.2 field of view FOV S-075</b>
	Calibration plate S.2 is needed in addition

130956	<b>StereoScan neo R16.2 field of view FOV S-125</b>
	Calibration plate S.2 is needed in addition

130957	<b>StereoScan neo R16.2 field of view FOV S-200</b>
	Calibration plate M is needed in addition

130958	<b>StereoScan neo R16.2 field of view FOV L-350</b>
	Calibration plate L.2 is needed in addition

130959	<b>StereoScan neo R16.2 field of view FOV L-500</b>
	Calibration plate L.2 is needed in addition

130960	<b>StereoScan neo R16.2 field of view FOV L-850</b>
	Calibration plate XL is needed in addition

130961	<b>StereoScan neo R16.2 field of view FOV L-1000</b>
	Calibration plate XL is needed in addition



For legacy products: if additional measuring range fields of view for older StereoScan neo systems, such as StereoScan neo R16 or StereoScan neo R8, are needed, please contact a local Hexagon representative for further information.

# SmartScan R12

Fast and highly accurate, the SmartScan optical 3D scanner is among the leading measurement solutions for complex surface geometries and fragile or deformable parts where portability is a necessity.



131013

## SmartScan R12 basic system incl. software, without field of view

Modular 3D scanner SmartScan-HE R12 LED blue with 12 MP monochrome cameras, camera basis set (SL and/or M) and Hexagon Structured Light Scanner software plug-in.

Includes:

- SmartScan R12 basic sensor without field of view
- Hexagon Structured Light Scanner software plug-in licence
- OptoCat software incl. software module Texture Mapping
- SmartScan R12 Software Maintenance Agreement (SMA) 12 months
- HASP Dongle black license key

# SmartScan R12

## Field of view sets

All field of view sets include:

- Objective set selected measuring range FOV
- Precision calibration incl. certification for optical measuring systems according to VDI/VDE 2634
- Deployment of sensor data

111187	<b>SmartScan R12 field of view FOV SL-090</b>
	Calibration plate S.2 is needed in addition

111188	<b>SmartScan R12 field of view FOV SL-200</b>
	Calibration plate M is needed in addition

111189	<b>SmartScan R12 field of view FOV SL-300</b>
	Calibration plate L.2 is needed in addition

111190	<b>SmartScan R12 field of view FOV SL-500</b>
	Calibration plate L.2 is needed in addition

111191	<b>SmartScan R12 field of view FOV M-350</b>
	Calibration plate L.2 is needed in addition

111192	<b>SmartScan R12 field of view FOV M-450</b>
	Calibration plate L.2 is needed in addition

111193	<b>SmartScan R12 field of view FOV M-750</b>
	Calibration plate XL is needed in addition

111194	<b>SmartScan R12 field of view FOV M-1000</b>
	Calibration plate XL is needed in addition



For legacy products: if additional measuring range fields of view for older SmartScan systems, such as SmartScan R8/C8 or SmartScan R5/C5, are needed, please contact a local Hexagon representative for further information.

# PrimeScan R5

The PrimeScan optical 3D scanner line from Hexagon is an attractive entry-level solution for highly precise 3D digitisation of industrial components.



**3D Scanner PrimeScan R5 LED blue with monochrome cameras, measuring range FOV and Hexagon Structured Light Scanner software plug-in, including:**

- PrimeScan selected resolution basic sensor LED blue, selected measuring range FOV and dedicated calibration plate incl. 12 months warranty
- Sensor cable 5 m for PrimeScan with USB 3 connection and PrimeScan power supply, grey
- Scanner remote control
- PrimeScan flight case incl. foam inlay
- Hexagon Structured Light Scanner software plug-in licence
- OptoCat software incl. software module Texture Mapping
- PrimeScan Software Maintenance Agreement (SMA) 12 months
- HASP Dongle black- license key

# PrimeScan R5

110234	<b>PrimeScan R5 FOV 50 - LED blue</b>	PrimeScan R5 measuring range FOV 50, calibration plate XS and certification for optical 3D measuring systems
110237	<b>PrimeScan R5 FOV 125- LED blue</b>	PrimeScan R5 measuring range FOV 125, calibration plate S.2 and certification for optical 3D measuring systems
110240	<b>PrimeScan R5 FOV 200 - LED blue</b>	PrimeScan R5 measuring range FOV 200, calibration plate M and certification for optical 3D measuring systems
110242	<b>PrimeScan R5 FOV 400 - LED blue</b>	PrimeScan R5 measuring range FOV 400, calibration plate L.2 and certification for optical 3D measuring systems
110244	<b>PrimeScan R5 FOV 700 - LED blue</b>	PrimeScan R5 measuring range FOV 700, calibration plate XL and certification for optical 3D measuring systems

## Additional sensors PrimeScan R5

The purchase of an additional sensor requires that a main sensor is also ordered or is already available, as additional sensors are delivered without software license, sensor cable or power supply.

110236	<b>PrimeScan R5 measuring range FOV 50 - LED blue - additional sensor</b>	PrimeScan R5 basic sensor, LED blue, measuring range FOV 50, PrimeScan flight case incl. foam inlay, calibration plate XS and certification for optical 3D measuring systems
110239	<b>PrimeScan R5 measuring range FOV 125 - LED blue - additional sensor</b>	PrimeScan R5 basic sensor, LED blue, measuring range FOV 125, PrimeScan flight case incl. foam inlay, calibration plate S.2 and certification for optical 3D measuring systems
110241	<b>PrimeScan R5 measuring range FOV 200 - LED blue - additional sensor</b>	PrimeScan R5 basic sensor, LED blue, measuring range FOV 200, PrimeScan flight case incl. foam inlay, calibration plate M and certification for optical 3D measuring systems
110243	<b>PrimeScan R5 measuring range FOV 400 - LED blue - additional sensor</b>	PrimeScan R5 basic sensor, LED blue, measuring range FOV 400, PrimeScan flight case incl. foam inlay, calibration plate L.2 and certification for optical 3D measuring systems
110245	<b>PrimeScan R5 measuring range FOV 700 - LED blue - additional sensor</b>	PrimeScan R5 basic sensor, LED blue, measuring range FOV 700, PrimeScan flight case incl. foam inlay, calibration plate XL and certification for optical 3D measuring systems



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# Calibration plates

The basis for highly accurate measurement is a precise calibration of the structured light scanner system with the two high-resolution cameras. For the calibration Hexagon provides single-sided calibration plates with a positioning aid to define plate positioning during calibration.

All Hexagon calibration plates are

- Lightweight, single-sided CFK calibration plates in sandwich structure
- Thermally stable
- Suitable for standard measuring range
- One side calibrated incl. certificate
- In a frame with supporting feet
- Referenced by photogrammetric measurement
- Delivered with a transportation case

**110949 Calibration plate XS**

Size: 215 x 165 mm

**131101 Calibration plate S.2**

Size: 215 x 165 mm

**105213 Calibration plate M**

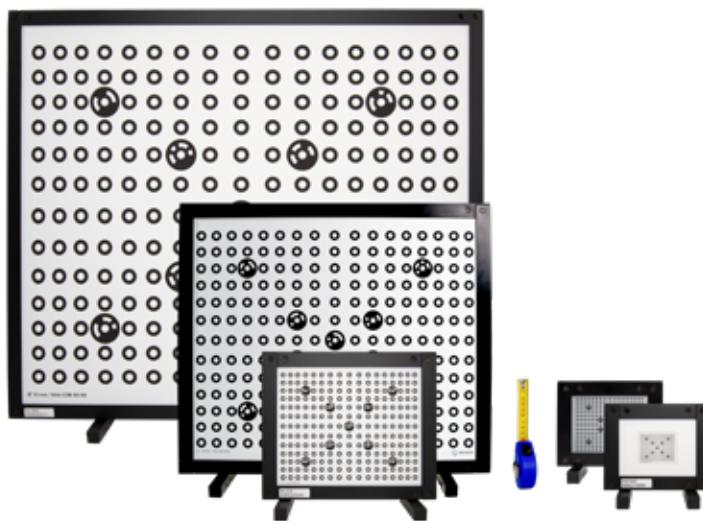
Size: 360 x 265 mm

**131102 Calibration plate L.2**

Size: 510 x 465 mm

**105215 Calibration plate XL**

Size: 755 x 665 mm



The calibration plates are suitable for the following structured light scanner systems

Structured light scanner system	Calibration plate XS	Calibration plate S.2	Calibration plate M	Calibration plate L.2	Calibration plate XL
StereoScan neo	R16.2 S-075 R16.2 S-125	R16.2 S-200	R16.2 L-350 R16.2 L-500	R16.2 L-850 R16.2 L-1000	
SmartScan		R12 SL-200		R12 M-750 R12 M-1000	
PrimeScan	R5 50			R5 700	



# Accessories for structured light scanner systems

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# Photogrammetry

Combining leading structured light scanning and photogrammetry technology is an unrivalled way to achieve high-accuracy 3D digitisation results on large measurement objects. The measuring volume captured in a single scan by a Hexagon structured light scanner ranges from a few millimetres to about one metre across. By combining this technology with a photogrammetry system from the DPA Series, considerably larger freeform areas can also be captured at the highest level of detail. This add-on technology combination provides more reliable and much more precise global coordinates in the component's coordinate system, allowing for accurate measurement across a greater volume.

105032

## DPA add-on for structured light scanner

Includes:

- AICON 3D Studio Base software and AICON 3D Studio Viewer
- AICON 3D Studio software module DPA, Transform, Deform, Adapter, Geometry and Codemaker
- DPA Pilot plug-in for inspection software packages
- OptoCat add-on module Ext. Ref. Matching
- High-end digital camera DPA, certified according to VDI 2634 page 1, with transportation box and photogrammetry metric lens 28mm for Canon
- DAkkS calibration of an optical 3D measuring system according to VDI 2634 part 1
- DPA scale bar 1430 White (DAkkS) type: 2020 and DPA scale bar 830 White (DAkkS) type: 2020, scale bar transportation bag 1430
- Reference cross White carbon fibre 400 x 400 mm on magnetic holder
- Targets 14 bit code white Ø1 = 5 mm no. 2-150 magnetic
- Targets noncoded white Ø1 = 5 mm removable Ø2 = 10 mm with ring, 1000 targets



105031

## DPA basic add-on for structured light scanner

Includes:

- Standard digital camera
- DPA Pilot plug-in for inspection software packages
- AICON 3D Studio software module Deform, Transform, Adapter and Geometry
- Targets 14 bit code white Ø1 = 5mm no. 2-150 magnetic
- Targets noncoded white Ø1 = 5mm removable Ø2 = 10 mm with ring, 1000 targets
- Scale cross 800 White
- OptoCat add-on module Ext. Ref. Matching



# Photogrammetry

105153

**Adaptor set for scanner add-on**

Photogrammetry adaptor set for measuring geometrical elements like drill holes, edges, sections



Includes:

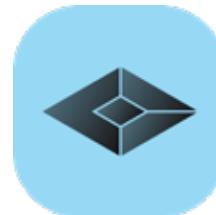
- DPA Adaptor Alignment Set
- Adaptor cube for planes and fixation pins - Code 1 black
- Adaptor cube for inner corner 90° - Code 1 black - 7 mm shaft length
- Box for accessories
- Fixation pin for adaptor cubes 8 mm (H7)
- Fixation pin for adaptor cubes 10 mm (H7)
- AICON 3D Studio software module Adaptor

109835

**Upgrade from DPA add-on to DPA Professional  
(stand alone version)**

Upgrade includes:

- Dongle incl. carry over of existing DPA add-on license and DPA Pilot plug-in
- Software upgrade fee; not an additional license



109452

**Software upgrade from DPA basic add-on to DPA Entry**

Upgrade includes:

- AICON 3D Studio Base software incl. software module Codemaker and DPA Pilot plug-in
- Software upgrade fee; not an additional license



# Probing accessories

Gearbox housings and other components with a complex geometry are an enormous challenge for 3D scanners. Geometric shapes or hidden measurement points are hard to reach. Hand-held probes for structured light scanners developed specially for the measurement of complex components are a sophisticated solution.

The MI.Probe mini is a small and lightweight probe for the tactile capturing of 3D points of object areas which are difficult to access. It is recommended for FOV 450 and larger. Compatible with PolyWorks Inspector, PowerINSPECT, SpatialAnalyzer, Metrolog and Geomagic.

101502

## MI.Probe mini for structured light scanner

Includes:

- MI.Probe mini Typ A (black) sphere 3 mm, shank length = 35 mm
- OptoCat add-on module MI.Probing
- Box for accessories



101503

## MI.Probe mini set (3 pc) for structured light scanner

Includes:

- MI.Probe mini Typ A (black) sphere 3 mm, shank lenght = 35 mm
- MI.Probe mini Typ B (green) sphere 5 mm, shank lenght = 100 mm
- MI.Probe mini Typ C (red) with hardmetal tip shank lenght = 61 mm
- OptoCat add-on module MI.Probing
- Box for accessories



# Turntables, turn-tilt units and fixing elements

An alternative to complex robot-based automation solutions can be achieved through the combination of structured light scanning technology with turntable or turn-tilt units. These productivity enhancing accessories allow a scanner to access every side of the measurement object without repositioning – all relevant areas of the object can be captured while minimising the number of single exposures.

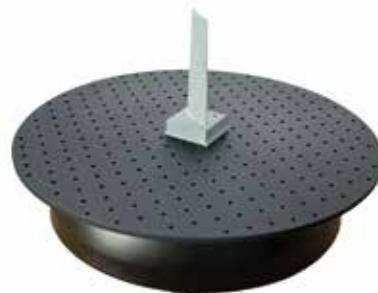
101206

## TurnTable 50

Turntable for automated positioning of objects to be measured with hole grid plate pre-drilled with M6 threaded holes for fixing elements

Technical data:

- Power: DC 24V / 2A
- Weight: 7 kg
- Dimension: 480 x 480 x 115 mm
- Load capacity: up to 50 kg
- Turn angle: 360°
- Speed: 2 RPM (rotation per min)
- Interface: USB 2.0



105187

## Fixing elements for TurnTable 50

Fixing elements for measuring objects, suitable for TurnTable 50

Includes:

- 3 tension springs long
- 3 tension springs short
- 2 vices (large and small)
- Swivel arm with joint
- 2 allen keys (4 mm and 5 mm)



108522

## TurnTable 100

Turntable for automated positioning of objects to be measured with rubber plate

Technical data:

- Power: 220 V or 110 V
- Weight: 13 kg
- Dimension: 400 x 480 x 115 mm
- Load capacity: up to 100 kg
- Turn angle: 360°
- Speed: 2 RPM (rotation per min)
- Interface: USB 2.0



# Turntables, turn-tilt units and fixing elements

## TurnTable 300

Turntable for automated positioning of objects to be measured with rubber plate

Technical data:

- Weight: 60 kg
- Dimension: 800 x 895 x 190 mm
- Load capacity: up to 300 kg
- Turn angle: 360°
- Speed: 3 RPM (rotation per min)
- Interface: USB 2.0

101205

### TurnTable 300 (230 V)

Power: AC 200-230 V AC 440 VA 50-60 Hz



111710

### TurnTable 300 (110 V)

Power: 110 V AC 440 VA 50-60 Hz

110898

### TurnTiltUnit-M (V3)

Turn-tilt unit for automated positioning of objects to be measured with base plate with M6 threaded holes in 25 mm grid; OptoCat 2020R1 or higher required

Technical data:

- Power: AC 110 V - 230 V 50/60 Hz
- Weight: 40 kg
- Dimensions: 532 x 610 x 487 mm
- Base plate diameter: 300 mm
- Load capacity: up to 25 kg
- Turn angle: 360°
- Tilt angle: - 45° till +45°
- Interface: USB2
- Transportation box, dimensions: 600 x 700 x 790 mm



110339

### Centre-clamping vise M set for TurnTiltUnit-M

Includes:

- Centre-clamping vise M
- 2 clamping jaws with hard/rubberised sides
- 6 hold-down springs
- 6 hold-down pins
- Tools & screws
- Transportation box



# Turntables, turn-tilt units and fixing elements

110564

## Spare part set: Rubber jaws for centre-clamping vise M

Includes:

- 2 rubber jaws for centre-clamping vise M
- Screw driver (SW2)



110340

## Adaptor set for TurnTiltUnit-M

Includes:

- Height adaptor 40 mm (pre-assambled)
- Height adaptor 80 mm (pre-assambled)
- Quick-clamp adaptor, lower part (single)
- 2 quick-clamp adaptor, upper part (single)
- Tools & screws
- Transport box incl. foam support for centre-clamping vise M



109969

## Quick-clamp adaptor upper part



110344

## Quick-clamp adaptor lower part incl. accessories



110342

## Turntable plate for TurnTiltUnit-M

Includes:

- Turntable plate for TurnTiltUnit-M, diameter of base plate: 300 mm
- Tools and screws

# Turntables, turn-tilt units and fixing elements

111720

## TurnTiltUnit-S (V3)

Turn-tilt unit for automated positioning of objects to be measured with base plate with M6 threaded holes in 25 mm grid; OptoCat 2020R1 or higher required

Technical data:

- Power: DC 24V min 3A
- Weight: 5.2 kg
- Dimensions: 240 x 240 x 215 mm
- Base plate diameter: 145 mm
- Load capacity: up to 1.3 kg
- Turn angle: 360°
- Tilt angle: - 60° till +60°
- Interface: USB2
- Flight case dimensions: 538 x 406 x 296 mm



110341

## Centre-clamping vise S set for TurnTiltUnit-S

Includes:

- Centre-clamping vise S
- 2 plates with 25mm grid
- 2 clamping jaws with hard / rubberised sides
- 4 height adaptors for TurnTiltUnit-S
- 4 hold-down springs
- 6 hold-down pins
- Tools & screws
- Transportation box



110563

## Spare part set: Rubber jaws for centre-clamping vise S

Includes:

- 2 rubber jaws for centre-clamping vise S
- Screw driver (SW2)



110343

## Turntable plate for TurnTiltUnit-S

Includes:

- Turntable plate for TurnTiltUnit-S, diameter of base plate: 145 mm
- Tools & screws

# Workstations and computer accessories

## Workstations and laptops

Please contact your local Hexagon representative to learn more about currently recommended configuration for mobile and desktop workstations.



## GigE expansion box for Thunderbolt 3

Expansion box for connecting a GigE scanner with highest resolution to a mobile workstation (Thunderbolt 3 interface). The box offers maximum scan speed with highest reliability. Expansion box is needed for all GigE camera systems in combination with a mobile workstation!

109335	<b>GigE expansion box for Thunderbolt 3 (2Port)</b>
	For StereoScan neo till September 2018 and older as well as SmartScan
110913	<b>GigE expansion box for Thunderbolt 3 (4Port)</b>
	For StereoScan neo from October 2018 on



106447	<b>Emergency dongle</b>
	Valid 14 days after first activation; only valid in case of problems with original dongle; reactivation possible



# Reference frame and accessories

110798	<b>Reference frame 200</b>
	Frame with photogrammetrically surveyed targets to support alignment of narrow objects. Suitable for scanner measuring ranges from 125 to 350 mm. Outer dimension: 225 x 155 mm, inner dimension: 175 x 105 mm
	The frame can also be used with a TurnTable 50 and TurnTiltUnit M.
	Includes:

- Base for vertical and horizontal placement
- Fixation accessories for quick and easy clamping of a wide variety of parts
- Plastic protective cover to safeguard the targets on the frame
- Transportation case



# Scanning station and scan table

105198

## Industrial scanning station 3D

Heavy-duty, fully closed scanning station, designed to accommodate a workstation, a monitor and accessories for flexible measuring in a laboratory or factory environment.<sup>1</sup>

Includes:

- Work surface and cable routing
- 2 drawers
- Lockable sturdy castors for mobility
- 19" rack for desktop computer
- 2 USB 2.0 interfaces
- Ethernet interface
- Space for OptoLink controller

Scanning system and computer are not included

Dimensions: 1060 x 1000 x 900 mm, total weight: approx. 120 kg,  
colour: light grey



111239

## ScanTable for SmartScan or PrimeScan

With calibration table, TurnTiltUnit-S (V3) needs to be ordered separately

Includes:

- Base plate with vertical column for scanner installation
- High-end, heavy-duty ball head with friction control and panorama plate
- Calibration table with calibration positioning mat for easy calibration of SmartScan or PrimeScan

ScanTable dimensions: 950 x 530 x 640 mm, weight: 15 kg

Calibration table dimensions: 520 x 430 x 340 mm, weight: 4.7 kg

Recommended FOVs for TurnTiltUnit-S: 90 bis 200

Maximum working distance: 500 mm



111371

## Calibration table

Incl. calibration positioning mat; dimensions: 520 x 430 x 340 mm,  
weight: 4.7 kg



## Scanning station and scan table

131326

**High-end, heavy-duty ball head for ScanTable and ScanKart**

With friction control and panorama plate for ScanTable and ScanKart in combination with SmartScan or PrimeScan



111592

**Turntable plate for TurnTable 50 with M8 threaded hole pattern**

Without tools, diameter: 480 mm

## Starter kit and match accessories

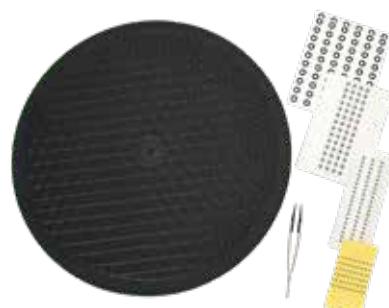
130327

**Starter kit for structured light scanner**

Starter equipment for fast and easy measuring of 3D objects, for all FOVs

Including:

- Manual TurnTable (d = 400 mm)
- Targets noncoded white Ø1 = 1 mm removable Ø2 = 2 mm with ring  
1PAC2 = 1000 pcs
- Targets noncoded white Ø1 = 2 mm removable Ø2 = 3.5 mm with ring  
1PAC2 = 1000 pcs
- Targets noncoded white Ø1 = 3 mm removable Ø2 = 5 mm with ring  
1PAC2 = 1000 pcs
- Targets noncoded white Ø1 = 5 mm removable Ø2 = 10 mm with ring  
1PAC2 = 1000 pcs
- Tweezer



### Match accessories

Match accessories for the alignment of individual scans based on the object geometry

109117

**Match accessories - small (10 pc)**

10 match accessories grey, 10 x 10 mm



109118

**Match accessories - medium (10 pc)**

10 match accessories grey, 20 x 20 mm

109119

**Match accessories - large (10 pc)**

10 match accessories grey, 40 x 40 mm

# Stands and tripods

Stands for all structured light scanner systems

130297      **Stand 2.1 m – Horizontal arm 1 m**  
**incl. tripod head for strutured light scanners**  
Overall height: 2.1 m  
Length of horizontal arm: 1 m  
Total weight: 108.5 kg  
Tripod head: 3-ways tripod head (Manfrotto)

130298      **Stand 2.1 m – Horizontal arm 1.7 m**  
**incl. tripod head for strutured light scanners**  
Overall height: 2.1 m  
Length of horizontal arm: 1.7 m  
Total weight: 143.9 kg  
Tripod head: 3-ways tripod head (Manfrotto)

130299      **Stand 3.1 m – Horizontal arm 1.7 m**  
**incl. tripod head for strutured light scanners**  
Overall height: 3.1 m  
Length of horizontal arm: 1.7 m  
Total weight: 150 kg  
Tripod head: 3-ways tripod head (Manfrotto)

105210      **Stand 1.8 m – Horizontal arm 0.82 m**  
**incl. tripod head for strutured light scanners**  
Overall height: 1.8 m  
Length of horizontal arm: 0.82 m  
Total weight: 46.2 kg  
Tripod head: 3-ways tripod head (Manfrotto)



Please contact your local Hexagon representative for further purchasing information.

# Stands and tripods

## Tripods for SmartScan and PrimeScan

130578 **Tripod (large) incl. tripod head and bag for SmartScan and PrimeScan**

**and PrimeScan**

Maximum height (with center column down): 2.42 m

Max. height: 2.67 m

Min. height: 0.44 m

Weight: 9.0 kg

Tripod head: 3-ways tripod head (Berlebach) incl. tripod bag



130613 **Tripod (small) incl. tripod head and bag for SmartScan and PrimeScan**

**and PrimeScan**

Maximum height (with center column down): 1.91 m

Max. height: 2.17 m

Min. height: 0.44 m

Weight: 6.7 kg

Tripod head: 3-ways tripod head (Berlebach) incl. tripod bag

109005 **Tripod incl. tripod head and bag for PrimeScan**

Maximum height (with center column down): 1.46 m

Max. height: 1.71 m

Min. height: 0.09 m

Weight: 2.5 kg

## Tripod heads

109643 **Manfrotto 3D Super Pro (229) 3-way tripod head with quick release plate and secondary safety catch**

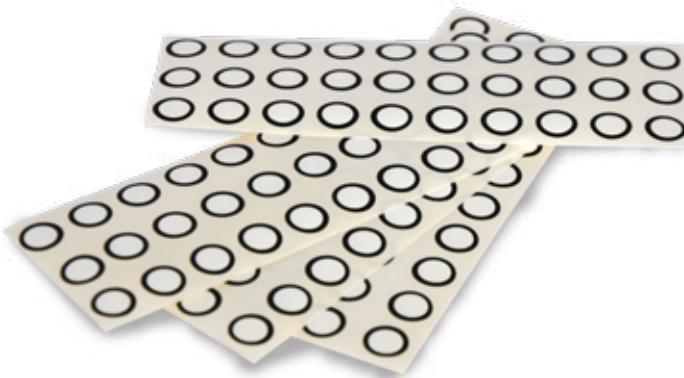


101453 **Berlebach tripod head 3D-Super (3/8" thread)**

101458 **Manfrotto 405 Geared Tripod Head**

# Targets

- 101026      **Target noncoded white Ø1 = 1 mm removable Ø2 = 2 mm with ring, 1000 targets\***  
60 targets on one sheet; 17 sheets
- 101027      **Target noncoded white Ø1 = 2 mm removable Ø2 = 3.5 mm with ring, 1000 targets\***  
60 targets on one sheet; 17 sheets
- 107134      **Target noncoded white Ø1 = 3 mm removable Ø2 = 5 mm with ring, 1000 targets\***  
Material film 5770; temperature resistance from -40°C (-40°F) to 95°C (203°F)
- 107139      **Target noncoded white Ø1 = 5 mm removable Ø2 = 10 mm with ring, 1000 targets\***  
Material film 5770; temperature resistance from -40°C (-40°F) to 95°C (203°F)
- 107145      **Target noncoded white Ø1 = 10 mm removable Ø2 = 13 mm with ring, 1000 targets\***  
Material film 5770; temperature resistance from -40°C (-40°F) to 95°C (203°F)

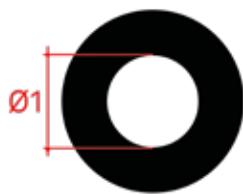


\* Significant price saving when buying 5 units

# Targets

## Minimum target size for each field of view (FOV)\*

PrimeScan	Minimum target size (mm)	Minimum target size for Smart Data Capture (mm)	SmartScan	Minimum target size (mm)	Minimum target size for Smart Data Capture (mm)	StereoScan neo	Minimum target size (mm)	Minimum target size for Smart Data Capture (mm)	SmartScan VR800	Minimum target size (mm)
R8 100	1	1	R12 SL-090	1	1	R16.2 S-075	1	1	All	3
R8 450	2	4	R12 SL-200	1	1	R16.2 S-125	1	1		
R8 500	2	4	R12 SL-300	1	2	R16.2 S-200	1	1		
R8 650	2	4	R12 SL-500	2	3	R16.2 L-350	1	2		
R8 800	3	6	R12 M-350	1	2	R16.2 L-500	2	3		
R5 50	1	1	R12 M-450	2	2	R16.2 L-850	3	5		
R5 125	1	2	R12 M-750	2	3	R16.2 L-1000	1	5		
R5 200	1	2	R12 M-1000	3	5	R16 S-075	1	1		
R5 400	2	4	R8 S-075	1	1	R16 S-125	1	1		
R5 700	3	6	R8 S-150	1	1	R16 S-200	1	1		
R5 750	3	6	R8 S-250	2	2	R16 L-350	2	2		
R5 1000	4	8	R8 M-300	2	2	R16 L-550	3	3		
R2 75	1	-	R8 M-450	2	3	R16 L-850	4	4		
R2 150	1	-	R8 M-650	2	4	R16 L-1100	6	6		
R2 400	3	-	R8 M-950	3	6	R8 S-075	1	1		
			R8 M-1300	6	10	R8 S-125	1	1		
			R5 S-060	1	1	R8 S-200	1	1		
			R5 S+M-125	1	2	R8 L-350	2	2		
			R5 M-200	1	2	R8 L-550	2	4		
			R5 M-500	2	4	R8 L-850	3	6		
			R5 L-750	3	6	R8 L-1100	4	8		
			R5 M-850	4	8					
			R5 L-1550	6	10					



Minimum target size = Ø1 mm

\* List includes legacy products



# Application software for structured light scanner systems

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Software Maintenance Agreements 46

# SLS Plug-in

The SLS Plugin allows any structured light scanner from Hexagon to be completely controlled from within the PolyWorks, Control X or Design X software environment. The increased efficiency of a single platform workflow will reduce inspection times by eliminating the need to export and import measurement data between separate programs, as well as by minimising training needs.



130241

## **Hexagon Structured Light Scanner Plug-in**

Only for customers with active Software Maintenance Agreement (SMA)

Please note:

- Color camera and FireWire systems are not supported in the Plug-in
- Requires an additional software license of supported software
  - Polyworks Inspector
  - Geomagic Control X or Design X
- Update of additional license for the same system is included

130242

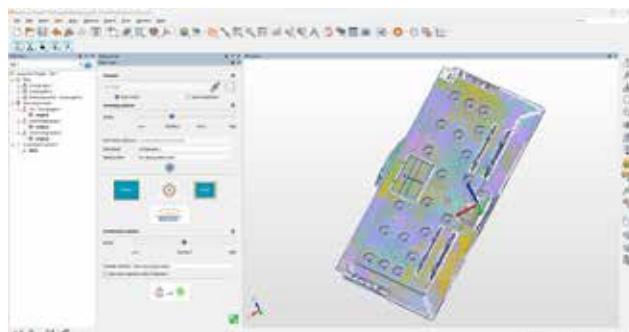
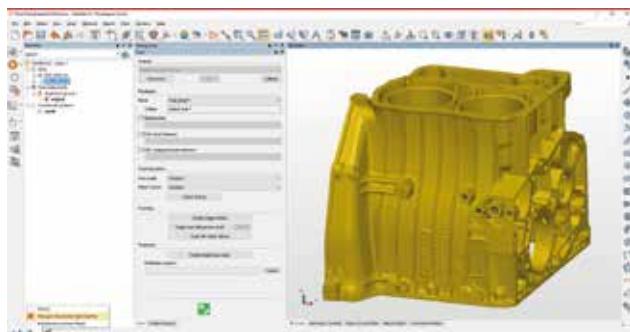
## **OptoCat update to current software version and**

## **Hexagon Structured Light Scanner Plug-in**

For all current structured light scanner systems (StereoScan neo, SmartScan und PrimeScan) and for all former scanner models with LED projection

Please note:

- Color camera and FireWire systems are not supported in the plug-in
- Requires an additional software license of supported software
  - Polyworks Inspector
  - Geomagic Control X or Design X
- For already existing DPA add-on and DPA basic add-on systems, the update to DPA Pilot plug-in is included
- Update of additional license for the same system is included



# OptoCat

From 3D scanner calibration and data capture to post-processing and evaluating measurement data, OptoCat is all the software needed for three-dimensional surface measurement. Featuring a diverse range of metrology functions, the innovative OptoCat modular software package allows users to develop a personally configured setup best suited to the needs of their specific measurement task.



130390

**Add-on module CAD data import STEP**

OptoCat/PartInspect L software add-on module for CAD data import file formats STEP

130515

**Add-on module CAD data import IGES**

OptoCat/PartInspect L software add-on module for CAD data import file formats IGES

108260

**Add-on module CAD data import for CATIA V4 and V5**

OptoCat/PartInspect L software add-on module for CAD data import of CATIA V4 and V5

105062

**OptoCat additional license for StereoScan neo**

Additional license for measurement and evaluation software OptoCat for StereoScan neo system.  
License includes all modules of the reference license.

105063

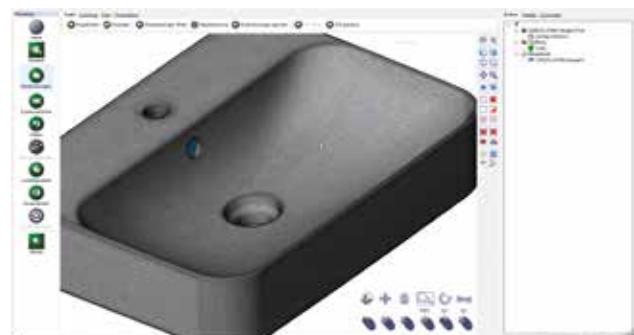
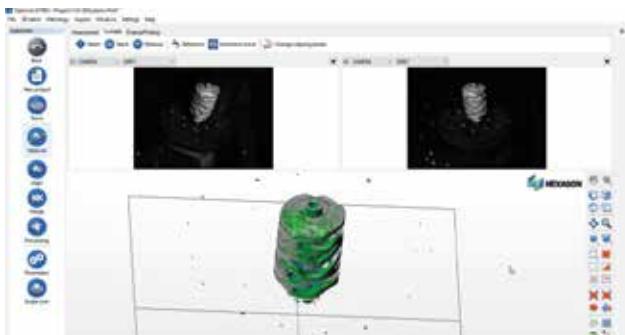
**OptoCat additional license for SmartScan**

Additional license for measurement and evaluation software OptoCat for SmartScan systems.  
License includes all modules of the reference license.

109689

**OptoCat additional license for PrimeScan**

Additional license for measurement and evaluation software OptoCat for PrimeScan systems.  
License includes all modules of the reference license.



# Software Maintenance Agreements (SMAs)

Since metrology software is constantly evolving, it may be difficult for users to decide if and when to upgrade their software. Hexagon's Manufacturing Intelligence division offers Software Maintenance Agreements (SMAs) at the end of the software's normal warranty period. A SMA not only grants unrestricted access to each new version of the application software released during the contract period, but also a selection of exclusive services.

All SMAs include:

- Email and phone support
- Dongle-loss protection
- All software updates and upgrades for OptoCat and SLS Plug-in released within the contract period (plug-in update only included if the plug-in was already purchased and only for monochrome camera systems)

## For SmartScan VR800

131675	<b>1Y-SMA for SmartScan VR800</b>
131676	<b>1Y-SMA for SmartScan VR800 and DPA add-on</b>
131677	<b>1Y-SMA for SmartScan VR800 and DPA basic add-on</b>

## For SmartScan

105299	<b>1Y-SMA for SmartScan*</b>
105308	<b>1Y-SMA for SmartScan and DPA add-on*</b>
105295	<b>1Y-SMA for SmartScan and DPA basic add-on*</b>

## For StereoScan neo

105301	<b>1Y-SMA for Stereoscan neo*</b>
105307	<b>1Y-SMA for Stereoscan neo and DPA add-on*</b>
105294	<b>1Y-SMA for Stereoscan neo and DPA basic add-on*</b>

## For PrimeScan

108916	<b>1Y-SMA for PrimeScan*</b>
110277	<b>1Y-SMA for PrimeScan and DPA add-on*</b>
110278	<b>1Y-SMA for PrimeScan and DPA basic add-on*</b>

\* Significant discount when ordering SMA for three years

Full payment of SMA is to be made at the beginning of the contract period. Maintenance for third-party inspection software is not included in SMA.

## 131610      **Support contract for End-of-Service (EOS) systems**

12 month for Structured light scanner and photogrammetry, incl. dongle loss-protection as well as email and phone support; no software updates and upgrades





# Warranty and maintenance for structured light scanner systems

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# Hardware maintenance

As with all metrology devices, regular maintenance is an important part of long-term quality management. Saving on regular maintenance can result in loss of time and money, whether caused by reduced system performance or the cost of single-intervention repairs to avoid prolonged machine downtime.

Hardware maintenance includes:

- System inspection and maintenance
- Verification of calibration plate(s)
- Re-certification of the certified measuring fields according to VDI/VDE 2634 guideline

## 131678      **Hardware maintenance SmartScan VR800**

One-time hardware maintenance for a SmartScan VR800 system

## 105290      **Hardware maintenance StereoScan neo**

One-time hardware maintenance for a StereoScan neo system

## 105288      **Hardware maintenance SmartScan**

One-time hardware maintenance for a SmartScan system

## 108920      **Hardware maintenance PrimeScan**

One-time hardware maintenance for a PrimeScan system

## 105261      **Examination and recalibration of a calibration plate**

Examination of the calibration plate, measurement of the calibration plate, generation of calibration data files and creation of a test report

## 111245      **Examination and recalibration of a reference frame 200**

Factory calibration by Hexagon in Meersburg, Germany

## 131461      **Hardware maintenance SmartScan for End-of-Service (EOS) systems**

Requirement is the technical feasibility to still perform the hardware maintenance. Examination will be made by Hexagon AICON ETALON GmbH.

## 131462      **Hardware maintenance PrimeScan for End-of-Service (EOS) systems**

Requirement is the technical feasibility to still perform the hardware maintenance. Examination will be made by Hexagon AICON ETALON GmbH.

For legacy products: if you require hardware maintenance for older structured light scanner systems, please contact your local Hexagon representative for further information.

# Training

Efficient and effective use of metrology equipment relies on skilled and knowledgeable users. Interactive training delivered by experienced professionals is crucial to ensure your operators have the expertise to maximise inspection productivity.

105284

## Training for structured light scanner and PartInspect L

At our Photogrammetry factory in Braunschweig, Germany, for max. 3 participants, incl. training material;  
also applicable for remote online training, unit = 1 day, during normal working hours;  
For onsite training we charge an additional travel service fee

# Spare parts

Spare parts for SmartScan VR800 systems

131139

## Sensor cable SmartScan VR800 10 m

For StereoScan neo from October 2018 onward, suitable for robots



130121

## SmartScan VR800 power supply



# Spare parts

## Spare parts for StereoScan neo systems

110389      **Sensor cable StereoScan neo 10 m**  
For StereoScan neo from October 2018 onward, suitable for robots



110895      **Sensor cable StereoScan neo 10 m for USA**  
For StereoScan neo from October 2018 onward, suitable for robots

110896      **Sensor cable StereoScan neo 10 m for China**  
For StereoScan neo from October 2018 onward, suitable for robots

111243      **Sensor cable StereoScan neo 30 m**  
For StereoScan neo from October 2018 onward, suitable for robots



111412      **Sensor cable StereoScan neo 30 m for USA**  
For StereoScan neo from October 2018 onward, suitable for robots

111413      **Sensor cable StereoScan neo 30 m for China**  
For StereoScan neo from October 2018 onward, suitable for robots

100917      **Sensor cable StereoScan neo 10 m**  
For StereoScan neo from September 2018 and older



110504      **Sensor cable StereoScan neo 10 m for USA**  
For StereoScan neo from September 2018 and older

110505      **Sensor cable StereoScan neo 10 m for China**  
For StereoScan neo from September 2018 and older

## Spare parts

### Spare parts for SmartScan systems

100745      **OptoLink II**  
With one port for controlling one sensor



100901      **Sensor cable SmartScan 10 m (GigE)**



### Spare parts for PrimeScan systems

108777      **Sensor cable PrimeScan with USB3 connection, 5 m**  
For PrimeScan till March 2018



110072      **Sensor cable PrimeScan with USB3 connection, 5 m**  
For PrimeScan from April 2018



109323      **PrimeScan power supply, grey**



# Spare parts

Spare parts for all scanner systems

101189

**Scanner remote control**



130619

**MI.Probe mini type A (black)\***

Sphere 3 mm, shank length = 35 mm



130625

**MI.Probe mini type B (green)\***

Sphere 5 mm, shank length = 100 mm



130626

**MI.Probe mini type C (red)\***

With hardmetal tip, shank length = 61 mm



\* Only for StereoScan neo, SmartScan and PrimeScan, recommended for FOV 450 and larger

131536

**Reference frame 200 accessory set (Ø6 mm)**

Accessory set for mounting and quick clamping



131418

**Reference frame 200 - Replacement tip set (Ø6 mm)**

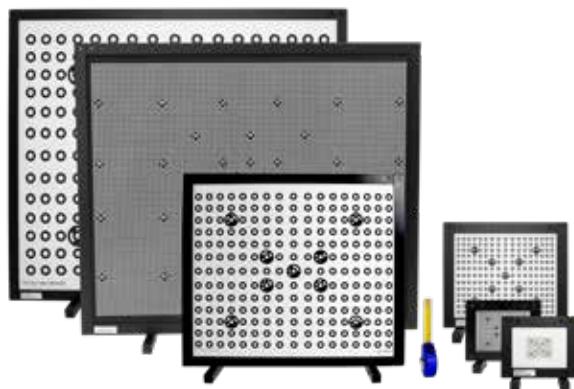


# Spare parts

## Calibration plates

All Hexagon calibration plates are

- Lightweight, single-sided CFK calibration plates in sandwich structure
- Thermally stable
- Suitable for standard measuring range
- One side calibrated incl. certificate
- In a frame with supporting feet
- Referenced by photogrammetric measurement
- Delivered with a transportation case



**110949      Calibration plate XS**  
Size: 215 x 165 mm

**131102      Calibration plate L.2**  
Size: 510 x 465 mm

**131101      Calibration plate S.2**  
Size: 215 x 165 mm

**105215      Calibration plate XL**  
Size: 755 x 665 mm

**105213      Calibration plate M**  
Size: 360 x 265 mm

**131593      Calibration plate VR800**  
Size: 755 x 665 mm

**The calibration plates are suitable for the following structured light scanner systems**

Structured light scanner systems	Calibration plate XS	Calibration plate S.2	Calibration plate M	Calibration plate L.2	Calibration plate XL	Calibration plate VR800
SmartScan VR800						VR800
StereoScan neo		R16.2 S-075 R16.2 S-125	R16.2 S-200	R16.2 L-350 R16.2 L-500	R16.2 L-850 R16.2 L-1000	
SmartScan			R12 SL-200		R12 M-750 R12 M-1000	
PrimeScan	R5 50				R5 700	

# Transportation

108264

## SmartScan VR800 flight case incl. foam inlay

Robust transport case for SmartScan VR800 with customized foam cushion  
Dimension: 795 x 518 x 394 mm, weight: 13.4 kg



108095

## StereoScan neo flight case incl. foam inlay

Robust case for StereoScan neo with customized foam cushion  
Dimension: 847 x 722 x 463 mm, weight: 22,7 kg



101756

## SmartScan flight case incl. foam inlay

Robust case for SmartScan with customized foam cushion  
Dimension: 740 x 405 x 480 mm, weight: 16.5 kg



110276

## PrimeScan flight case incl. foam inlay

Flight case for PrimeScan systems with customized foam cushion  
Dimension: 625 x 500 x 365 mm, weight: 10 kg



108298

## Box for accessories

Interior dimensions: 190 x 130 x 35 mm;

Space for e.g.

- 3 MI.Probe mini
- DPA Adaptor Alignment Set (6 adaptor cubes and fixation pins)
- DPA Adaptor Tooling Set (4 adaptor cubes, 4 angle adaptors and fixation pins)
- 5 selfcentering chucks D50, 3 collets



# Transportation

110337

## Calibration plate XS, S, S.2 and M flight case

Incl. foam inlay and shoulder strap;  
Dimension: 429 x 336 x 114 mm



101765

## Calibration plate L and L.2 flight case

Incl. foam inlay;  
Dimension: 575 x 125 x 545 mm



101766

## Calibration plate XL and VR800 flight case

Incl. foam inlay;  
Dimension: 825 x 125 x 735 mm



111507

## Flight case TurnTable 50 and TurnTable 100

Interior dimension: 590 x 590 x 115 mm



# **Test equipment for structured light scanners**

## **VDI/VDE 2634-3**

Test equipment used for acceptance tests according to the guideline VDI/VDE 2634-3 . OptoCat 2019R2 or higher required!

All test equipment sets include:

- Artefact
- Match accessory
- Positioning mat
- Manual TurnTable
- Calibration certificate from an accredited laboratory
- Flight case

110938       **Test equipment for measuring fields from 50 mm diagonal**

110939       **Test equipment for measuring fields from 125 mm diagonal**

110940       **Test equipment for measuring fields from 200 mm diagonal**

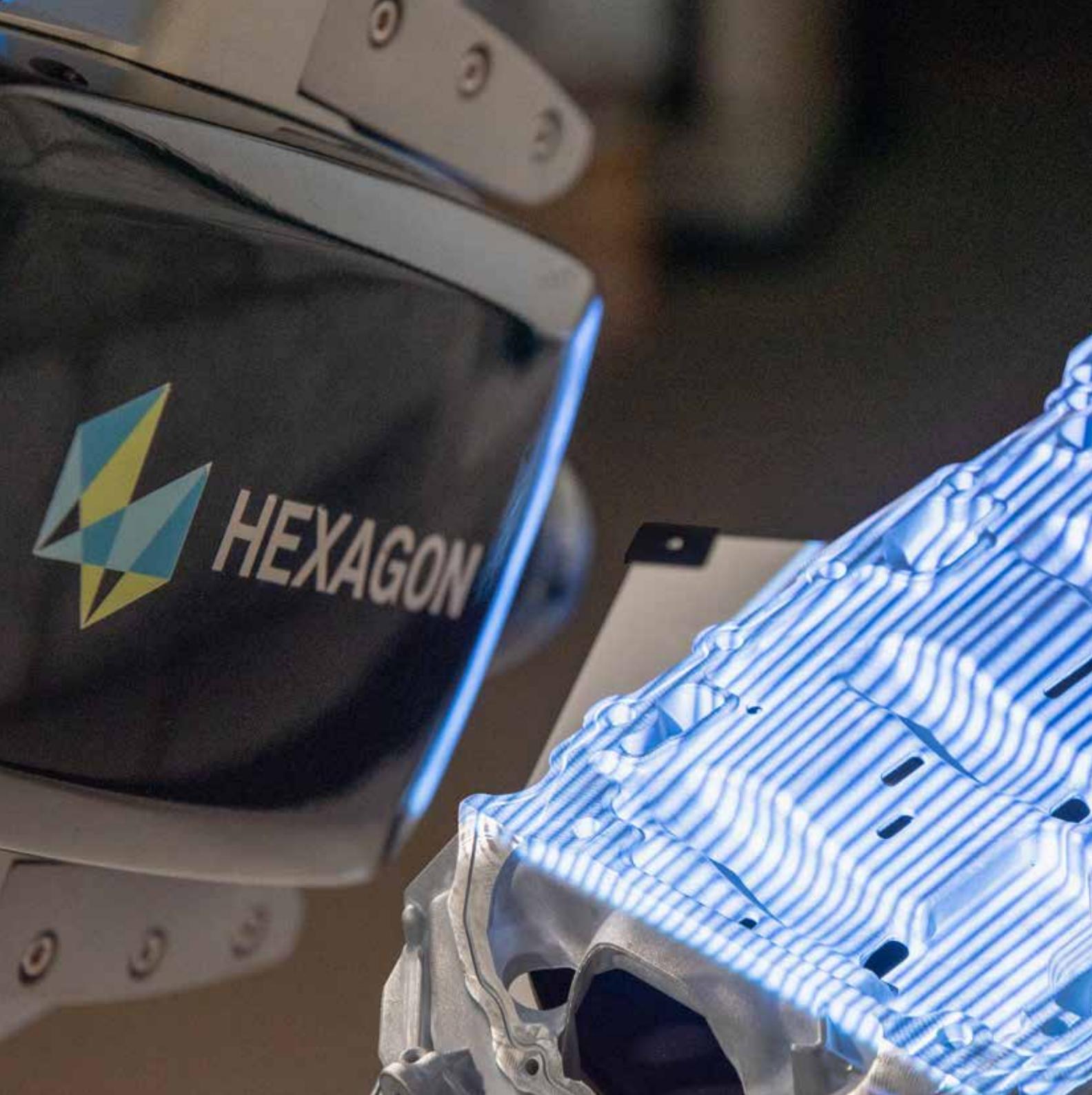
110941       **Test equipment for measuring fields from 350 mm diagonal**

110942       **Test equipment for measuring fields from 500 mm diagonal**

110943       **Test equipment for measuring fields from 800 mm diagonal**

110944       **Test equipment for measuring fields from 1200 mm diagonal**





# Warranty plan renewals

131679	<b>1 Year SmartScan VR800 Warranty Extension</b> Warranty extension on parts by one year (max. 3 years additionally)
105235	<b>1 Year StereoScan neo Warranty Extension</b> Warranty extension on parts by one year (max. 4 years additionally)
105234	<b>1 Year SmartScan Warranty Extension</b> Warranty extension on parts by one year (max. 4 years additionally)
109538	<b>1 Year PrimeScan Warranty Extension</b> Warranty extension on parts by one year (max. 4 years additionally)

- Extended warranty is issued for all repair work or replacement of components caused despite system conform handling and usage.
- Extended warranty is only issued in case of a proven annual system maintenance track record from the first year after purchase of the system. Hardware maintenance must be performed by the Scanner Innovation Center (Meersburg) or by an authorized Hexagon SLS Service Centre.
- An extended warranty is not issued in case of careless handling, damage caused by accident, improper transport, inadequate packaging and intentional destruction of the system or parts thereof.
- Consumable components, such as lamps or targets, are not covered by the warranty.
- Defective items have to be returned to Hexagon Meersburg.

# Warranty plan conditions

## Standard manufacturer warranty plan

The Photogrammetry factory provides a 1-year manufacturer's warranty on Hexagon Structured Light Scanners (excluding consumables). The 1 year period starts with the date of delivery to the customer, but not later than 3 months after factory delivery to the local Hexagon Manufacturing Intelligence devision's representative.

The following terms apply to this warranty:

1. Replacement or repair, at Photogrammetry factory's option, free of charge, of any delivered component or parts of the scanner which, upon examination, are found defective in workmanship or material.
2. Customer assumes all shipping costs.
3. Telephone and e-mail technical support is part of the SMA maintenance and each system will be delivered with 12 months SMA (Software maintenance agreement).

## Renewal of standard manufacturer warranty plan

The Photogrammetry factory offers 1-year warranty extensions for scanner hardware. To be eligible for a warranty extension, the customer must either order it with the instrument or before the existing warranty plan expires.

Extensions do not cover turntables, turn-tilt units, cables or other accessories.

The standard factory warranty extensions for instruments have the following terms and conditions:

1. For the extensions of the warranty, the instrument needs to be calibrated in a certified service centre, first time 12 months after customer delivery at the latest. The next calibrations are then every 12 months according to the warranty plan extension.
2. Customer assumes all shipping costs.
3. Replacement or repair, at Photogrammetry factory's option, free of charge, of any component or parts of the scanner which, upon examination, are found defective in workmanship or material.
4. Any required repair not covered by the warranty plan extension is charged extra.
5. The instrument must be returned to the Photogrammetry factory or an authorized and certified Service Centre by Hexagon Manufacturing Intelligence devision for repair, calibration, or certification.
6. Telephone and e-mail technical support for software is part of the SMA software maintenance agreement and is sold extra.

# World-class service made simple

## Customer Care Packages



Owners of Hexagon products featured in this catalogue have the opportunity to invest in a Customer Care Package – a standardised after-sale service package designed to ensure equipment remains in top condition and can be relied upon for accurate measurement results.

- Maintenance and warranty plans that ensure top equipment availability
- Trouble-free usage and minimal downtime
- Preferred hotline access at no additional cost
- Access to professional advice whenever it's needed

Customer Care Packages include a selection of the following benefits, depending on the plan chosen.

- Planned annual service
- Customer hardware support
- Software support and software updates\*
- Annual maintenance and recertification
- Remote connected assistance
- Repair parts and labour\*\*
- Customised local benefits

For complete details of the benefits of each level of Customer Care Package, please contact a local Hexagon representative.

\* Photogrammetry product line software (plug-ins, drivers, etc.) only

\*\* Excludes cables, consumable items, computers and other peripheral hardware. Repair parts and labour are not issued in case of careless handling, damage caused by accident, improper transport, inadequate packaging and intentional destruction of the system or parts thereof.

# Customer Care Packages

	Platinum	Gold	Silver	Bronze
Planned annual service	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Customer hardware support	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Software support and software updates	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-
Annual maintenance and recertification	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-
Remote connected assistance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-
Repair parts and labour	<input checked="" type="checkbox"/>	-	-	-
Local customised benefits	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

For further information about Bronze, Silver, Gold and Platinum service contracts, please contact a local Hexagon representative.



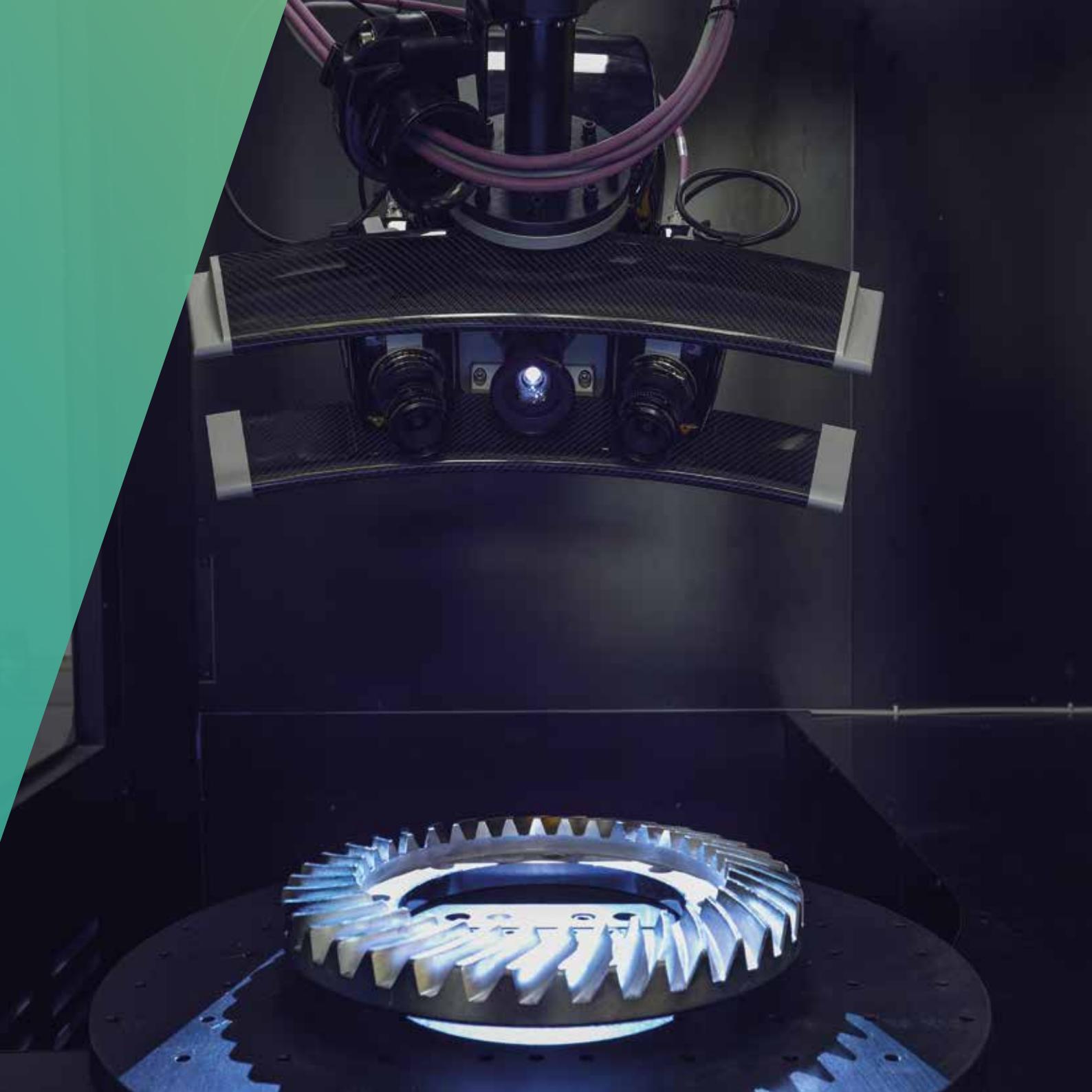
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HEXAGON



PART/INSPECT L



# Advanced automation made simple

Modern manufacturing demands the high-speed transfer of information from the physical world to the digital world. The PartInspect automation platform is designed to play a central role in this process – combining straight-forward automation techniques with high-definition structured light scanner technology to remove bottlenecks from the quality control process.

Pairing a premium structured light scanner with a powerful robot arm for automated inspection offline, near-line or at-line, PartInspect offers straight-forward measurement cells with an easy-to-use kiosk interface that simplifies and accelerates repetitive inspection tasks, while a unique combination of automated scan planning and manual fine tuning deliver unmatched flexibility to the user.

With PartInspect, project planning and execution require no expert knowledge of robot teaching, allowing for simple automation that can be operated with minimal training. This all adds up to a range of high-end automated measurement systems that move vital inspection processes into the world of smart manufacturing with a minimum of expertise and effort.



The modular hardware concept behind the PartInspect L allows it to be quickly installed and customised for differing needs – roofless configuration is standard for easy loading of large parts, but a roofed option is an ideal alternative for measurement under challenging environmental conditions.



PartInspect L cells are available in two major configurations – HiRes and Efficient – based on the structured light scanning technology of the StereoScan neo 16MP and the PrimeScan.



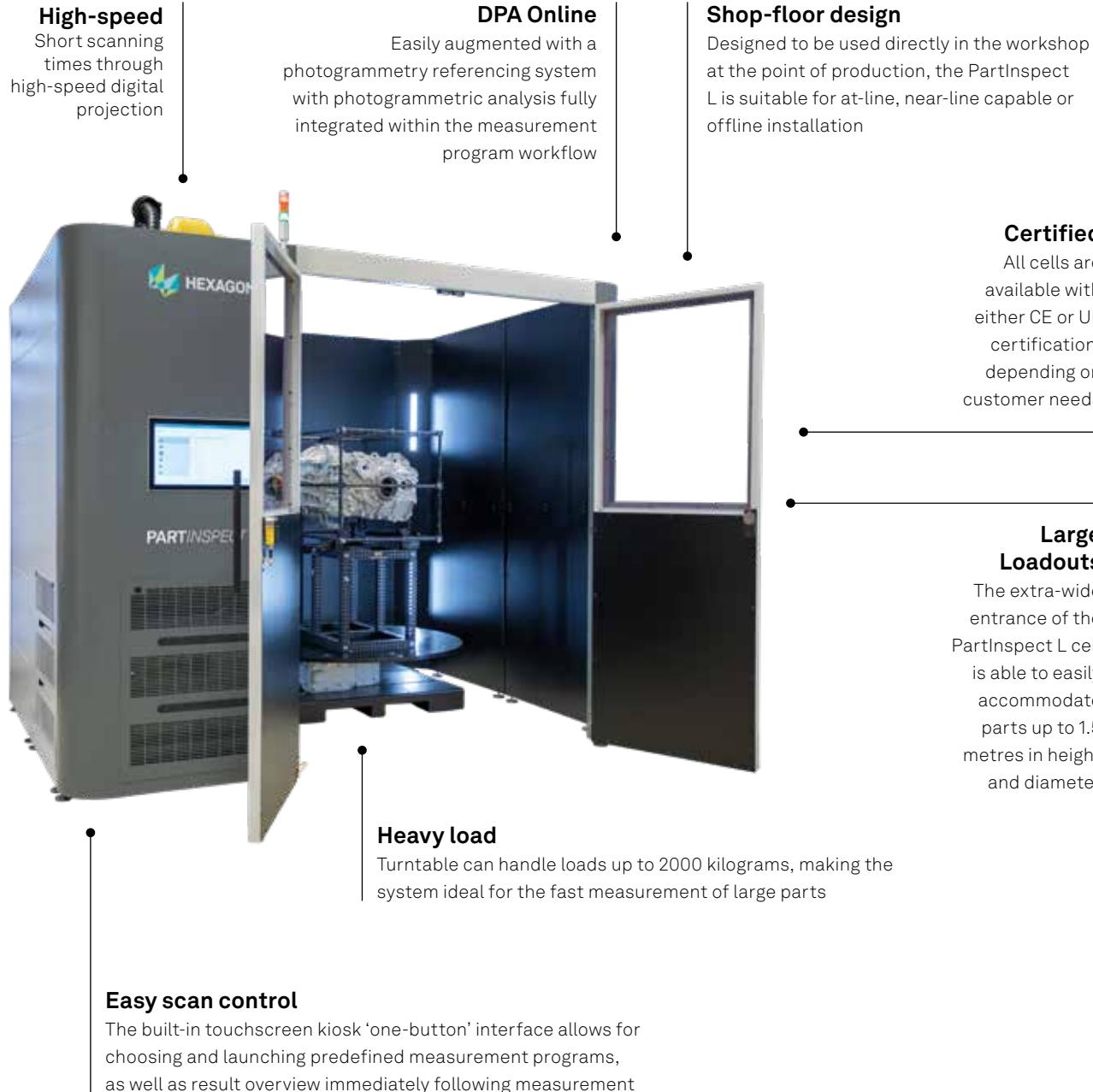
The key operational functionalities of the PartInspect L have been designed to require no expert knowledge of robot teaching so as to deliver a system of simple automated measurement that can be operated with minimal training.



The OfflineProgramming software tool built into the PartInspect L system brings an easy-to-learn interface to scan planning, and includes the ability to plan while another program is in process, either close to the cell or another remote workstation, significantly reducing downtime between programs.



The Manual Teaching module within the PartInspect L control software ScanControl allows users to either refine automatically generated measurement plans or create entirely custom measurement plans by hand, with the latter functionality allowing specialised integrators to create complete automated measurement setups from scratch based on the PartInspect concept.

**High-speed**

Short scanning times through high-speed digital projection

**DPA Online**

Easily augmented with a photogrammetry referencing system with photogrammetric analysis fully integrated within the measurement program workflow

**Shop-floor design**

Designed to be used directly in the workshop at the point of production, the PartInspect L is suitable for at-line, near-line capable or offline installation

**Certified**

All cells are available with either CE or UL certification, depending on customer needs

**Large Loadouts**

The extra-wide entrance of the PartInspect L cell is able to easily accommodate parts up to 1.5 metres in height and diameter

**Heavy load**

Turntable can handle loads up to 2000 kilograms, making the system ideal for the fast measurement of large parts

**Easy scan control**

The built-in touchscreen kiosk 'one-button' interface allows for choosing and launching predefined measurement programs, as well as result overview immediately following measurement

# PartInspect L HiRes

The flagship PartInspect turnkey cell is the PartInspect L HiRes, powered by the high-resolution sensor and digital projection technology of the StereoScan neo 16.2.



## PartInspect L base unit

- Dimensions (w x d x h): 3050 x 2480 x 2500 mm
- Required ceiling height: 3500 mm
- Maximum size of measuring object (h x diameter): 1500 x 1500 mm
- Maximum weight of object: 2000 kg

## Robotised inspection of industrial parts with a 3D measuring system with measuring range FOV, including:

- PartInspect L base unit (without turntable plate) consisting of a FANUC robot M-20iB/25 with controller R-30iB Plus, integrated 19" Workstation incl. touch-it monitor front panel and integrated heavy duty rotary table
- StereoScan neo R16.2 basic sensor and the selected measuring range FOV, dedicated calibration plate and certification for optical 3D measuring systems
- MSA plate for PartInspect L and Generic Cell for FOV 350 and larger incl. case
- Hexagon Structured Light Scanner software plug-in
- Software licence OfflineProgramming and ScanControl incl. Manual Teaching
- 12 months warranty
- OptoCat PartInspect L add-on module CAD data import STEP
- PartInspect L Software Maintenance Agreement (SMA) 12 months
- HASP Dongle black license key

# PartInspect L HiRes

130970	<b>PartInspect L HiRes FOV L-850 (CE)</b> PartInspect L base unit with StereoScan neo R16.2 basic sensor and measuring range FOV L-850, calibration plate XL and certification for optical 3D measuring systems
130969	<b>PartInspect L HiRes FOV L-500 (CE)</b> PartInspect L base unit with StereoScan neo R16.2 basic sensor and measuring range FOV L-500, calibration plate L.2 and certification for optical 3D measuring systems
130966	<b>PartInspect L HiRes FOV L-350 (CE)</b> PartInspect L base unit with StereoScan neo R16.2 basic sensor and measuring range FOV L-350, calibration plate L.2 and certification for optical 3D measuring systems
130962	<b>PartInspect L HiRes FOV L-850 (UL)</b> PartInspect L base unit with StereoScan neo R16.2 basic sensor and measuring range FOV L-850, calibration plate XL and certification for optical 3D measuring systems
131016	<b>PartInspect L HiRes FOV L-500 (UL)</b> PartInspect L base unit with StereoScan neo R16.2 basic sensor and measuring range FOV L-500, calibration plate L.2 and certification for optical 3D measuring systems
131026	<b>PartInspect L HiRes FOV L-350 (UL)</b> PartInspect L base unit with StereoScan neo R16.2 basic sensor and measuring range FOV L-350, calibration plate L.2 and certification for optical 3D measuring systems
130965	<b>PartInspect L HiRes FOV L-850 additional measuring range</b> StereoScan neo R16.2 measuring range FOV L-850 and calibration plate XL
130964	<b>PartInspect L HiRes FOV L-500 additional measuring range</b> StereoScan neo R16.2 measuring range FOV L-500 and calibration plate L.2
130963	<b>PartInspect L HiRes FOV L-350 additional measuring range</b> StereoScan neo R16.2 measuring range FOV L-350 and calibration plate L.2

# PartInspect L Efficient

PartInspect L Efficient is equipped with the economically priced sensor technology of the PrimeScan and comes with all necessary software features for automated 3D measurement of object surfaces at high accuracy – to within just 20 microns.

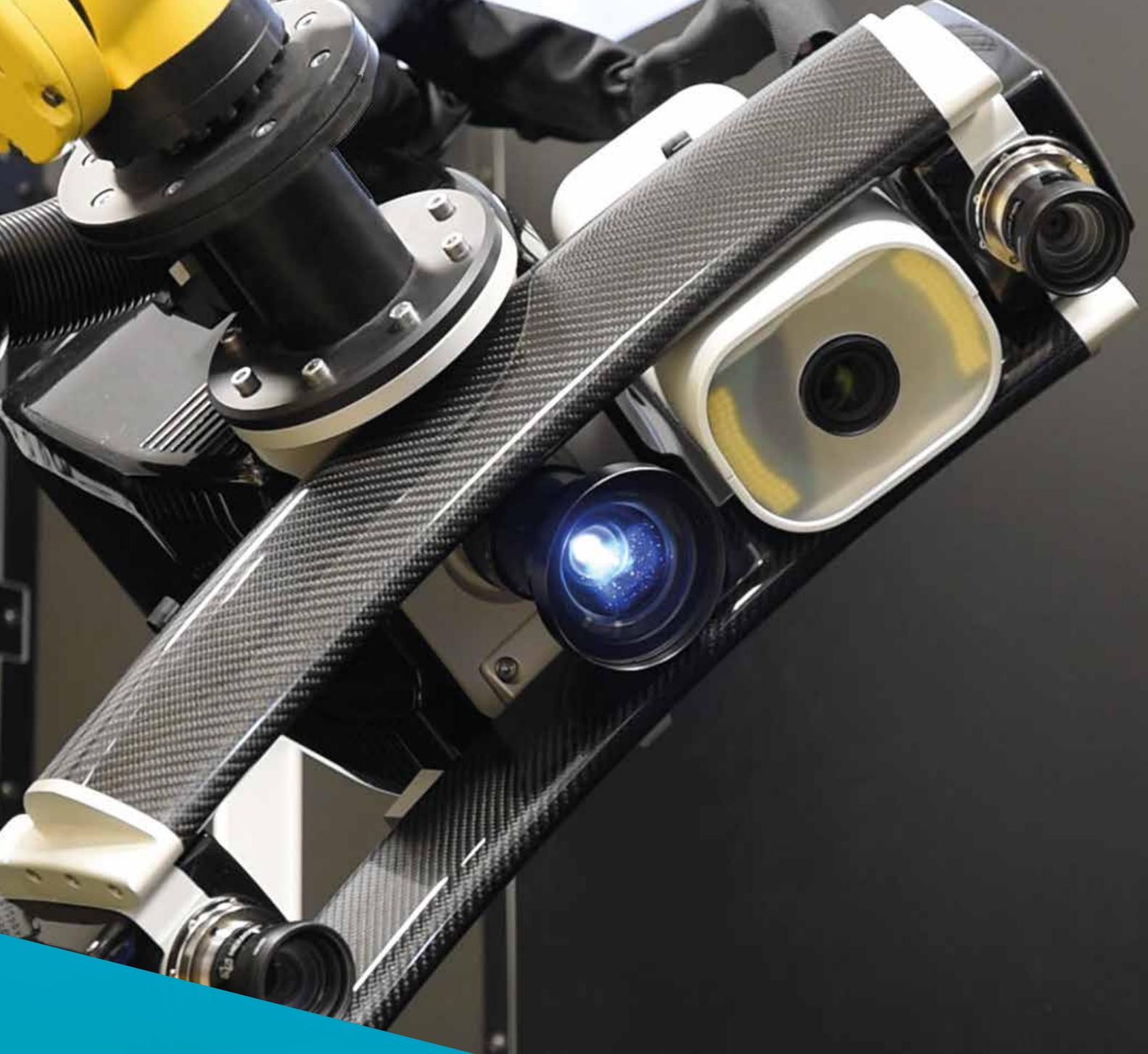
## **Robotised inspection of industrial parts with a 3D measuring system with measuring range FOV, including:**

- PartInspect L base unit (without turntable plate) consisting of a FANUC robot M-20iB/25 with controller R-30iB Plus, integrated 19" Workstation incl. touch-it monitor front panel and integrated heavy duty rotary table
- PrimeScan R5 with selected measuring range FOV, dedicated calibration plate and certification for optical 3D measuring systems
- MSA plate for PartInspect L and Generic Cell for FOV 350 and larger incl. case
- Hexagon Structured Light Scanner software plug-in
- Software licence OfflineProgramming and ScanControl incl. Manual Teaching
- 12 months warranty
- OptoCat PartInspect L add-on module CAD data import STEP
- PartInspect L Software Maintenance Agreement (SMA) 12 months
- HASP Dongle black license key

110790	<b>PartInspect L Efficient FOV 700 (CE)</b> PartInspect L base unit with PrimeScan R5 basic sensor, LED blue, measuring range FOV 700, calibration plate XL and certification for optical 3D measuring systems
110791	<b>PartInspect L Efficient FOV 400 (CE)</b> PartInspect L base unit with PrimeScan R5 basic sensor, LED blue, measuring range FOV 400, calibration plate L.2 and certification for optical 3D measuring systems
130024	<b>PartInspect L Efficient FOV 700 (UL)</b> PartInspect L base unit with PrimeScan R5 basic sensor, LED blue, measuring range FOV 700, calibration plate XL and certification for optical 3D measuring systems
130025	<b>PartInspect L Efficient FOV 400 (UL)</b> PartInspect L base unit with PrimeScan R5 basic sensor, LED blue, measuring range FOV 400, calibration plate L.2 and certification for optical 3D measuring systems



HEXAGON



# Accessories for PartInspect L systems

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# Photogrammetry

Part of the DPA Series of photogrammetry technology, DPA Online is an add-on photogrammetry module for PartInspect L cells. A high-resolution camera is mounted on or beneath the scanner and used to generate a reference frame to control global alignment precision on large and/or complex parts.

110799

## Photogrammetry DPA Online for PartInspect L HiRes

Automated high resolution photogrammetry for mounting on StereoScan neo R16.2 including DPA Accessory Package

Includes:

- Photogrammetry camera DPA Online for PartInspect L
- PartInspect scale bar 600 mm (DAkkS) and PartInspect scale bar 800 mm (DAkkS) with transportation bag
- DPA Online reference cross
- Targets 14bit code white Ø1 = 5 mm no. 2-150 magnetic
- Targets noncoded white Ø1 = 5 mm removable Ø2 = 10 mm with ring, 1000 targets



110914

## Photogrammetry DPA Online for PartInspect L Efficient

Automated high resolution photogrammetry for mounting on PrimeScan, including DPA Accessory Package

Includes:

- Photogrammetry camera DPA Online for PartInspect L
- PartInspect scale bar 600 mm (DAkkS) and PartInspect scale bar 800 mm (DAkkS) with transportation bag
- DPA Online reference cross
- Targets 14bit code white Ø1 = 5 mm no. 2-150 magnetic
- Targets noncoded white Ø1 = 5 mm removable Ø2 = 10 mm with ring, 1000 targets



# Base unit accessories

110527

**Turntable plate for PartInspect L integrated heavy duty rotary table**



110417

**Roof for PartInspect L system housing for standard measuring cell**

Dimensions of the roof (w x d x h): 3050 x 2480 x 960 mm;  
incl. sea box with outer dimensions (w x d x h): 2680 x 1426 x 1323 mm



## Fixtures and reference sets

111477

**Standard fixture set**

For part dimensions up to 700 x 500 x 500 mm and maximum weight of 50 kg;  
parts are supported by four columns with individual height adjustment;  
support columns can slide on the base frame that is fixed on the turntable plate for PartInspect L

Includes:

- A large variety of part holders and clamps/M6 interface
- Tools



111478

**Fixture for small parts and VDI 2634-3 test**

Fixture for small parts and for VDI artefacts for sensor tests; small fixture with M6 drill holes; plate diameter: 480 mm



# Fixtures and reference sets

130009

## Standard reference set for standard reference frame

Includes:

- Extension of Standard fixture set
- For photogrammetry & index mark projects
- Customisable frame size
- Various length of hexagonal bars with 100 – 1250 mm
- Target holders with clamps
- DPA connection igloos

Parts may be combined with existing DPA accessories



130295

## Extension standard reference set

For the setup of an additional plane



130013

## PartInspect scale bar 250 mm (DAkkS)

Carbon fibre bar diameter 8 mm, lenght 250 mm, 5 mm targets white, DAkkS certificate, without transportation box & holders



130014

## PartInspect scale bar 600 mm (DAkkS)

Carbon fibre bar diameter 8 mm, lenght 600 mm, 5 mm targets white, DAkkS certificate, without transportation box & holders

130015

## PartInspect scale bar 800 mm (DAkkS)

Carbon fibre bar diameter 8 mm, lenght 800 mm, 5 mm targets white, DAkkS certificate, without transportation box & holders

130016

## PartInspect scale bar 1200 mm (DAkkS)

Carbon fibre bar diameter 8 mm, lenght 1200 mm, 5 mm targets white, DAkkS certificate, without transportation box & holders

# Targets

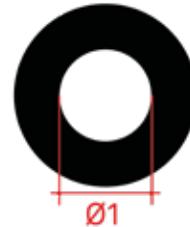


- 101026      **Target noncoded white Ø1 = 1 mm removable Ø2 = 2 mm with ring, 1000 targets\***  
60 targets on one sheet; 17 sheets
- 101027      **Target noncoded white Ø1 = 2 mm removable Ø2 = 3.5 mm with ring, 1000 targets\***  
60 targets on one sheet; 17 sheets
- 107134      **Target noncoded white Ø1 = 3 mm removable Ø2 = 5 mm with ring, 1000 targets\***  
Material film 5770; temperature resistance from -40°F (-40°C) to 203°F (95°C)
- 107139      **Target noncoded white Ø1 = 5 mm removable Ø2 = 10 mm with ring, 1000 targets\***  
Material film 5770; temperature resistance from -40°F (-40°C) to 203°F (95°C)
- 107145      **Target noncoded white Ø1 = 10 mm removable Ø2 = 13 mm with ring, 1000 targets\***  
Material film 5770; temperature resistance from -40°F (-40°C) to 203°F (95°C)

\* Significant price saving when buying 5 units

## Minimum target size for each field of view (FOV)

PrimeScan	Minimum target size (mm)	Minimum target size for Smart Data Capture (mm)	StereoScan neo	Minimum target size (mm)	Minimum target size for Smart Data Capture (mm)
R5 400	2	4	R16.2 L-350	1	2
R5 700	3	6	R16.2 L-500	2	3
			R16.2 L-850	3	5



Minimum target size = Ø1 mm

Please direct any questions about the right target size for your PartInspect L system to your local Hexagon sales representative to receive guidance and assistance in making an appropriate purchasing decision.



PARTINSPECT

# **Application software for PartInspect L systems**

# Application software

PartInspect is driven by an innovative software platform that bridges the gap between pre-measurement planning and control of measurement execution, either directly on the shop floor or offline at a dedicated workstation.

The PartInspect OfflineProgramming software tool allows for a wide range of measurement preparation functionality within an easy-to-learn user interface. The system takes the complexities of robot teaching out of the hands of the shop-floor user while also assisting advanced users through an intelligent guidance process.

On the shop floor, measurement is controlled through a touchscreen kiosk interface powered by the PartInspect ScanControl software. This allows the user to select and launch predefined measurement programs and means the standard user need never interact with the robot teach panel. After each measurement a quality inspection report can be displayed on the screen for immediate review of results, while all results and measurements can be accessed via LAN for further processing and analysis.

For advanced users, the Manual Teaching module within ScanControl allows for direct alterations to predefined measurement plans, making it easy to fine tune programs to ensure accurate and complete measurement at the first pass.



All SMAs include:

- E-Mail and phone support
- Dongle-loss protection
- All software updates and upgrades for OfflineProgramming, ScanControl and SLS Plug-in released within the contract period (plug-in update only included if the plug-in was already purchased and only for monochrome camera systems)

110797

**1Y-SMA for PartInspect L**

Covers all versions of PartInspect L with and without DPA Online

130059

**1Y-SMA for PartInspect L incl. 1 additional license OfflineProgramming**

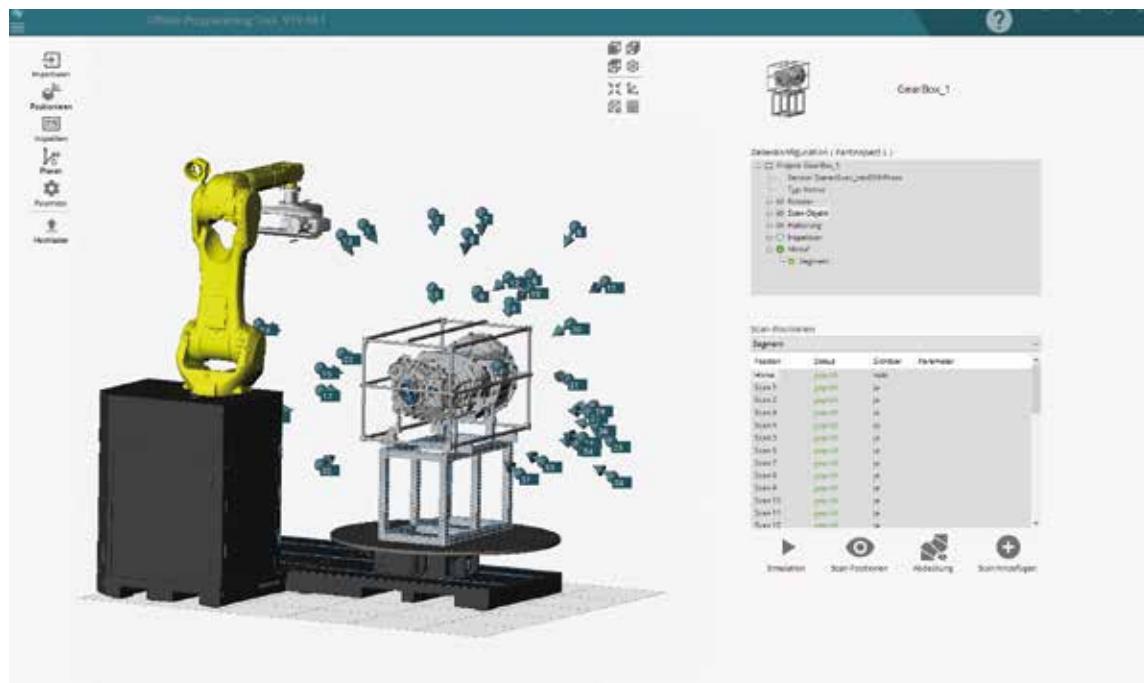
Covers all versions of PartInspect L with and without DPA Online

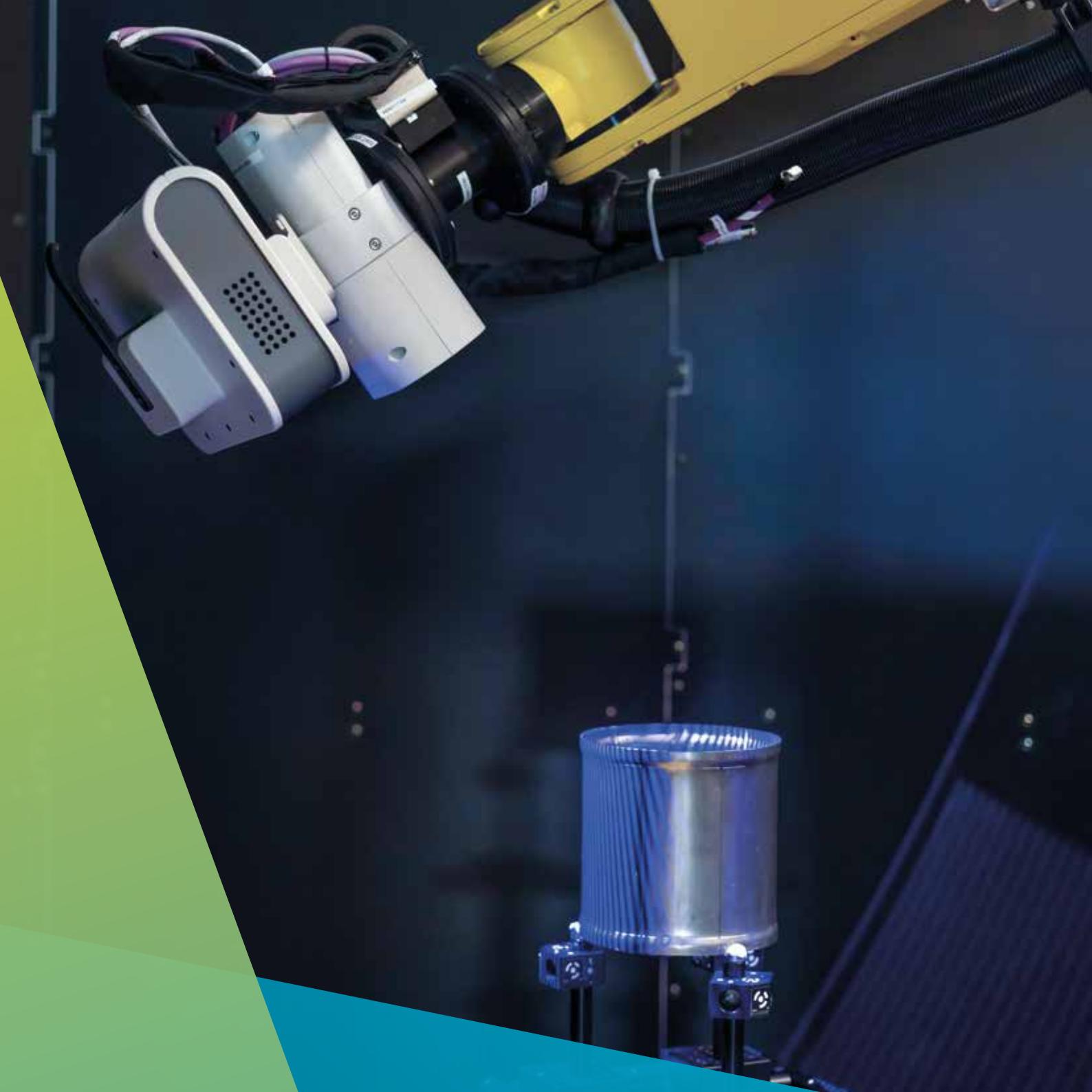
Significant discount when ordering SMA for 3 years

Full payment of SMA is to be made at the beginning of the contract period. Maintenance for third-party inspection software is not included in SMA.

# Application software

- 130390 **Add-on module CAD data import STEP**  
OptoCat/PartInspect L software add-on module for CAD data import file formats STEP
- 130515 **Add-on module CAD data import IGES**  
OptoCat/PartInspect L software add-on module for CAD data import file formats IGES
- 108260 **Add-on module CAD data import for CATIA V4 and V5**  
OptoCat/PartInspect L software add-on module for CAD data import of CATIA V4 and V5
- 110792 **OfflineProgramming additional license incl. CAD data import STEP**  
Program for automated and interactive planning of scan positions and scan path for execution in ScanControl software on single or multiple PartInspect cells; incl. CAD data import STEP





# Warranty and maintenance for PartInspect L systems

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# Hardware maintenance

As with all metrology devices, regular maintenance is an important part of long-term quality management. Saving on regular maintenance can result in loss of time and money, whether caused by reduced system performance or the cost of single-intervention repairs to avoid prolonged machine downtime.

Hardware maintenance includes:

- System inspection and maintenance
- Verification of calibration plate(s)
- Re-certification of the certified measuring fields according to VDI/VDE 2634 guideline

No maintenance for End-of-Service systems

105290	<b>Hardware maintenance StereoScan neo</b> One-time hardware maintenance for a StereoScan neo system
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108920	<b>Hardware maintenance PrimeScan</b> One-time hardware maintenance for a PrimeScan system
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108968	<b>Re-calibration of a photogrammetric scale bar with 2 fixed targets</b> Re-calibration of one scale bar distance from German Calibration Service (DAkkS) including certificate
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For legacy products: If you require hardware maintenance for older structured light scanner systems, please contact your local Hexagon representative for further information.

# Training

Efficient and effective use of metrology equipment relies on skilled and knowledgeable users. Interactive training delivered by experienced professionals is crucial to ensure your operators have the expertise to maximise inspection productivity.

105284	<b>Training Scanner and PartInspect L</b> At Photogrammetry factory in Braunschweig, Germany, for max. 3 participants, incl. training material, also applicable for remote online training, unit = 1 day, during normal working hours; For an onsite training we charge an additional travel service fee
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# Spare parts

## Calibration and MSA plates

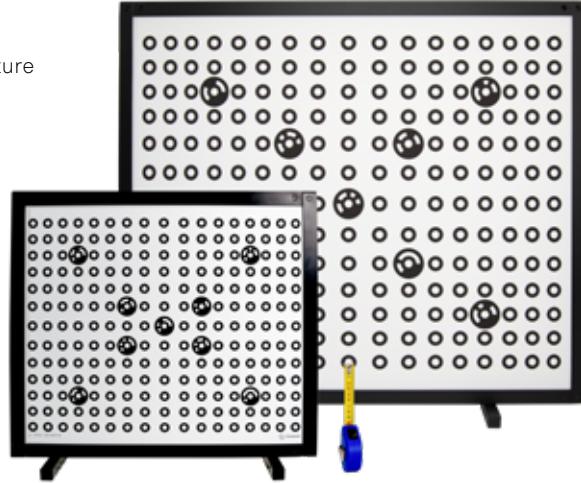
All Hexagon calibration plates are:

- Lightweight, single-sided CFK calibration plates in sandwich structure
- Thermally stable
- Suitable for standard measuring range
- One side calibrated incl. certificate
- In a frame with supporting feet
- Referenced by photogrammetric measurement
- Delivered with a transportation case

131102

**Calibration plate L.2**

Size: 510 x 465 mm



105215

**Calibration plate XL**

Size: 755 x 665 mm

111470

**Universal calibration plate holder for PartInspect L**



130190

**MSA plate for PartInspect L and Generic Cells  
for FOV 350 or larger**

Aluminium plate with dot grid for definition of machine positioning,  
incl. flight case

- Mounted on PartInspect L turntable
- Size: 506 x 464 mm
- Reference dot grid for photogrammetric measurement

# Spare parts

## Computer

130082

### 19" Workstation Pyramid VF 2HE RTX

Workstation Professional Intel® i9 Processor, Microsoft® Windows® 10 Professional 64 bit, 64 GB RAM, 256 GB SSD HDD, 2 TB SATA HDD, fast graphic adaptor; set incl. Quickrails (preinstalled)



We reserve the right to deliver an equal or higher grade host computer.

110420

### Touch-it monitor front panel

Diagonal: 21,5", resolution: 1920 x 1080 Full HD



106447

### Emergency Dongle

Valid 14 days after first activation; only valid in case of problems with original dongle; reactivating possible



## Others

110711

### Dresspack for FANUC M-20iB/25 robot

Complete package with installation material



110794

### Mounting kit for StereoScan neo on FANUC M-20iB/25

Mounting kit for fixing a StereoScan neo R16.2 on a FANUC M-20iB/25 robot.



110783

### Mounting kit for PrimeScan on FANUC M-20iB/25

Mounting kit for fixing a PrimeScan on a FANUC M-20iB/25 robot.

## Spare parts

110871

Cable set for dresspack PartInspect L HiRes



110868

Cable set for dresspack PartInspect L HiRes with DPA Online



110872

Cable set for dresspack PartInspect L Efficient



110869

Cable set for dresspack PartInspect L Efficient with DPA Online



130306

Uninterruptible power supply (UPS) 230V for PartInspect L



# Warranty plan renewals

111085

## **1 Year PartInspect L HiRes Warranty Extension**

Warranty extension on parts by one year (max. 2 years additionally); excluding Fanuc robot

111086

## **1 Year PartInspect L Efficient Warranty Extension**

Warranty extension on parts by one year (max. 2 years additionally); excluding Fanuc robot

- Extended warranty is issued for all repair work or replacement of components caused despite system conform handling and usage.
- Extended warranty is only issued in case of a proven annual system maintenance track record from the first year after purchase of the system. Hardware maintenance must be performed by the Hexagon Scanner Innovation Center (Meersburg, Germany) or by an authorized Structured light scanners Service Center.
- An extended warranty is not issued in case of careless handling, damage caused by accident, improper transport, inadequate packaging and intentional destruction of the system or parts thereof.
- Consumable components, such as lamps or targets, are not covered by the warranty.
- Defective items have to be returned to Hexagon Braunschweig.

# Warranty plan conditions

## Standard manufacturer warranty plan

The Photogrammetry factory provides a 1-year manufacturer's warranty on Hexagon Structured Light Scanners (excluding consumables). The 1 year period starts with the date of delivery to the customer, but not later than 3 months after factory delivery to the local Hexagon Manufacturing Intelligence devision's representative.

The following terms apply to this warranty:

1. Replacement or repair, at Photogrammetry factory's option, free of charge, of any delivered component or parts of the scanner which, upon examination, are found defective in workmanship or material.
2. Customer assumes all shipping costs.
3. Telephone and e-mail technical support is part of the SMA maintenance and each system will be delivered with 12 months SMA (Software maintenance agreement).

## Renewal of standard manufacturer warranty plan

The Photogrammetry factory offers a 1-year warranty extension for scanner hardware. To be eligible for a warranty extension, the customer must order it either with the instrument or before the existing warranty plan expires.

Extensions do not cover turntables, turn-tilt units, cables or other accessories.

The standard factory warranty extensions for instruments have the following terms and conditions:

1. For the extensions of the warranty, the instrument needs to be calibrated in a certified service centre, first time 12 months after customer delivery at the latest. The next calibrations are then every 12 months according to the warranty plan extension.
2. Customer assumes all shipping costs.
3. Replacement or repair, at Photogrammetry factory's option, free of charge, of any component or parts of the scanner which, upon examination, are found defective in workmanship or material.
4. Any required repair not covered by the warranty plan extension is charged extra.
5. The instrument must be returned to the Photogrammetry factory or an authorized and certified Service Centre by Hexagon Manufacturing Intelligence devision for repair, calibration, or certification.
6. Telephone and e-mail technical support for software is part of the SMA software maintenance agreement and is sold extra.

# World-class service made simple

## Customer Care Packages



Owners of Hexagon products featured in this catalogue have the opportunity to invest in a Customer Care Package – a standardised after-sale service package designed to ensure equipment remains in top condition and can be relied upon for accurate measurement results.

- Maintenance and warranty plans that ensure top equipment availability
- Trouble-free usage and minimal downtime
- Preferred hotline access at no additional cost
- Access to professional advice whenever it's needed

Customer Care Packages include a selection of the following benefits, depending on the tier chosen.

- Planned annual service
- Customer hardware support
- Software support and software updates\*
- Annual maintenance and recertification
- Remote connected assistance
- Repair parts and labour\*\*
- Customised local benefits

For complete details of the benefits of each level of Customer Care Package, please contact a local Hexagon representative.

\* Photogrammetry product line software (plug-ins, drivers, etc.) only

\*\* Excludes cables, consumable items, computers and other peripheral hardware. Repair parts and labour are not issued in case of careless handling, damage caused by accident, improper transport, inadequate packaging and intentional destruction of the system or parts thereof.

# Customer Care Packages

	Platinum	Gold	Silver	Bronze
Planned annual service	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Customer hardware support	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Software support and software updates	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-
Annual maintenance and recertification	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-
Remote connected assistance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-
Repair parts and labour	<input checked="" type="checkbox"/>	-	-	-
Local customised benefits	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

For further information about Bronze, Silver, Gold and Platinum service contracts, please contact a local Hexagon representative.



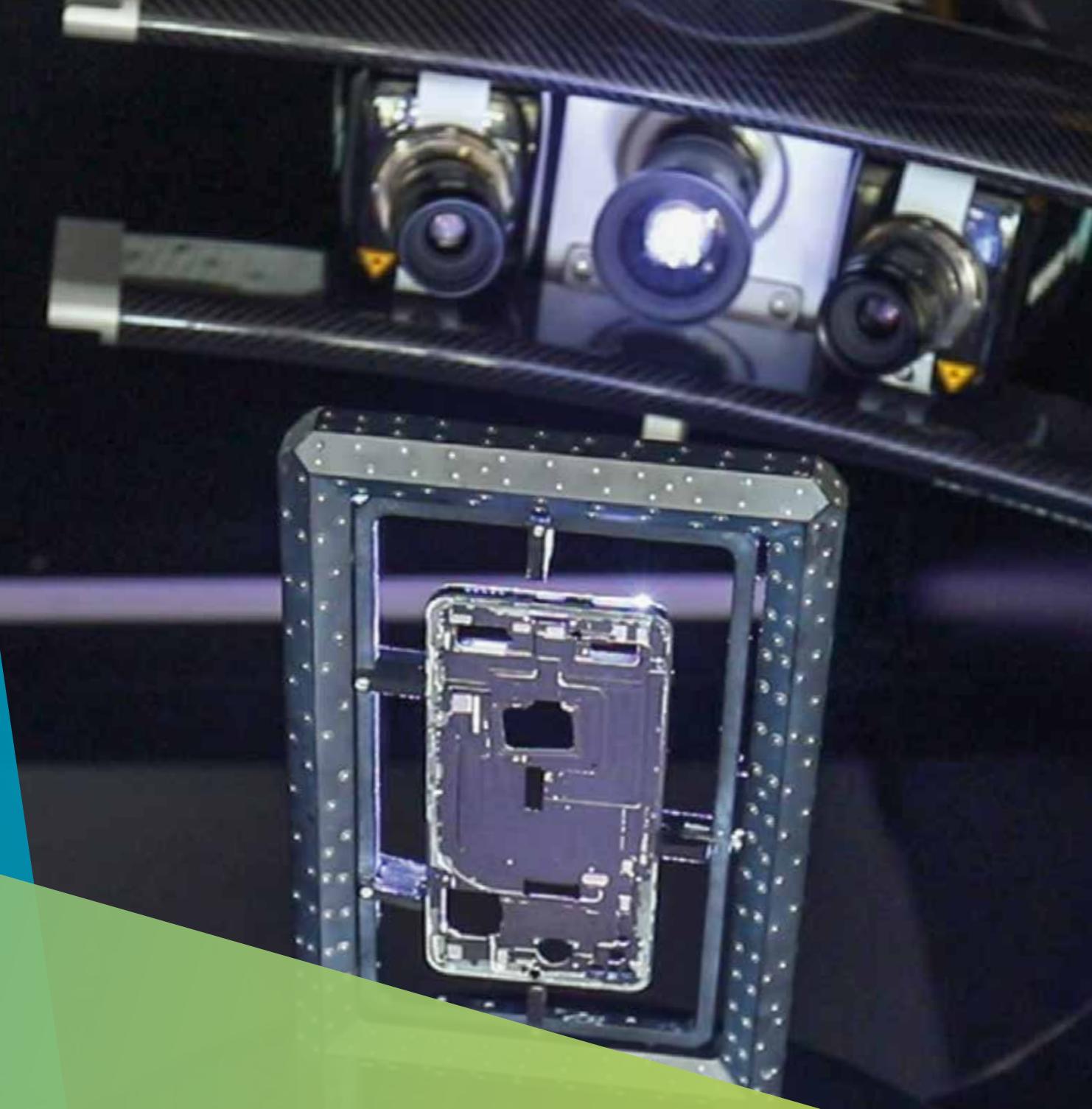
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# Generic cells

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# Automation without complexity

Smart manufacturing relies on the ability to capture and use data within your processes. Industrial automation will play a significant role, both in capturing the data you need and in implementing data-driven processes. Hexagon solutions support fully automated measurement and process control, as well as broader shop-floor automation applications.

As manufacturing becomes increasingly data driven, the ability to rapidly capture large data sets for quality assurance, process control and product and process optimisation offers a competitive advantage in the age of smart manufacturing. Automated inspection systems are one of the most efficient and effective ways to capture the rich data sets you need to continuously optimise processes.

There are various ways to bring automation into your measurement processes. Common methods range from part-loading systems for traditional coordinate measuring machines (CMMs) right through to fully automated robot-based inspection cells using a variety of sensor types to digitise large freeform parts. All offer highly repeatable, accurate measurement processes that accelerate the measurement process and give manufacturers greater insight into production outcomes.



**Intelligent scanning**

Smart Data Capture allows for even faster scanning with reduced resolution

**Premium scanning technology**

Cells based on StereoScan neo systems benefit from Smart Phase Projection, for best results on dark and glossy surfaces

**Premium scanning technology**

Supports smaller and larger robots/cobots and turntables with Fanuc controller R-30iB Plus or R-30iB Mate Plus

**Full control**

Standalone version of ScanControl software for integration by automation experts

**DPA Online**

Compatible with the DPA Online photogrammetry add-on system



## Generic cells with StereoScan neo

As an unrivalled high-end structured light scanning system, the StereoScan neo R16.2 delivers superior resolution and accuracy alongside an array of innovative features that make area scanning more comprehensive than ever before.



**High-end 3D scanner StereoScan neo R16.2 with 16 MP monochrome cameras, measuring range FOV of choice and digital high-resolution true colour projection systems with Hexagon Structured Light Scanner software plug-in, including:**

- StereoScan neo R16.2 basic sensor
- StereoScan neo R16.2 selected measuring range FOV with dedicated calibration plate and MSA plate for Generic Cells incl. case as well as certification for optical 3D measuring systems
- StereoScan neo flight case incl. foam inlay
- Cable set for dresspack PartInspect L HiRes
- Software ScanControl und ManualTeaching incl. one year SMA
- Hexagon Structured Light Scanner software plug-in
- Software Maintenance Agreement (SMA) 12 months for Generic Cells with StereoScan neo R16.2
- HASP Dongle black license key

# Generic cells with StereoScan neo

131027	<b>Generic Cell StereoScan neo R16.2 FOV S-200</b>
	StereoScan neo R16.2 basic sensor with measuring range FOV S-200, calibration plate M, MSA plate for Generic Cells for FOV 350 and smaller and certification for optical 3D measuring systems
131028	<b>Generic Cell StereoScan neo R16.2 FOV L-350</b>
	StereoScan neo R16.2 basic sensor with measuring range FOV L-350, calibration plate L.2, MSA plate for PartInspect L and Generic Cells for FOV 350 and larger and certification for optical 3D measuring systems
131029	<b>Generic Cell StereoScan neo R16.2 FOV L-500</b>
	StereoScan neo R16.2 basic sensor with measuring range FOV L-500, calibration plate L.2, MSA plate for PartInspect L and Generic Cells for FOV 350 and larger and certification for optical 3D measuring systems
131030	<b>Generic Cell - StereoScan neo R16.2 FOV L-850</b>
	StereoScan neo R16.2 basic sensor with measuring range FOV L-850, calibration plate XL, MSA plate for PartInspect L and Generic Cells for FOV 350 and larger and certification for optical 3D measuring systems
131031	<b>Generic Cell StereoScan neo R16.2 FOV L-1000</b>
	StereoScan neo R16.2 basic sensor with measuring range FOV L-1000, calibration plate XL, MSA plate for PartInspect L and Generic Cells for FOV 350 and larger and certification for optical 3D measuring systems

## Additional measuring range field of view sets

All field of view sets include:

- Objective set selected measuring range FOV
- Precision calibration incl. certification for optical measuring systems according to VDI/VDE 2634
- Deployment of sensor data



130957	<b>StereoScan neo R16.2 field of view FOV S-200</b>
	Calibration plate M and MSA plate for generic cells for FOV 350 or smaller is needed in addition
130958	<b>StereoScan neo R16.2 field of view FOV L-350</b>
	Calibration plate L.2 and MSA plate for PartInspect L and generic cells for FOV 350 or larger is needed in addition
130959	<b>StereoScan neo R16.2 field of view FOV L-500</b>
	Calibration plate L.2 and MSA plate for PartInspect L and generic cells for FOV 350 or larger is needed in addition
130960	<b>StereoScan neo R16.2 field of view FOV L-850</b>
	Calibration plate XL and MSA plate for PartInspect L and generic cells for FOV 350 or larger is needed in addition
130961	<b>StereoScan neo R16.2 field of view FOV L-1000</b>
	Calibration plate XL and MSA plate for PartInspect L and generic cells for FOV 350 or larger is needed in addition

# Generic cells with PrimeScan

The PrimeScan optical 3D scanner line from Hexagon is an attractive entry-level solution for highly precise 3D measurement of industrial components. Like other Hexagon structured light scanner models, the PrimeScan is based on fringe projection technology that provides the strongest luminous power and highest projection quality.



**3D scanner PrimeScan LED blue (without power supply) with measuring range FOV of choice incl. Hexagon structured light scanner software plug-in, as well as:**

- PrimeScan basic sensor
- PrimeScan selected measuring range FOV with dedicated calibration plate and MSA plate for Generic Cells incl. case as well as certification for optical 3D measuring systems
- PrimeScan flight case incl. foam inlay
- Cable set for dresspack PartInspect L Efficient
- Software ScanControl und ManualTeaching incl. one year SMA
- Hexagon structured light scanner software plug-in
- Software Maintenance Agreement (SMA) 12 months for Generic Cells with PrimeScan
- HASP Dongle black license key

130311

#### **Generic Cell PrimeScan R5 FOV 200**

PrimeScan R5 basic sensor with measuring range FOV 200, calibration plate M, MSA plate for Generic Cells for FOV 350 and smaller and certification for optical 3D measuring systems

130312

#### **Generic Cell PrimeScan R5 FOV 400**

PrimeScan R5 basic sensor with measuring range FOV 400, calibration plate L.2, MSA plate for PartInspect L and Generic Cells for FOV 350 and larger and certification for optical 3D measuring systems

130313

#### **Generic Cell PrimeScan R5 FOV 700**

PrimeScan R5 basic sensor with measuring range FOV 700, calibration plate XL, MSA plate for PartInspect L and Generic Cells for FOV 350 and larger and certification for optical 3D measuring systems

# Calibration and MSA cell calibration plates

The basis for highly accurate measurement is a precise calibration of the structured light scanner system with the two high-resolution cameras. For the calibration Hexagon provides single-sided calibration plates with a positioning aid to define plate positioning during calibration.

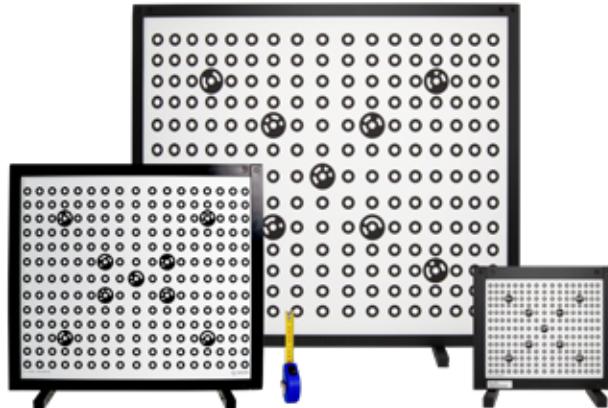
All Hexagon calibration plates are

- Lightweight, single-sided CFK calibration plates in sandwich structure
- Thermally stable
- Suitable for standard measuring range
- One side calibrated incl. certificate
- In a frame with supporting feet
- Referenced by photogrammetric measurement

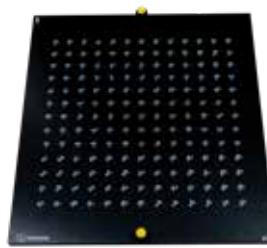
105213      **Calibration plate M**  
Size: 360 x 265 mm

131102      **Calibration plate L.2**  
Size: 510 x 465 mm

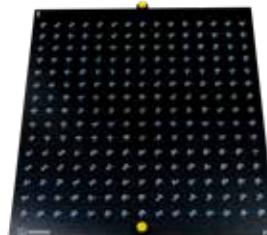
105215      **Calibration plate XL**  
Size: 755 x 665 mm

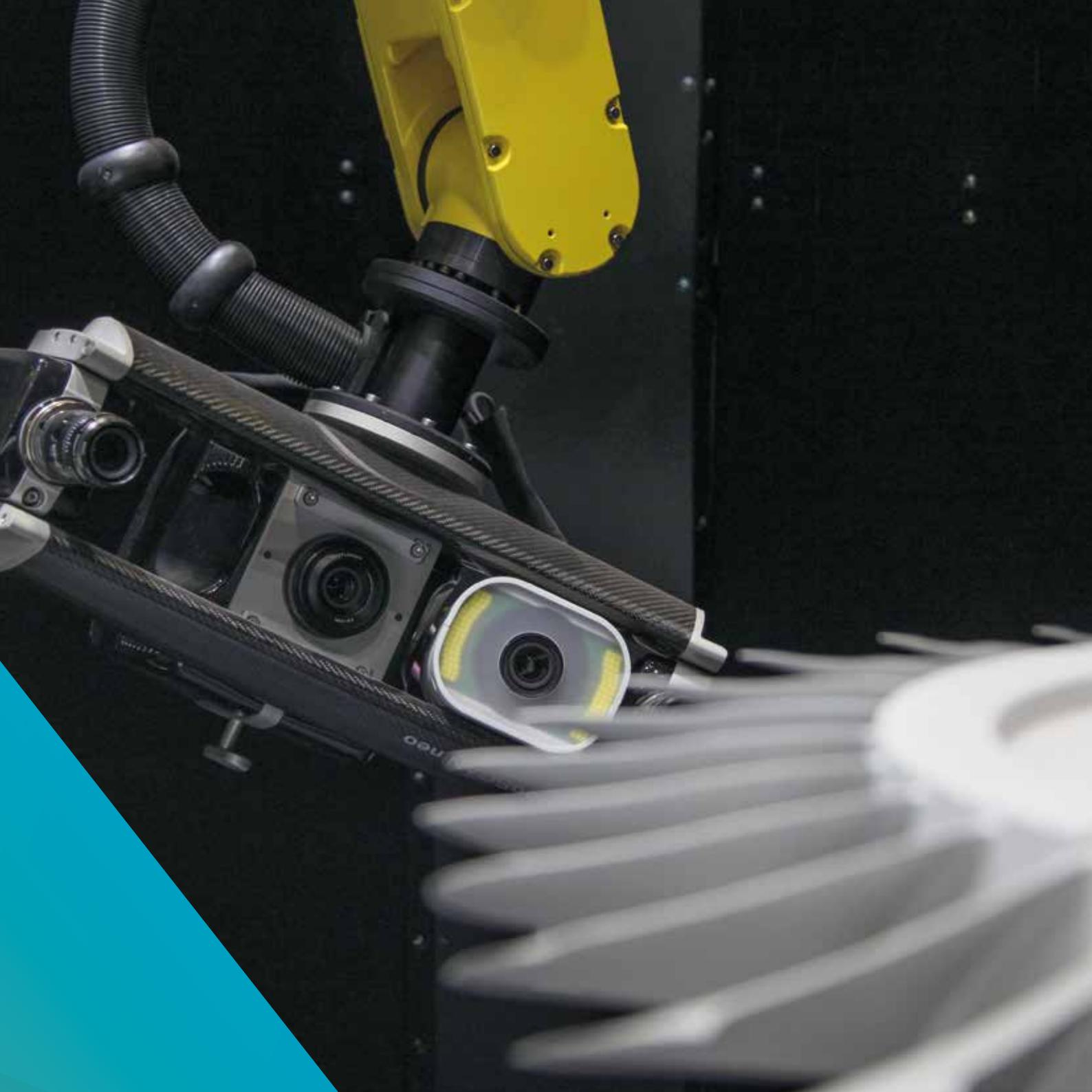


130684      **MSA plate for generic cells  
for FOV 350 or smaller**  
Aluminium plate with dot grid for definition of machine positioning incl.  
flight case  
- Size: 506 x 464 mm  
- Reference dot grid for photogrammetric measurement



130190      **MSA plate for PartInspect L and generic cells  
for FOV 350 or larger**  
Aluminium plate with dot grid for definition of machine positioning incl.  
flight case  
- Size: 506 x 464 mm  
- Reference dot grid for photogrammetric measurement





# Accessories for generic cells

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## Mounting kits

110794

**Mounting kit for StereoScan neo on FANUC M-20iB/25**

Mounting kit for fixing a StereoScan neo R16.2 on a FANUC M-20iB/25 robot.



110783

**Mounting kit for PrimeScan on FANUC M-20iB/25**

Mounting kit for fixing a PrimeScan on a FANUC M-20iB/25 robot.

## Other accessories

111470

**Universal calibration plate holder for PartInspect L and generic cells**



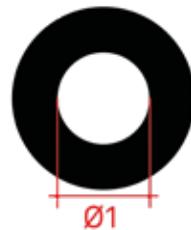
# Targets

- 101026 **Target noncoded white Ø1 = 1 mm removable Ø2 = 2 mm with ring, 1000 targets\***  
60 targets on one sheet; 17 sheets
- 101027 **Target noncoded white Ø1 = 2 mm removable Ø2 = 3.5 mm with ring, 1000 targets\***  
60 targets on one sheet; 17 sheets
- 107134 **Target noncoded white Ø1 = 3 mm removable Ø2 = 5 mm with ring, 1000 targets\***  
Material film 5770; temperature resistance from -40°F (-40°C) to 203°F (95°C)
- 107139 **Target noncoded white Ø1 = 5 mm removable Ø2 = 10 mm with ring, 1000 targets\***  
Material film 5770; temperature resistance from -40°F (-40°C) to 203°F (95°C)
- 107145 **Target noncoded white Ø1 = 10 mm removable Ø2 = 13 mm with ring, 1000 targets\***  
Material film 5770; temperature resistance from -40°F (-40°C) to 203°F (95°C)

\* Significant price saving when buying 5 units

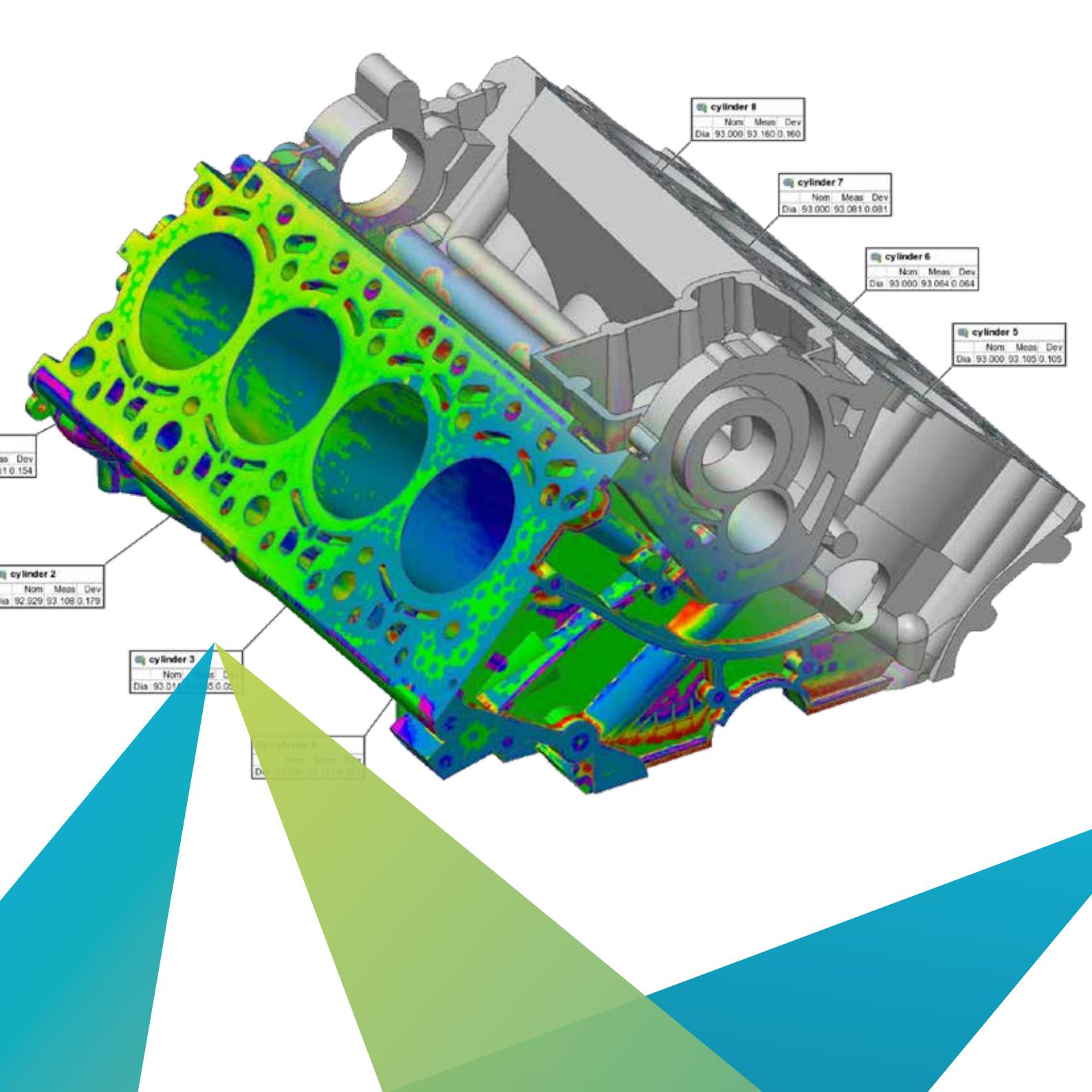
## Minimum target size for each field of view (FOV)

PrimeScan	Minimum target size (mm)	Minimum target size for Smart Data Capture (mm)	StereoScan neo	Minimum target size (mm)	Minimum target size for Smart Data Capture (mm)
R8-450	2	4	R16-S-200	1	1
R8-650	2	4	R16-L-350	2	2
R5-200	1	2	R16-L-550	3	3
R5-400	2	4	R16-L-850	4	4
R5-700	3	6	R16-L-1100	6	6



Minimum target size = Ø1 mm

Please direct any questions about the right target size for your generic cell to your local Hexagon sales representative to receive guidance and assistance in making an appropriate purchasing decision.



# Application software

# Application software

The OfflineProgramming software tool allows for a wide range of measurement preparation functionality within an easy-to-learn user interface. The system takes the complexities of robot teaching out of the hands of the shop-floor user while also assisting advanced users through an intelligent guidance process.

On the shop floor, measurement is controlled through a touchscreen kiosk interface powered by the ScanControl software. This allows the user to select and launch predefined measurement programs and means the standard user need never interact with the robot teach panel. After each measurement a quality inspection report can be displayed on the screen for immediate review of results, while all results and measurements can be accessed via LAN for further processing and analysis.

For advanced users, the Manual Teaching module within ScanControl allows for direct alterations to predefined measurement plans, making it easy to fine tune programs to ensure accurate and complete measurement at the first pass.



111186

## **Software license OfflineProgramming customised incl. CAD data import STEP**

Current ScanControl version is needed! Requires engineering costs for cell definition (needs to be ordered separately). A separate dongle will be delivered; incl. CAD data import STEP

111340

## **Software ScanControl Manual Teaching**

Powered by OptoCat; stand-alone software for customised cells with Fanuc robot w./w.o. turntable; controlled by Fanuc R-30iB Plus controller; available for all StereoScan neo and PrimeScan with FOV 200 and larger; scanners have to be mounted on the robot; requires additional MSA plate for machine system alignment; incl. 1 year SMA

# Software Maintenance Agreements (SMAs)

All SMAs include:

- E-Mail and phone support
- Dongle-loss protection
- All software updates and upgrades for ScanControl Manual Teaching and SLS Plug-in released within the contract period (plug-in update only included if the plug-in was already purchased and only for monochrome camera systems)

Full payment of SMA is to be made at the beginning of the contract period. Maintenance for third-party inspection software is not included in SMA.

130076           **1Y-SMA for Generic Cells with StereoScan neo, ScanControl Manual Teaching**

130077           **1Y-SMA for Generic Cells with PrimeScan, ScanControl Manual Teaching**

130099           **1Y-SMA for Generic Cells with OfflineProgramming and ScanControl**

Significant discount when ordering SMA for 3 years.



# Warranty and maintenance for generic cells

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# Hardware maintenance

As with all metrology devices, regular maintenance is an important part of long term quality management. Saving on regular maintenance can result in loss of time and money, whether caused by reduced system performance or the cost of single-intervention repairs to avoid prolonged machine downtime.

Hardware maintenance includes:

- System inspection and maintenance
- Verification of calibration plate(s)
- Re-certification of the certified measuring fields according to VDI/VDE 2634 guideline

**105290      Hardware maintenance StereoScan neo**  
One-time hardware maintenance for a StereoScan neo R16.2 system

**108920      Hardware maintenance PrimeScan**  
One-time hardware maintenance for a PrimeScan system

**108968      Re-calibration of a photogrammetric scale bar with 2 fixed targets**  
Re-calibration of one scale bar distance from German Calibration Service (DAkkS) including certificate

No maintenance for End-of-Service systems

For legacy products: If you require hardware maintenance for older structured light scanner systems, please contact your local Hexagon representative for further information.

# Training

Efficient and effective use of metrology equipment relies on skilled and knowledgeable users. Interactive training delivered by experienced professionals is crucial to ensure your operators have the expertise to maximise inspection productivity.

**105284      Training Scanner and PartInspect L**  
At Photogrammetry factory in Braunschweig, Germany, for max. 3 participants, incl. training material, also applicable for remote online training, unit = 1 day, during normal working hours;  
For an on-site training we charge an additional travel service fee

## Spare parts

110871

Cable set for dresspack PartInspect L HiRes



110868

Cable set for dresspack PartInspect L HiRes with DPA Online



110872

Cable set for dresspack PartInspect L Efficient



110869

Cable set for dresspack PartInspect L Efficient with DPA Online



# Calibration and MSA cell calibration plates

All Hexagon calibration plates are

- Lightweight, single-sided CFK calibration plates in sandwich structure
- Thermally stable
- Suitable for standard measuring range
- One side calibrated incl. certificate
- In a frame with supporting feet
- Referenced by photogrammetric measurement

105213

**Calibration plate M**

Size: 360 x 265 mm

131102

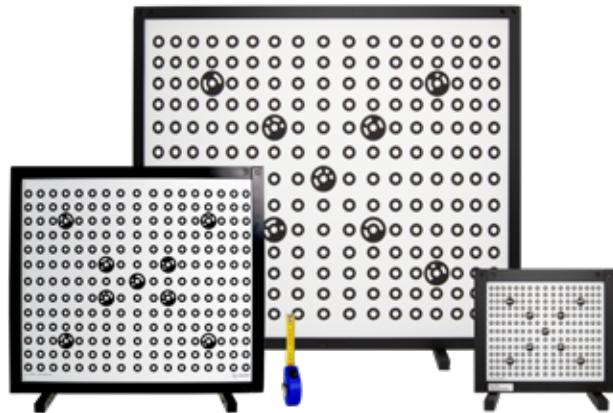
**Calibration plate L.2**

Size: 510 x 465 mm

105215

**Calibration plate XL**

Size: 755 x 665 mm



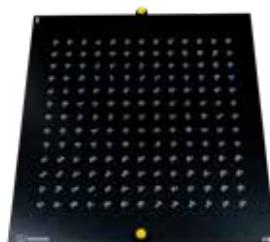
130684

**MSA plate for generic cells**

**for FOV 350 or smaller**

Aluminium plate with dot grid for definition of machine positioning incl.  
flight case

- Size: 506 x 464 mm
- Reference dot grid for photogrammetric measurement



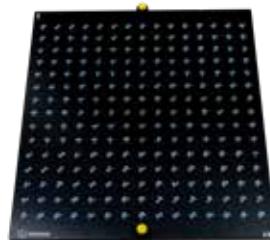
130190

**MSA plate for PartInspect L and generic cells**

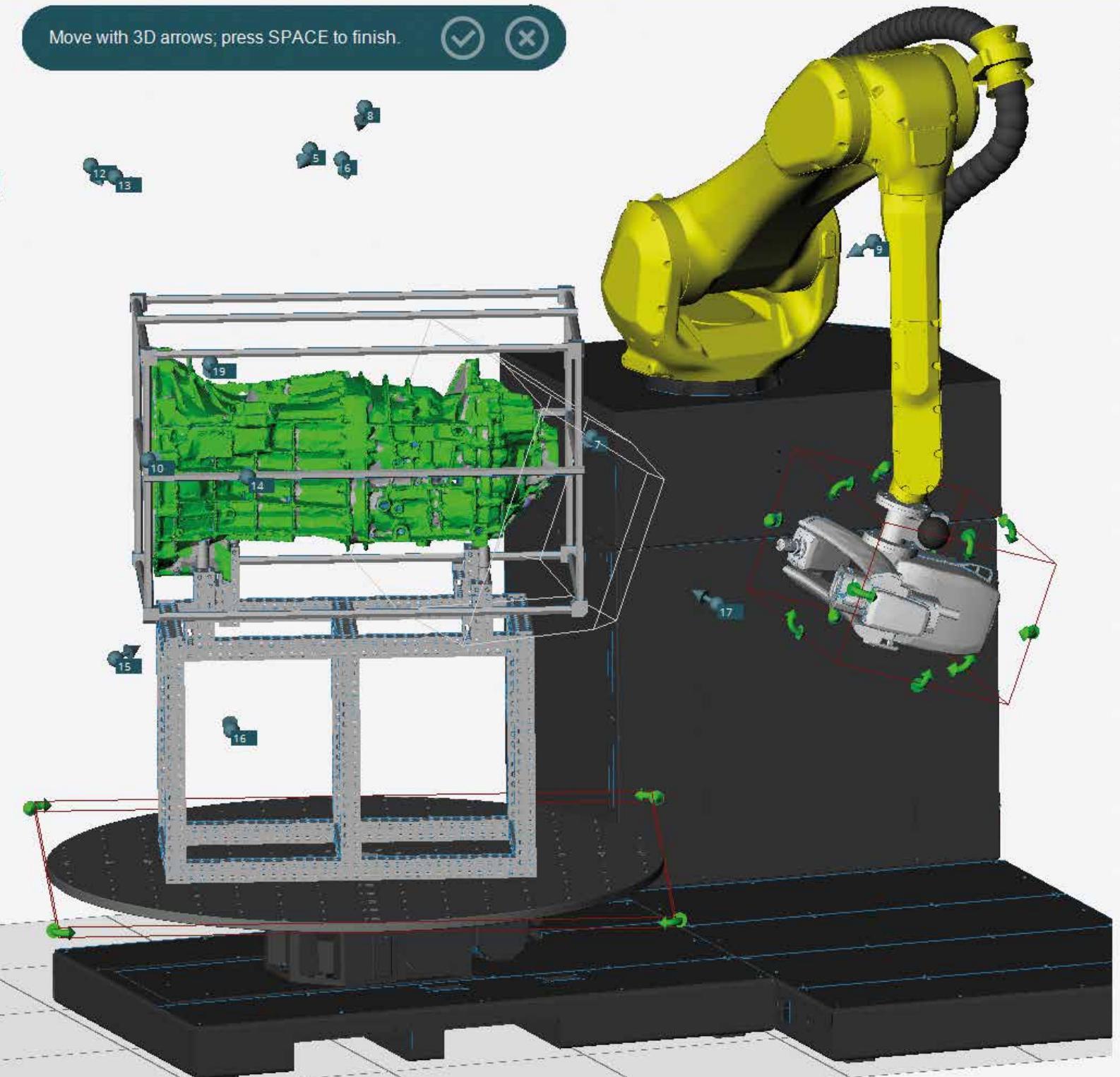
**for FOV 350 or larger**

Aluminium plate with dot grid for definition of machine positioning incl.  
flight case

- Size: 506 x 464 mm
- Reference dot grid for photogrammetric measurement



Move with 3D arrows, press SPACE to finish.



# Warranty plan renewals

105235      **1 Year StereoScan neo Warranty Extension**  
Warranty extension on parts by one year (max. 4 years additionally)

109538      **1 Year PrimeScan Warranty Extension**  
Warranty extension on parts by one year (max. 4 years additionally)

- Extended warranty is issued for all repair work or replacement of components caused despite system conform handling and usage.
- Extended warranty is only issued in case of a proven annual system maintenance track record from the first year after purchase of the system. Hardware maintenance must be performed by the Hexagon Scanner Innovation Center (Meersburg, Germany) or by an authorized Structured light scanners Service Center.
- An extended warranty is not issued in case of careless handling, damage caused by accident, improper transport, inadequate packaging and intentional destruction of the system or parts thereof.
- Consumable components, such as lamps or targets, are not covered by the warranty.
- Defective items have to be returned to Hexagon Meersburg.

# Warranty plan conditions

## Standard manufacturer warranty plan

The Photogrammetry factory provides a 1-year manufacturer's warranty on Hexagon Structured Light Scanners (excluding consumables). The 1 year period starts with the date of delivery to the customer, but not later than 3 months after factory delivery to the local Hexagon Manufacturing Intelligence devision's representative.

The following terms apply to this warranty:

1. Replacement or repair, at Photogrammetry factory's option, free of charge, of any delivered component or parts of the scanner which, upon examination, are found defective in workmanship or material.
2. Customer assumes all shipping costs.
3. Telephone and e-mail technical support is part of the SMA maintenance and each system will be delivered with 12 months SMA (Software maintenance agreement).

## Renewal of standard manufacturer warranty plan

The Photogrammetry factory offers 1-year warranty extensions for scanner hardware. To be eligible for a warranty extension, the customer must order it either with the instrument or before the existing warranty plan expires.

Extensions do not cover turntables, turn-tilt units, cables or other accessories.

The standard factory warranty extensions for instruments have the following terms and conditions:

1. For the extensions of the warranty, the instrument needs to be calibrated in a certified service centre, first time 12 months after customer delivery at the latest. The next calibrations are then every 12 months according to the warranty plan extension.
2. Customer assumes all shipping costs.
3. Replacement or repair, at Photogrammetry factory's option, free of charge, of any component or parts of the scanner which, upon examination, are found defective in workmanship or material.
4. Any required repair not covered by the warranty plan extension is charged extra.
5. The instrument must be returned to the Photogrammetry factory or an authorized and certified Service Centre by Hexagon Manufacturing Intelligence devision for repair, calibration, or certification.
6. Telephone and e-mail technical support for software is part of the SMA software maintenance agreement and is sold extra.



# Photogrammetry

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# Photogrammetry systems

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DPA Industrial 130

DPA Professional 132

DPA Entry 134



# High-quality photogrammetry made easy

When it comes to shop-floor measurement processes, it's important to have a simple process that's as immune as possible to user error and the hazards of an industrial environment.

That's why the DPA Series photogrammetry systems have been designed to deliver user-friendly measurement and processing in every situation. Relying on just a single handheld camera unit backed by a dedicated software platform, DPA Series systems are among the most portable measurement systems in the world, without compromising on metrology-grade accuracy delivered at productivity-enhancing speed.

DPA Series systems are available in three configurations that allow the user to tailor their experience to the needs of their applications. Each system runs on the same advanced DPA Pilot software platform – the foundation of the leading measurement functionality of the DPA Series.

# Digital photogrammetry analysis

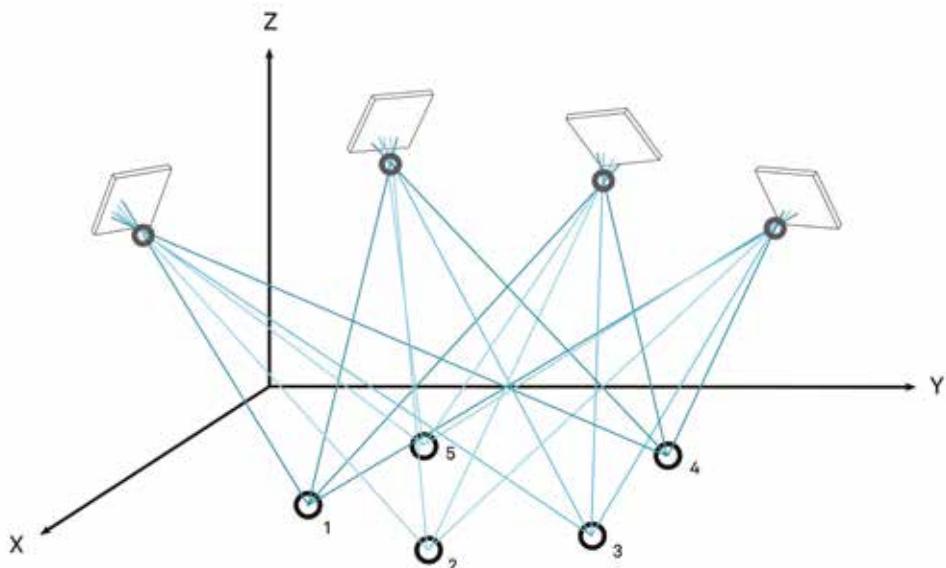
The DPA Series systems are portable 3D measuring tools that use a high-resolution digital camera for data collection. They are based on the principles of digital photogrammetric analysis.

To measure a part, it is first signalised with a selection of targets. Coverage of hidden points or features such as holes and edges is ensured with the use of appropriate target adaptors. The part is then photographed from several directions.

The images produced are processed either simultaneously with data collection (online processing) or after data collection (offline processing) through a dedicated photogrammetry software tool like DPA Pilot. The software automatically calculates the 3D coordinates of all targeted points.

The calculation is based on the principle of spatial image triangulation and is fully automated. With software that employs an integrated simultaneous calibration procedure, the highest levels of accuracy can be achieved onsite during the measurement process.

In addition to 3D coordinates, quality photogrammetry software such as DPA Pilot can provide statistical analysis of the results with specific accuracy information about each coordinate. This allows for instant evaluation of the quality of the measurement. DPA Pilot is also very deeply integrated into the best inspection software packages and allows complete automation of calculation steps and advanced analyses.





# DPA Industrial

DPA Industrial is our top-of-the-line photogrammetry system. It is built on the inclusion of a specially ruggedised digital camera unit – the C1 Camera – which boasts a purpose-built industrial casing designed specifically to meet the needs of the challenging industrial environments in which metrology tools are increasingly being applied.



## Certified high precision mobile photogrammetry system for measurement of single points with C1 camera:

- Photogrammetry C1 camera with transportation case and DAkkS calibration of an optical 3D measuring system according to VDI 2634 part 1
- Ring flash for DPA Industrial (for white and retro targets)
- AICON 3D Studio Base software and Viewer as well as software modules DPA, Transform, Deform, Dynamic, Adapter, Feature and Geometry
- DPA Pilot plug-in for inspection software packages
- Software Maintenance Agreement (SMA) 12 months for AICON 3D Studio
- HASP Dongle black license key

# DPA Industrial

111041

## DPA Industrial (White)

Includes:

- Accessory package 10-1430 White
  - 2 DPA scale bars 1430 White (DAkkS) type: 2020 and transportation bag 1430
  - Reference cross White carbon fibre 400 x 400 mm on magnetic holder
  - Targets 14 bit code white Ø1 = 10 mm no. 2-150 magnetic
  - Targets noncoded white Ø1 = 10 mm permanent Ø2 = 13 mm with ring, 1000 targets
  - Software module Codemaker
- DPA Adaptor Alignment Set (integrated)
  - 4 adaptor cube (for planes and fixation pins) - Code 1 black
  - 2 adaptor cubes for inner corner 90° - Code 1 black - 7 mm shaft length
  - 4 fixation pin for adaptor cubes - 8 mm (H7)
  - 4 fixation pin for adaptor cubes - 10 mm (H7))
- Set of connection crosses White and extension set connection crosses White

111042

## DPA Industrial (Retro)

Includes:

- Accessory package 10-1430 Retro
  - 2 DPA scale bars 1430 Retro (DAkkS) type: 2020 and transportation bag 1430
  - Reference cross Retro carbon fibre 400 x 400 mm on magnetic holder
  - Targets 14 bit code retro Ø1 = 10 mm no. 2-150 magnetic
  - 500 targets noncoded retro Ø1 = 10 mm permanent Ø2 = 13 mm with ring
- Set of connection crosses Retro and extension set connection crosses Retro

# DPA Professional

DPA Professional is a high-end photogrammetry system designed for expert metrologists with a strong knowledge of photogrammetric techniques and the ability to take complete control of every aspect of measurement. Designed to allow specialist users to work with DPA Pilot to achieve best-in-class measurement results, DPA Professional is the ideal solution for experienced high-level operators measuring within clean and safe environments.



## High precision mobile photogrammetry system with certification for measurement of single points:

- High-end digital camera DPA certified according to VDI 2634 page 1 with Photogrammetry metric lens 28mm for Canon and transport box as well as DAkkS calibration of an optical 3D measuring system according to VDI 2634 part 1
- AICON 3D Studio Base software and Viewer as well as software modules DPA, Transform, Deform, Adapter and Geometry
- DPA Pilot plug-in for inspection software packages
- Software Maintenance Agreement (SMA) 12 months for AICON 3D Studio
- HASP Dongle black license key

# DPA Professional

106003

## DPA Professional (White)

Includes:

- Accessory Package 10-830/1430 White
  - DPA scale bar 830 White (DAkkS) type: 2020
  - DPA scale bar 1430 White (DAkkS) type: 2020
  - Reference cross White carbon fibre 400 x 400 mm on magnetic holder
  - Targets 14 bit code white Ø1 = 10 mm no. 2-150 magnetic
  - Targets noncoded white Ø1 = 10 mm permanent Ø2 = 13 mm with ring, 1000 targets
  - Software module Codemaker
  - Scale bar transportation bag 1430

106004

## DPA Professional (Retro)

Includes:

- Accessory Package 10-830/1430 Retro
  - DPA scale bar 830 Retro (DAkkS) type: 2020
  - DPA scale bar 1430 Retro (DAkkS) type: 2020
  - Reference cross Retro carbon fibre 400 x 400 mm on magnetic holder
  - Targets 14b it code retro Ø1 = 10 mm no. 2-150 magnetic
  - 500 targets noncoded retro Ø1 = 10 mm Ø2 = 13 mm with ring
  - Scale bar transportation bag 1430

# DPA Entry

DPA Entry is available to users working in the sort of challenging industrial environments where a standard digital camera represents a more practical investment. Built on the same DPA Pilot software platform, DPA Entry can deliver excellent measurement results to users well-trained in directing the functionalities of the camera unit.



## Mobile photogrammetry system for measurement of single points:

- Standard digital camera with transportation case for DPA Entry
- AICON 3D Studio Base software and Viewer incl. software modules DPA, Transform, Deform, Adapter and Geometry
- DPA Pilot plug-in for inspection software packages
- Software Maintenance Agreement (SMA) 12 months for AICON 3D Studio
- HASP Dongle black license key

106001

### DPA Entry (White)

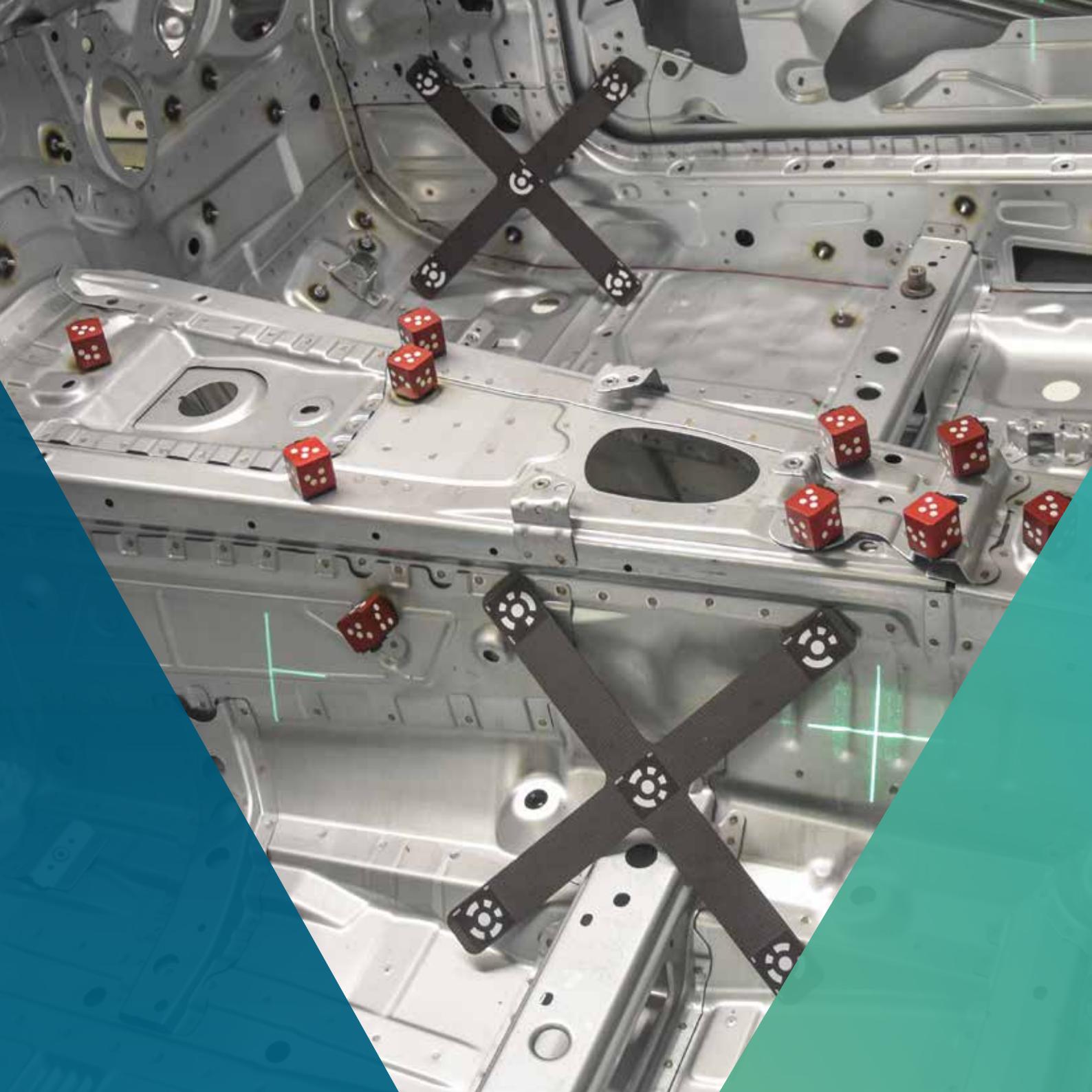
Including one scale cross 800 White, targets 14 bit code white Ø1 = 10mm no. 2-150 magnetic, 1000 targets noncoded white Ø1 = 10mm permanent Ø2 = 13 mm with ring and software module Codemaker

106002

### DPA Entry (Retro)

Including one scale cross 800 Retro, targets 14 bit code retro Ø1 = 10 mm no. 2-150 magnetic and 500 target noncoded retro Ø1 = 10 mm Ø2 = 13 mm with ring





# Accessories for photogrammetry systems

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# Accessory packages

## White

106064

### Accessory Package 10-830 White

Includes:

- 2 DPA scale bar 830 White (DAkkS) type: 2020 and transportation bag
- Reference cross White carbon fibre 400 x 400 mm on magnetic holder
- Target 14 bit code white Ø1 = 10 mm no. 2-150 magnetic
- Target noncoded white Ø1 = 10 mm permanent Ø2 = 13mm with ring, 1000 targets
- Software module Codemaker

106066

### Accessory Package 10-830/1430 White

Includes:

- DPA scale bar 830 White (DAkkS) type: 2020
- DPA scale bar 1430 White (DAkkS) type: 2020
- Reference cross White carbon fibre 400 x 400 mm on magnetic holder
- Target 14 bit code white Ø1 = 10 mm no. 2-150 magnetic
- Target noncoded white Ø1 = 10 mm permanent Ø2 = 13 mm with ring, 1000 targets
- Software module Codemaker
- Scale bar transportation bag 1430

106068

### Accessory Package 10-1430 White

Includes:

- 2 DPA scale bar 1430 White (DAkkS) type: 2020
- Reference cross White carbon fibre 400 x 400 mm on magnetic holder
- Target 14 bit code white Ø1 = 10 mm no. 2-150 magnetic
- Target noncoded white Ø1 = 10 mm permanent Ø2 = 13 mm with ring, 1000 targets
- Software module Codemaker
- Scale bar transportation bag 1430



# Accessory packages

## Retro

106063

### Accessory Package 10-830 Retro

Includes:

- 2 DPA scale bar 830 Retro (DAkkS) type: 2020 and transportation bag
- Reference cross Retro carbon fibre 400 x 400 mm on magnetic holder
- Target 14 bit code retro  $\varnothing 1 = 10$  mm no. 2-150 magnetic
- Target noncoded retro  $\varnothing 1 = 10$  mm,  $\varnothing 2 = 13$  mm with ring, 500 targets

106065

### Accessory Package 10-830/1430 Retro

Includes:

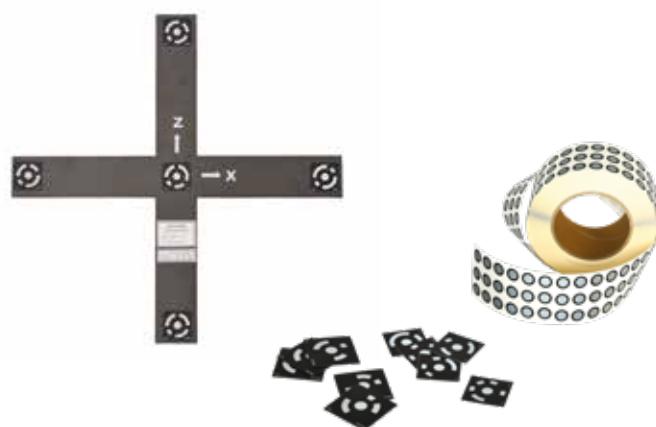
- DPA scale bar 830 Retro (DAkkS) type: 2020
- DPA scale bar 1430 Retro (DAkkS) type: 2020
- Reference cross Retro carbon fibre 400 x 400 mm on magnetic holder
- Target 14 bit code retro  $\varnothing 1 = 10$  mm no. 2-150 magnetic
- Target noncoded retro  $\varnothing 1 = 10$  mm,  $\varnothing 2 = 13$  mm with ring, 500 targets
- Scale bar transportation bag 1430

106067

### Accessory Package 10-1430 Retro

Includes:

- 2 DPA scale bar 1430 Retro (DAkkS) type: 2020
- Reference cross Retro carbon fibre 400 x 400 mm on magnetic holder
- Target 14 bit code retro  $\varnothing 1 = 10$  mm no. 2-150 magnetic
- Target noncoded retro  $\varnothing 1 = 10$  mm,  $\varnothing 2 = 13$  mm with ring, 500 targets
- Scale bar transportation bag 1430



# Scale bars, scale crosses and connection sets

## DPA scale bar 830 (DAkkS) type: 2020

Carbon fibre bar diameter 40 mm, lenght: 830 mm, with magnetic holder, DAkkS certificate, 2 exchangeable pin targets white or retro, without transportation box

130034 DPA scale bar 830 White (DAkkS) type: 2020

130036 DPA scale bar 830 Retro (DAkkS) type: 2020



## DPA scale bar 1430 (DAkkS) type: 2020

Carbon fibre bar diameter 40 mm, lenght: 1430 mm, with magnetic holder, DAkkS certificate, 2 exchangeable pin targets white or retro, without transportation box

130035 DPA scale bar 1430 White (DAkkS) type: 2020

130037 DPA scale bar 1430 Retro (DAkkS) type: 2020



## Scale cross 800

Combined reference cross and scale bar, 800 mm x 400 mm, coded targets 10 mm white or retro, factory calibration incl. certificate

106088 Scale cross 800 White

106086 Scale cross 800 Retro



## Brunson scale bar set 5m

4 x 1000 mm Invar tubes, 2x 500 mm Invar tubes, 6 brass invar connectors, 4 target holders with coded targets 5 mm white or retro, 2 scale bar holders, transportation box and certificate

106091 Brunson scale bar set 5 m White

106090 Brunson scale bar set 5 m Retro

## Reference cross carbon fibre 400 x 400 mm on magnetic holder

Orientation tool for automatic calculation, material carbon fibre, 400 mm x 400 mm, 5 coded targets 10 mm, weight: approx. 280 g, without certificate

106093 Reference cross White carbon fibre 400 x 400 mm on magnetic holder

106092 Reference cross Retro carbon fibre 400 x 400 mm on magnetic holder



# Scale bars, scale crosses and connection sets

## **Set of connection crosses**

5 pieces 400 x 400 mm, coded targets 476-500, connection tool only, not calibrated

106094      **Set of connection crosses White**

106096      **Set of connection crosses Retro**



## **Extension set connection crosses**

5 pieces 400 x 400 mm, coded targets 451-475, other targets on request, connection tool only, not calibrated

106095      **Extension set connection crosses White**

106097      **Extension set connection crosses Retro**



## **Set (10 pc) DPA connection igloos**

10 pieces, coded targets 371-500, connection tool only, not calibrated

111631      **Set (10 pc) DPA connection igloos White**

111632      **Set (10 pc) DPA connection igloos Retro**



## **Connection set 4-sided (12 pc)**

incl. transportation case

110100      **Connection set 4-sided White (12 pc)**

110120      **Connection set 4-sided Retro (12 pc)**



## **Magnetic holder set for scale bars**

2 pc, for scale bars diameter 40 mm



# Adaptors

106069

## DPA Adaptor Toolkit

20 different adaptor cubes for holes, corners and edges with transportation case, including:

- 4 adaptor cubes (for planes and fixation pins) - Code 1 black
- 4 adaptor cubes self centering for Ø2- 9 mm - Code 1 black
- 4 adaptor cubes self centering for Ø8- 14 mm - Code 1 black
- 2 adaptor cubes for edges - Code 1 black - 7 mm shaft length
- 4 adaptor cubes for inner corner 90° - Code 1 black
- 2 adaptor cubes for outer corner 90° - Code 1 black
- 4 fixation pins for adaptor cubes - 8 mm (H7)
- 4 fixation pins for adaptor cubes - 10 mm (H7)
- 4 fixation pins for adaptor cubes - 12 mm (H7)
- 4 fixation pins for adaptor cubes - 15 mm (H7)



106070

## DPA Adaptor Alignment Set

Includes:

- 4 adaptor cubes (for planes and fixation pins) - Code 1 black
- 2 adaptor cubes for inner corner 90° - Code 1 black - 7 mm shaft length
- Box for accessories
- 4 fixation pins for adaptor cubes - 8 mm (H7)
- 4 fixation pins for adaptor cubes - 10 mm (H7)



106071

## DPA Adaptor Tooling Set

Includes:

- 2 angle adaptors for pins up to Ø30 mm, leg 25 mm, magnetic - Code A
- 2 angle adaptors for pins up to Ø60mm, leg 40 mm, magnetic - Code R
- 4 adaptor cubes (for planes and fixation pins) - Code 1 black
- Box for accessories
- 4 fixation pins for adaptor cubes - 8 mm (H7)
- 4 fixation pins for adaptor cubes - 10 mm (H7)
- Target 3 Point contour Ø1 = 3 mm Ø 2 = 13 mm, 500 targets



# Adaptors

Adaptor cubes are only applicable for White measurements.

106203	<b>Adaptor cube (for planes and fixation pins)</b> Code 1 black		106204	<b>Adaptor cube (for planes and fixation pins)</b> Code 2 red	
106205	<b>Adaptor cube (for planes and fixation pins)</b> Code 3 purple		106207	<b>Adaptor cube self centering for ø 2- 9 mm</b> Code 1 black	
106208	<b>Adaptor cube self centering for ø 2- 9 mm</b> Code 2 red		106209	<b>Adaptor cube self centering for ø 2- 9 mm</b> Code 3 purple	
106210	<b>Adaptor cube self centering for ø 8- 14 mm</b> Code 1 black		106211	<b>Adaptor cube self centering for ø 8- 14 mm</b> Code 2 red	
106212	<b>Adaptor cube self centering for ø 8- 14 mm</b> Code 3 purple		106213	<b>Adaptor cube for edges</b> Code 1 black 7 mm shaft length	
106214	<b>Adaptor cube for edges</b> Code 2 red 7 mm shaft length		106215	<b>Adaptor cube for edges</b> Code 3 purple 7 mm shaft length	
109816	<b>Adaptor cube for edges</b> Code 1 black 25 mm shaft length		109817	<b>Adaptor cube for edges</b> Code 2 red 25 mm shaft length	
109819	<b>Adaptor cube for edges</b> Code 3 purple 25 mm shaft length		106216	<b>Adaptor cube for inner corner 90°</b> Code 1 black 7 mm shaft length	

# Adaptors

Adaptor cubes are only applicable for White measurements.

106217	<b>Adaptor cube for inner corner 90°</b> Code 2 red 7mm shaft length		106218	<b>Adaptor cube for inner corner 90°</b> Code 3 purple 7mm shaft length	
109819	<b>Adaptor cube for inner corner 90°</b> Code 1 black 14 mm shaft length		109820	<b>Adaptor cube for inner corner 90°</b> Code 2 red 14 mm shaft length	
109821	<b>Adaptor cube for inner corner 90°</b> Code 3 purple 14 mm shaft length		109822	<b>Adaptor cube for inner corner 90°</b> Code 1 black 25 mm shaft length	
109824	<b>Adaptor cube for inner corner 90°</b> Code 2 red 25 mm shaft length		109825	<b>Adaptor cube for inner corner 90°</b> Code 3 purple 25 mm shaft length	
106219	<b>Adaptor cube for outer corner 90°</b> Code 1 black		106220	<b>Adaptor cube for outer corner 90°</b> Code 2 red	
106221	<b>Adaptor cube for outer corner 90°</b> Code 3 purple		109195	<b>Adaptor cube for welded studs for ø 2,5-4,5mm</b> Code 1 black	
109196	<b>Adaptor cube for welded studs for ø 2,5-4,5mm</b> Code 2 red		109197	<b>Adaptor cube for welded studs for ø 2,5-4,5mm</b> Code 3 purple	
106222	<b>Adaptor cube for welded studs for ø 4,5-6,5mm</b> Code 1 black		106223	<b>Adaptor cube for welded studs for ø 4,5-6,5mm</b> Code 2 red	

# Adaptors

Adaptor cubes are only applicable for White measurements.

106224	<b>Adaptor cube for welded studs for ø 4,5-6,5mm</b> Code 3 purple		109192	<b>Adaptor cube for welded studs for ø 6,5-8,5mm</b> Code 1 black	
109193	<b>Adaptor cube for welded studs for ø 6,5-8,5mm</b> Code 2 red		109194	<b>Adaptor cube for welded studs for ø 6,5-8,5mm</b> Code 3 purple	
109826	<b>Adaptor cube for T-Bolt D=5mm</b> Code 1 black		109827	<b>Adaptor cube for T-Bolt D=5mm</b> Code 2 red	
109828	<b>Adaptor cube for T-Bolt D=5mm</b> Code 3 purple		109829	<b>Adaptor cube for T-Bolt D=9mm</b> Code 1 black	
109831	<b>Adaptor cube for T-Bolt D=9mm</b> Code 2 red		109832	<b>Adaptor cube for T-Bolt D=9mm</b> Code 3 purple	
109198	<b>Adaptor cube for cap nuts M6</b> Code 1 black		109199	<b>Adaptor cube for cup nut M6</b> Code 2 red	
109200	<b>Adaptor cube for cap nut M6</b> Code 3 purple		109201	<b>Adaptor cube for cap nuts M8</b> Code 1 black	
109202	<b>Adaptor cube for cap nuts M8</b> Code 2 red		109203	<b>Adaptor cube for cap nut M8</b> Code 3 purple	

# Adaptors

Adaptor cubes are only applicable for White measurements.

106225	<b>Adaptor cube for sphere mounting ø 16 -25 mm Code 1 black</b>		106226	<b>Adaptor cube for sphere mounting ø 16 -25 mm Code 2 red</b>	
106227	<b>Adaptor cube for sphere mounting ø 16 -25 mm Code 3 purple</b>		110673	<b>H7 adaptor with 4 mm pin for DPA Series</b>	
109823	<b>Flange adaptor for holes with self-centering chuck D80</b>		106229	<b>Self-centering chuck D50, 3 collets, with screw, for adaptor cube No 106203 - 106205</b>	
108531	<b>Edge adaptor 35 x 70 mm black (multi-point), inner edge 20 mm, 8 magnets, increased bearing area</b>		106206	<b>Fixation pin for adaptor cubes - 8 mm (H7)</b>	
108087	<b>Fixation pin for adaptor cubes - 10 mm (H7)</b>		108621	<b>Fixation pin for adaptor cubes - 12 mm (H7)</b>	
108622	<b>Fixation pin for adaptor cubes - 15 mm (H7)</b>		109876	<b>Fixation pin for adaptor cubes - 16 mm D16/h11, M4 L15</b>	
109877	<b>Fixation pin for adaptor cubes - 16 mm D16/h9, M4, L15</b>				

# Adaptors

106230	Angle adaptor for pins up to ø 30 mm, leg 25 mm - Code A
106231	Angle adaptor for pins up to ø 30 mm, leg 25 mm - Code B
106232	Angle adaptor for pins up to ø 30 mm, leg 25 mm - Code C
106233	Angle adaptor for pins up to ø 30 mm, leg 25 mm - Code D
106234	Angle adaptor for pins up to ø 30 mm, leg 25 mm, magnetic - Code A
106235	Angle adaptor for pins up to ø 30 mm, leg 25 mm, magnetic - Code B
106236	Angle adaptor for pins up to ø 30 mm, leg 25 mm, magnetic - Code C
106237	Angle adaptor for pins up to ø 30 mm, leg 25 mm, magnetic - Code D
106238	Angle adaptor for pins up to ø 60 mm, leg 40 mm - Code R
106239	Angle adaptor for pins up to ø 60 mm, leg 40 mm - Code S
106240	Angle adaptor for pins up to ø 60 mm, leg 40 mm - Code T
106241	Angle adaptor for pins up to ø 60 mm, leg 40 mm - Code U
106242	Angle adaptor for pins up to ø 60 mm, leg 40 mm, magnetic - Code R
106243	Angle adaptor for pins up to ø 60 mm, leg 40 mm, magnetic - Code S
106244	Angle adaptor for pins up to ø 60 mm, leg 40 mm, magnetic - Code T
106245	Angle adaptor for pins up to ø 60 mm, leg 40 mm, magnetic - Code U



# Targets

White, coded, permanent

- 107092      **Target 14 bit code white Ø1 = 3 mm no. 2-150 permanent**
- 107093      **Target 14 bit code white Ø1 = 3 mm no. 2-500 permanent**
- 106154      **Target 14 bit code white Ø1 = 5 mm no. 2-150 permanent**
- 106155      **Target 14 bit code white Ø1 = 5 mm no. 2-500 permanent**
- 111281      **Target 14 bit code white Ø1 = 5 mm no. 151-500 permanent**
- 107101      **Target 14bit code white Ø1 = 10 mm no. 2-150 permanent**
- 106164      **Target 14bit code white Ø1 = 10 mm no. 151-500 permanent**
- 107102      **Target 14bit code white Ø1= 10 mm no. 2-500 permanent**



All permanent targets are made of Thermoscript 7874 EC material, temperature resistance from -40°C (-40°F) to 150°C (300°F)

Retro, coded, permanent

- 107108      **Target 14 bit code retro Ø1 = 5 mm no. 2-150 permanent**
- 107107      **Target 14 bit code retro Ø1 = 5 mm no. 2-500 permanent**
- 111173      **Target 14 bit code retro Ø1 = 5 mm no. 151-500 permanent**
- 107111      **Target 14 bit code retro Ø1 = 10 mm no. 2-75 permanent**
- 107112      **Target 14 bit code retro Ø1 = 10 mm no. 76-150 permanent**
- 106157      **Target 14 bit code retro Ø1 = 10 mm no. 2-150 permanent**
- 106160      **Target 14 bit code retro Ø1 = 10 mm no. 151-500 permanent**



# Targets

Retro, coded, permanent

- |        |  |
|--------|--|
| 106158 | <b>Target 14 bit code retro Ø1 = 10 mm no. 2-500 permanent</b>   |
| 110641 | <b>Target 14 bit code retro Ø1 = 15 mm no. 2-75 permanent</b>    |
| 110642 | <b>Target 14 bit code retro Ø1 = 15 mm no. 76-150 permanent</b>  |
| 107043 | <b>Target 14 bit code retro Ø1 = 15 mm no. 2-150 permanent</b>   |
| 110569 | <b>Target 14 bit code retro Ø1 = 15 mm no. 151-500 permanent</b> |
| 107044 | <b>Target 14 bit code retro Ø1 = 15 mm no. 2-500 permanent</b>   |
| 106165 | <b>Target 14 bit code retro Ø1 = 20 mm no. 2-150 permanent</b>   |
| 106166 | <b>Target 14 bit code retro Ø1 = 20 mm no. 2-500 permanent</b>   |
| 111355 | <b>Target 14 bit code retro Ø1 = 20 mm no. 151-500 permanent</b> |



All permanent targets are made of High Gain 7610 material, temperature resistance from +15°C (59°F) to +65°C (149°F)

White, coded, magnetic

- |        |   |
|--------|---|
| 109470 | <b>Target 14 bit code white Ø1 = 5 mm no. 2-150 magnetic</b>    |
| 109471 | <b>Target 14 bit code white Ø1 = 5 mm no. 151-500 magnetic</b>  |
| 109797 | <b>Target 14 bit code white Ø1 = 5 mm no. 2-500 magnetic</b>    |
| 109450 | <b>Target 14 bit code white Ø1 = 10 mm no. 2-150 magnetic</b>   |
| 109451 | <b>Target 14 bit code white Ø1 = 10 mm no. 151-500 magnetic</b> |
| 106193 | <b>Target 14 bit code white Ø1 = 10 mm no. 2-500 magnetic</b>   |



# Targets

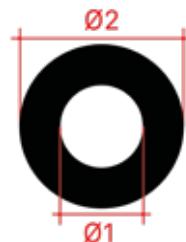
Retro, coded, magnetic

- |        |   |
|--------|---|
| 111037 | <b>Target 14 bit code retro Ø1 = 5 mm no. 2-150 magnetic</b>    |
| 111038 | <b>Target 14 bit code retro Ø1 = 5 mm no. 2-500 magnetic</b>    |
| 111259 | <b>Target 14 bit code retro Ø1 = 5 mm no. 151-500 magnetic</b>  |
| 106194 | <b>Target 14 bit code retro Ø1 = 10 mm no. 2-75 magnetic</b>    |
| 111269 | <b>Target 14 bit code retro Ø1 = 10 mm no. 76-150 magnetic</b>  |
| 106195 | <b>Target 14 bit code retro Ø1 = 10 mm no. 2-150 magnetic</b>   |
| 111271 | <b>Target 14 bit code retro Ø1 = 10 mm no. 151-500 magnetic</b> |
| 106196 | <b>Target 14 bit code retro Ø1 = 10 mm no. 2-500 magnetic</b>   |
| 111274 | <b>Target 14 bit code retro Ø1 = 15 mm no. 2-75 magnetic</b>    |
| 111275 | <b>Target 14 bit code retro Ø1 = 15 mm no. 76-150 magnetic</b>  |
| 111277 | <b>Target 14 bit code retro Ø1 = 15 mm no. 151-500 magnetic</b> |
| 110825 | <b>Target 14 bit code retro Ø1 = 15 mm no. 2-150 magnetic</b>   |



White, noncoded

- |        |  |
|--------|--|
| 107133 | <b>Target noncoded white Ø1 = 3 mm permanent Ø2 = 5 mm with ring, 1000 targets*</b><br>Material Thermoscript 7874 EC; temperature resistance from -40°C (-40°F) to 150°C (300°F) |
| 107134 | <b>Target noncoded white Ø1 = 3 mm removable Ø2 = 5 mm with ring, 1000 targets*</b><br>Material film 5770; temperature resistance from -40°C (-40°F) to 95°C (203°F)             |

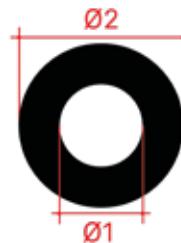


\* Significant price saving when buying 5 units

# Targets

White, noncoded

- 107138      **Target noncoded white Ø1 = 5 mm permanent Ø2 = 10 mm with ring, 1000 targets\***  
 Material Thermoscript 7874 EC; temperature resistance from -40°C (-40°F) to 150°C (300°F)



- 107139      **Target noncoded white Ø1 = 5 mm removable Ø2 = 10 mm with ring, 1000 targets\***  
 Material film 5770; temperature resistance from -40°C (-40°F) to 95°C (203°F)

- 107135      **Target noncoded white Ø1 = 5 mm magnetic Ø2 = 10 mm with ring, 1000 targets**

- 107145      **Target noncoded white Ø1 = 10 mm removable Ø2 = 13 mm with ring, 1000 targets\***  
 Material film 5770; temperature resistance from -40°C (-40°F) to 95°C (203°F)

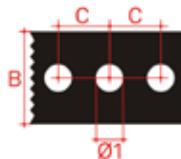
- 107144      **Target noncoded white Ø1 = 10 mm permanent Ø2 = 13 mm with ring, 1000 targets\***  
 Material Thermoscript 7874 EC; temperature resistance from -40°C (-40°F) to 150°C (300°F)

- 107141      **Target noncoded white Ø1 = 10 mm magnetic Ø2 = 13 mm with ring, 1000 targets**

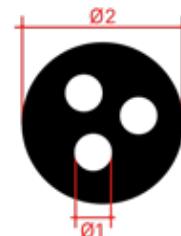
- 107147      **Target noncoded white Ø1 = 20 mm permanent Ø2 = 27 mm with ring, 5000 targets**

- 107146      **Target noncoded white Ø1 = 20 mm removable Ø2 = 27 mm with ring, 5000 targets**

- 107137      **Target noncoded white Ø1 = 5 mm removable endless tape (B = 10 mm C = 20 mm)  
 with 5000 targets**  
 Material film 5770 temperature resistance from -40°C (-40°F) to 95°C (203°F)



- 107086      **Target 3 Point contour Ø1 = 3 mm permanent Ø2 = 13 mm 5.000 pcs on roll**



\* Significant price saving when buying 5 units

# Targets

Retro, noncoded

107122      **Target noncoded retro Ø1 = 5 mm Ø2 = 10 mm with ring, 5000 targets**

107123      **Target noncoded retro Ø1 = 5 mm Ø2 = 27 mm with ring, 5000 targets**

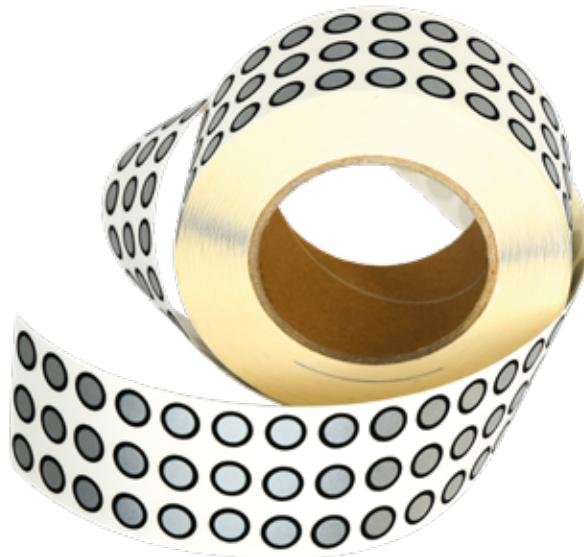
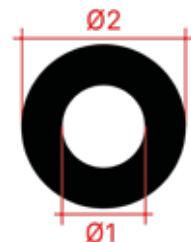
107127      **Target noncoded retro Ø1 = 10 mm Ø2 = 13 mm with ring, 5000 targets**

107126      **Target noncoded retro Ø1 = 10 mm with center dot, 1200 targets**

Significant price saving when buying 4 units

107128      **Target noncoded retro Ø1 = 15 mm Ø2 = 20 mm with ring, 1000 targets**

107130      **Target noncoded retro Ø1 = 20 mm Ø2 = 27 mm with ring, 5000 targets**



# Transportation accessories

110800

**Transportation case DPA Industrial**

Size: 561 x 455 x 265 mm



107196

**Transportation case for DPA high-end camera**Room for DPA and accessories (excluding scale bars),  
with integrated trolley; size: 520 x 430 x 210 mm  
(250 mm incl. wheels)

106074

**Transportation case for DPA Entry**

Size: 850 x 200 x 155 mm



107198

**Scale bar transportation bag 1430**

For up to 3 scale bars



109898

**Scale bar transportation bag for MoveInspect scale bar 1000  
and DPA scale bar 830**

107218

**Transportation box for 40 adaptor cubes**

# Transportation accessories

109355 **Transportation box for weld stuts adaptor (140pc.)**

109391 **Transportation box for 12 hand- operated chuck flange measurement (for No. 109823)**

109390 **Transportation box for 50 adaptors No. 108531 (flange measurement)**

108298 **Box for accessories**

Interior dimensions: 190 x 130 x 35 mm  
space for e.g.

- 3 MI.Probe mini
- DPA Adaptor Alignment Set (6x Adaptor cube and fixation pin)
- DPA Adaptor Tooling Set (4x Adaptor cube, 4x Angle adaptor and fixation pin)
- 5x self-centering chuck D50, 3 collets



# Accessories for using DPA with Absolute Arm

107010 **1.5" sphere mount**



**1.5" Half sphere Target - 10 mm dot Hubbs SB-R-1.5000"-10 mm**

109360 **1.5" Half sphere Target retro**



109361 **1.5" Half sphere Target white**



**1.5" Spherically Mounted Target - 12 mm dot Hubbs R1.5S - 12 mm**

107026 **1.5" Spherically Mounted Target retro**

109217 **1.5" Spherically Mounted Target white**

# Other accessories

108650

**WLAN package for DPA Professional**

For instant online transmission of measurement pictures to the analysing computer, incl. WLAN USB adaptor, camera adaptor and battery setup (excl. shipping cost for subsequent installation)



106078

**Telescopic camera holder for DPA Professional and DPA Entry**

Adjustable length up to 5,5 m, laserpointer, adjustable camera holder, remote camera trigger, holder for WLAN unit, bag for transportation

111512

**Telescopic camera holder for DPA Industrial**

Adjustable length up to 5,5 m for C1 camera, adjustable camera holder, table stand and transportation bag; laser, WLAN and remote camera trigger are integrated in the C1 camera (DPA Industrial).

111629

**Flash set**

Detachable flash set for DPA Industrial, usable for white and retro targets

106447

**Emergency Dongle**

valid 14 days after first activation, only valid in case of problems with original dongle, can be reactivated

## Overall progress



## Measurement



247 images total

0 images measured

current image:

0 coded targets

0 uncoded targets

## Orientation



247 images oriented

0,001 med. sigma [mm]



# **Application software for photogrammetry systems**

# AICON 3D Studio



AICON 3D Studio is the basic software for the evaluation and visualisation of photogrammetric measuring processes with the coordinate measuring machines of the DPA series. The 3D graphic window displays point clouds and deformation vectors. The user can freely select views and table representations and individually scale the vectors.

The extended configuration allows for an optimal adaption to the measuring task or to the user's workflow. The software has a modular setup. Depending on the application, suitable add-on modules can be integrated into the basic software to meet all requirements.

- One software for all applications of the Hexagon photogrammetry systems of the DPA series
- Automatic recording, evaluating and maintenance of measuring data
- Individual configuration according to the measuring task and requirements
- Effective data handling
- Comprehensive options to create reports
- Numerous export options for further data processing

106029

## **AICON 3D Studio Base software**

Processing and visualisation of static and dynamic measurements 3D graphic window for display of point clouds and deformations vectors

106030

## **AICON 3D Studio Viewer**

Licence free software for opening AICON 3D Studio projects without possibility of storage, can be passed to third parties

106031

## **Software module DPA**

- Photogrammetry plug-in for AICON 3D Studio
- Fully automatic processing of digital images
- Camera configuration and scale bar information stored in templates
- Processing of digital images from any type of camera
- Automatic detection and measurement of coded and uncoded targets
- Images can be taken in any order
- Robust adjustment methods and automatic error detection

# AICON 3D Studio



106033

## **Software module Transform**

- Software module for coordinate transformation with three major transformation techniques
- Best-Fit-transformation
- Rotation of coordinate systems

106034

## **Software module Adaptor**

- Software module for automatic correction of adaptors
- 3D measurement of points indirectly signalised by means of adaptors
- Automatic detection of adaptors in point clouds

106035

## **Software module Deform**

- Software module for deformation analysis
- Deformation analysis between different states
- Selectable deformation points
- Requires module Transform

106036

## **Software module Geometry**

- Software module for comparison of measured 3D points with user-defined geometry elements
- Determination of lines, planes, circles spheres and cylinders from point clouds
- Center of gravity determination of point clouds
- IGES export function optionally available

106037

## **Software module Feature**

- Software module with additional measuring functionality
- Measurement of natural targets like points, holes, etc.
- Measurement of natural or marked lines and edges

106038

## **Software module Codemaker**

- Software module for targets design and print of paper or foil including templates
- Optional print with center point on target
- Range of point numbers can be selected within the target set
- Black targets on white background or vice versa (positive/negative)
- Creation of print layouts for a print shop or for printing on a suitable standard printer

106039

## **Software module Dynamic**

- Software module for post processing, analysis and visualisation of dynamic data sets
- Display of movements
- Export of image sequences as AVI file

106049

## **Upgrade to 3D Studio server licence**

Exchange of a single seat license to a 1-user server license, independent of modules in use. Single seat dongle has to be returned.

# AICON 3D Studio



109835	<b>Upgrade from DPA add-on to DPA Professional (stand alone version)</b> Includes dongle incl. carry over of existing DPA add-on license and DPA Pilot plug-in, software upgrade fee; not an additional license
109452	<b>Software upgrade from DPA basic add-on to DPA Entry</b> Includes AICON 3D Studio Base software (incl. Software module Codemaker and DPA Pilot plug-in), software upgrade fee; not an additional license
111043	<b>DPA Pilot plug-in for inspection software packages</b> Includes: <ul style="list-style-type: none"><li>- Spatial Analyzer</li><li>- Polyworks Inspector</li><li>- Polyworks Inspector Probing</li><li>- MetrologX4</li><li>- Further software packages on request</li></ul> The above mentioned software packages are not included. Plug-in can only be used in combination with an already existing DPA Series system and/or software module DPA.
110214	<b>Offline license for deformation analysis AICON 3D Studio</b> Including AICON 3D Studio Base software and Viewer, software modules Transform and Deform
111510	<b>DPA additional license for DPA Series systems</b> Only in combination with a DPA Series system. License includes all modules of the reference license.
106032	<b>AICON 3D Studio update for DPA systems to current software version</b> Software update from all old versions to the current version (incl. all already purchased modules). Support and dongle loss-protection are not included.
111009	<b>AICON 3D Studio update for Offline license to current software version</b> Offline license for deformation analysis software update from all old versions to the current version. Support and dongle loss-protection are not included. Can only be ordered with an update of the main license at the same time.

# AICON 3D Studio



All SMAs include:

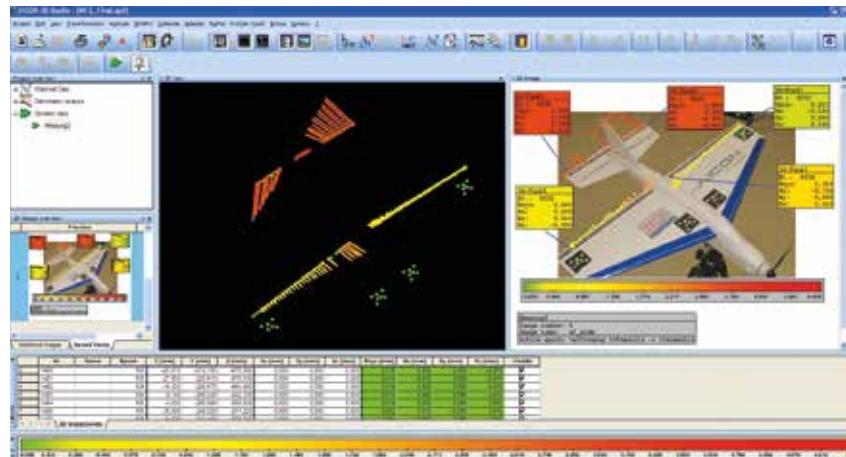
- Dongle-loss protection
- All software updates and upgrades for released within the contract period
- E-Mail and phone support

106358      **1Y-SMA for DPA - AICON 3D Studio**

110270      **1Y-SMA for AICON 3D Studio Offline license**

Significant discount when ordering SMA for 3 years

Full payment of SMA is to be made at the beginning of the contract period. Maintenance for third-party inspection software is not included in SMA.





# Warranty and maintenance for photogrammetry systems

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# Hardware maintenance

As with all metrology devices, regular maintenance is an important part of long term quality management. Saving on regular maintenance can result in loss of time and money, whether caused by reduced system performance or the cost of single-intervention repairs to avoid prolonged machine downtime.

- |        |  |
|--------|--|
| 130221 | <b>DAkkS calibration of an optical 3D measuring system according to VDI 2634 part 1</b><br>Acceptance test/reverification using a DAkkS calibrated reference object, determination of length measurement error E incl. calibration certificate, only available for DSLR cameras. |
| 108968 | <b>Re-calibration of a photogrammetric scale bar with 2 fixed targets</b><br>Re-calibration of one scale bar distance from German Calibration Service (DAkkS) incl. certificate  |
| 109380 | <b>Factory calibration of reference cross or scale cross 800</b><br>Calibration of the two reference scale distances by Hexagon Braunschweig incl. certificate   |
| 106362 | <b>Factory calibration of a scale bar 830 or 1430 with 2 fixed targets</b><br>Re-calibration of scale bar by Hexagon Braunschweig  |

# Training

Efficient and effective use of metrology equipment relies on skilled and knowledgeable users. Interactive training delivered by experienced professionals is crucial to ensure your operators have the expertise to maximise inspection productivity.

- |        |   |
|--------|---|
| 106407 | <b>Training Photogrammetry products</b><br>At Photogrammetry factory in Braunschweig, Germany, for max. 3 participants, incl. training material, also applicable for remote online training, unit = 1 day, during normal working hours;<br>For an on-site training we charge an additional travel service fee |
|--------|---|

# Spare parts

110880

**Photogrammetry C1 camera with transportation case**

High-end photogrammetry C1 camera with integrated WiFi, remote control function, photogrammetry metric lens and memory card



108976

**High-end digital camera DPA with transport box**

High-end digital camera with photogrammetry metric lens, memory card, pre-calibration and template files, certified according to VDI 2634



106072

**Standard digital camera**

Digital single-lens reflex camera with photogrammetry metric lens, memory card, pre-calibration and template files



111628

**Ring flash for DPA Industrial**

For white and retro targets



130547

**Flash for DPA Series**

Detachable flash for DPA Series for white and retro targets



111690

**Rechargeable battery for C1 camera**

# Warranty plan renewals

111047	<b>1 Year DPA Industrial Warranty Extension (max. 3 years additionally)</b> Renewal of standard manufacturer's warranty plan for DPA Industrial for 1 year.
109812	<b>1 Year DPA Professional Warranty Extension (max. 3 years additionally)</b> Renewal of standard manufacturer's warranty plan for DPA Professional for 1 year.
109811	<b>1 Year DPA Entry Warranty Extension (max. 3 years additionally)</b> Renewal of standard manufacturer's warranty plan for DPA Entry for 1 year.

- Extended warranty is issued for all repair work or replacement of components caused despite system conform handling and usage.
- An extended warranty is not issued in case of careless handling, damage caused by accident, improper transport, inadequate packaging and intentional destruction of the system or parts thereof.
- Consumable components, such as targets, are not covered by the warranty.
- Defective items have to be returned to Hexagon Braunschweig.

# Warranty plan conditions

## Standard manufacturer warranty plan

The Photogrammetry factory provides a 2-year manufacturer's warranty on standalone DPA Series products (excluding Add-on systems for Scanner and MoveInspect products and consumables). The 2-year period starts at the customer delivery date or 3 months after factory delivery to the local Hexagon Manufacturing Intelligence representative. The following terms apply to this warranty:

1. Repair of manufacturing defects on all delivered DPA system components.
2. The warranty of two (2) years is valid also without service check after 1 year.
3. Customer assumes all shipping costs.
4. Telephone and e-mail technical support is part of the SMA maintenance and each system will be delivered with 12 months SMA (Software maintenance agreement).

## Renewal of standard manufacturer warranty plan

The Photogrammetry factory offers 1-year warranty extensions for standalone DPA Series products. To be eligible for a warranty extension, the customer must order it either with the instrument or before the existing warranty plan expires.

Extensions do not cover adaptors, computers or other accessories.

The standard factory warranty extensions for instruments have the following terms and conditions :

1. Replacement or repair, at Photogrammetry factory's option, free of charge, of any component or parts of the DPA Series products which, upon examination, are found defective in workmanship or material.
2. Any required repairs not covered by the warranty plan extension are extra.
3. The DPA Series product must be returned to the Photogrammetry factory or an authorized and certified Service Centre by Hexagon Manufacturing Intelligence if a repair, calibration, or certification needs to be performed.
4. Customer assumes all shipping costs.
5. Telephone and e-mail technical support for software is part of the SMA software maintenance agreement and is sold extra.

# World-class service made simple

## Customer Care Packages



Owners of Hexagon products featured in this catalogue have the opportunity to invest in a Customer Care Package – a standardised after-sale service package designed to ensure equipment remains in top condition and can be relied upon for accurate measurement results.

- Maintenance and warranty plans that ensure top equipment availability
- Trouble-free usage and minimal downtime
- Preferred hotline access at no additional cost
- Access to professional advice whenever it's needed

Customer Care Packages include a selection of the following benefits, depending on the tier chosen.

- Planned annual service
- Customer hardware support
- Software support and software updates\*
- Annual maintenance and recertification
- Remote connected assistance
- Repair parts and labour\*\*
- Customised local benefits

For complete details of the benefits of each level of Customer Care Package, please contact a local Hexagon representative.

\* Photogrammetry product line software (plug-ins, drivers, etc.) only

\*\* Excludes cables, consumable items, computers and other peripheral hardware. Repair parts and labour are not issued in case of careless handling, damage caused by accident, improper transport, inadequate packaging and intentional destruction of the system or parts thereof.

# Customer Care Packages

	Platinum	Gold	Silver	Bronze
Planned annual service	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Customer hardware support	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Software support and software updates	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-
Annual maintenance and recertification	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-
Remote connected assistance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-
Repair parts and labour	<input checked="" type="checkbox"/>	-	-	-
Local customised benefits	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

For further information about Bronze, Silver, Gold and Platinum service contracts, please contact a local Hexagon representative.



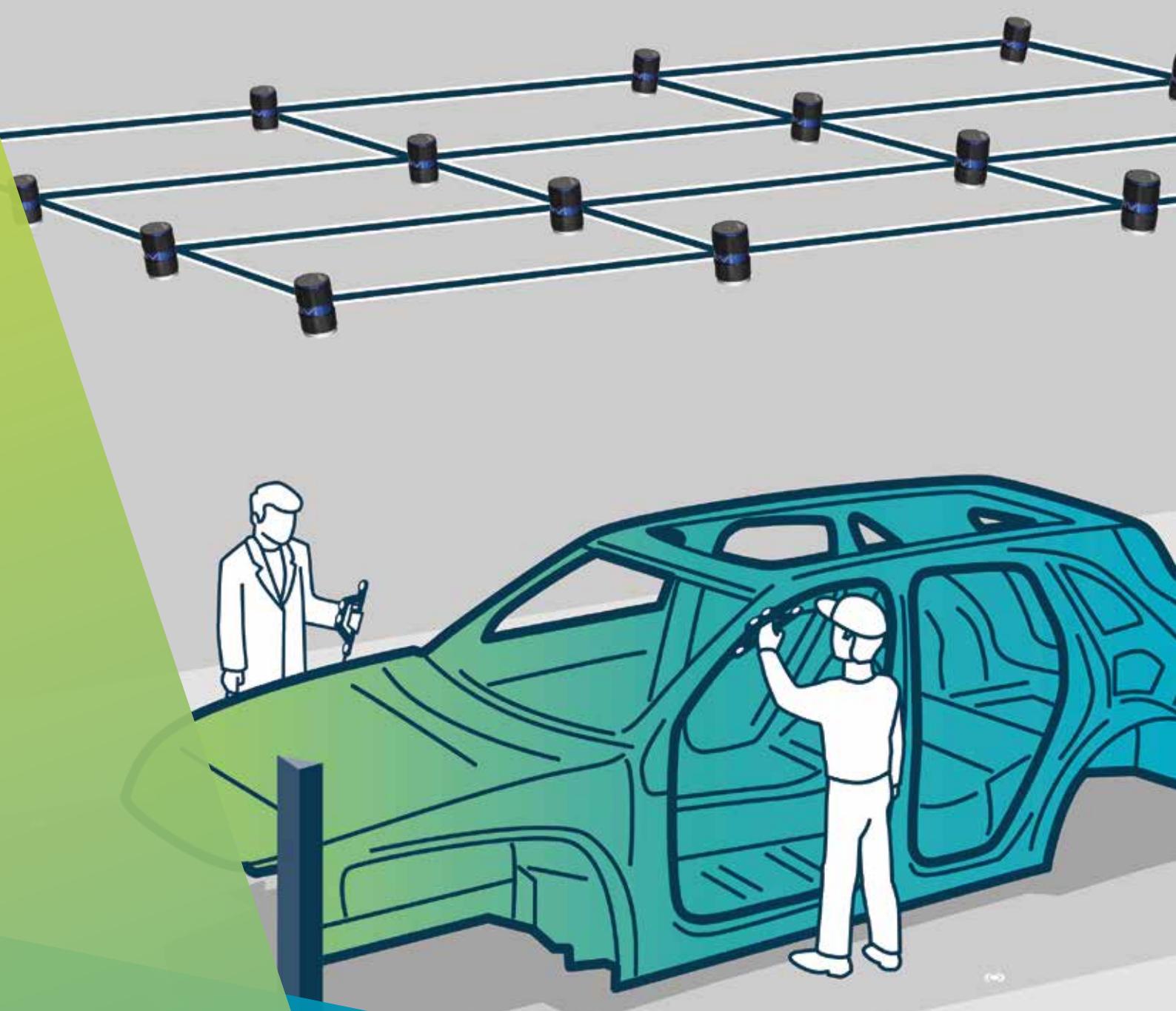
# 3D Arena

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# 3D Arena systems

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# Multi-camera measurement

The 3D Arena is a flexible multi-camera photogrammetry measurement concept that allows an unprecedented level of freedom to users, both in terms of designing their measuring area and in terms of capturing location data.

A constellation of high-definition cameras supported by a high-stability carbon frame captures a constant live feed of a signalised measurement object. Every measurement is automatically transformed into the object coordinate system, and the 3D Arena always knows where the object as well as work tools and testing devices are located within the coordinate space.

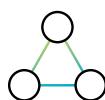
## Flexible scale

A 3D Arena installation is inherently customisable, with no theoretical limit to the number of cameras integrated within the system. A typical 16-camera system can be ceiling mounted, allowing inspection and alignment over a space of 6 by 8 metres, or a 4-camera system could be vertically mounted on a one-square-metre frame to dynamic alignment of a single component.

## Application versatility

An installed 3D Arena system is massively versatile, offering probing measurement, tool tracking, both 3D and 6DoF positioning and alignment and deformation tracking. The system's live dynamic referencing capability allows users to forgo the rigid fixation of the measuring object by allowing for the measurement of objects in motion without any loss of accuracy.

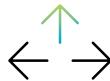
# Custom dynamic automated photogrammetry systems



Supplies any number of measuring points and object information simultaneously (3D and 6DoF).



Multiple point and adaptor measurements at the same time allows monitoring of complex assembly processes, accelerating workflows.



Vertical or horizontal setup allow for an unobstructed view and flexible use of space in the measuring room.



Wireless ergonomic probe without physical connection offers unprecedented freedom of movement.



Targets allow repeated inspections without interrupting processes for realignments.



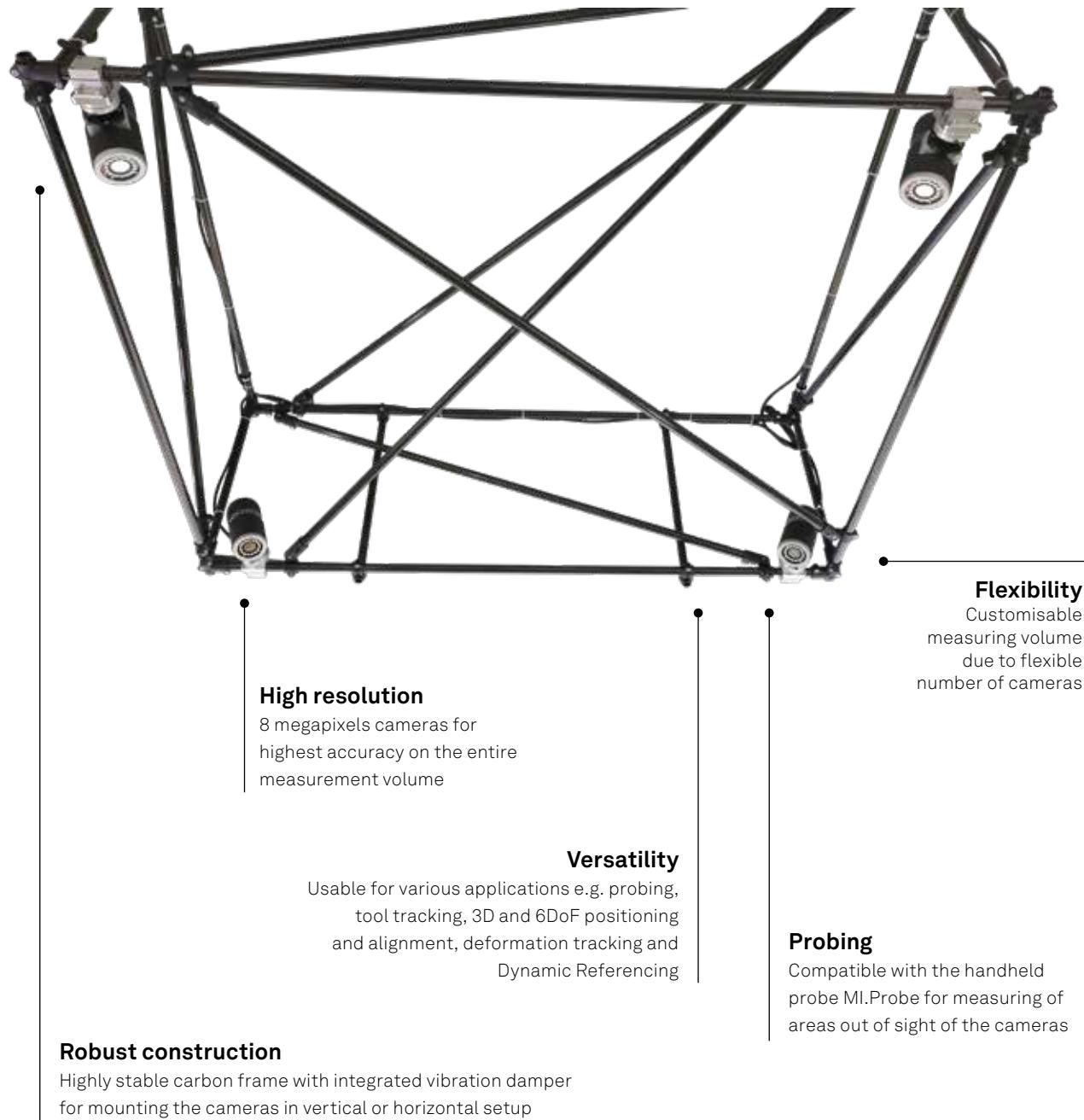
Solution-based adaptors for custom-made applications help to speed up adjustment and inspection tasks by up to 60%.



Applicable for measurements under challenging and harsh environmental conditions in production areas.



Dynamic Referencing allows processes to move beyond the rigid fixation of the measuring object by allowing measurement of moving objects without any loss of accuracy.



## 3D Arena | Tracking

The 3D Arena theoretically consists of any number of high resolution cameras mounted on a highly stable camera frame. A 4-camera configuration covers a measuring field of about 3 x 3 metres, a 16-camera configuration a measuring field of about 6 x 8 metres. All measurements are automatically transformed into the object coordinate system. The 3D Arena always knows where the object as well as work tools and testing devices are located in the coordinate space.



**Optical tracking system 3D Arena with selected numbers of high-resolution cameras on a carbon frame, includes:**

- 3D Arena sensors and 3D Arena carbon frame
- Syncbox-S for 3D Arena
- Accessory Package Retro Target Ø 15 mm
- Transportation boxes for 3D Arena cameras with shock stop, for up to 4 cameras
- MoveInspect Pilot Base software, includes AICON 3D Studio Base software and AICON 3D Studio Viewer
- MoveInspect Pilot Tracking software
- 12 months Software Maintenance Agreement for MoveInspect Pilot 3D Arena
- HASP dongle black license key

# 3D Arena | Tracking

130869

## 3D Arena – 4 Cam Tracking

For medium measuring volumes: 4 3D Arena sensors on 3D Arena carbon frame for 4 camera

Includes:

- 4 camera cables, 10 m, type 2023
- Calibration tool
  - Calibration scale bar 1000 Retro (DAkkS), without case
  - Reference cross Retro carbon fibre 400 x 400 mm on magnetic holder
- Scale bar transportation bag

130871

## 3D Arena – 16 Cam Tracking

For large measuring volumes: 16 3D Arena sensors on 3D Arena carbon frame for 16 camera

Includes:

- 16 camera cables, 10 m, type 2023
- Calibration tool long
  - Scale bar 1430 retro/mounted, without calibration
  - Reference cross Retro carbon fibre 400 x 400 mm on magnetic holder
- Scale bar transportation bag 1430

## Upgrade package

130873

## 3D Arena – 4 Cam Upgrade Package

Enlargement of existing 3D arena setups by 4 additional cameras.

Effort for engineering, installation, project management and documentation is additional and has to be offered separately (engineering depends on the project).

Includes:

- 4 3D Arena sensors
- 3D Arena carbon frame for 4 cameras
- 4 camera cables, 10 m, type 2023
- Syncbox-S for 3D Arena
- Transportation box for 3D Arena cameras with shock stop, for up to 4 cameras

# 3D Arena | Probing

The addition of handheld wireless probing to the 3D Arena concept allows for the fast and convenient measurement of hidden points that are positioned out of sight of the camera configuration. This allows for faster measurement processes with lesser need for repositioning of the measurement object to achieve full measurement coverage.



**Optical tracking system 3D Arena with selected numbers of high-resolution cameras on a carbon frame, includes:**

- 3D Arena sensors and 3D Arena carbon frame
- Syncbox-S for 3D Arena
- Accessory Package Retro Target Ø 15 mm
- Transportation boxes for 3D Arena cameras with shock stop, for up to 4 cameras
- Probe set (MI.Probing software is needed) with
  - MI.Probe handle and MI.Probe L400
  - MI.Probe Extender 200 mm, with probe tip length = 35mm, ruby sphere 5 mm, straight, incl. bayonet
  - Probe tip with bayonet ruby 5 mm, length = 100 mm, straight
  - Probe tip calibration tool with magnetic holder (calibration sphere not included)
  - 1.5" sphere for calibration tool (Ø 38,1 mm )
  - Bluetooth USB-adaptor LogiLink, range 100 m, 4.0 adaptor, class 1
  - Transportation box for 3D Arena Probing Set
- MoveInspect Pilot Base software, includes AICON 3D Studio Base software and AICON 3D Studio Viewer
- MoveInspect Pilot Probing and Pilot Tracking software
- 12 months Software Maintenance Agreement for MoveInspect Pilot 3D Arena
- HASP Dongle black license key

# 3D Arena | Probing

130870

## 3D Arena – 4 Cam Probing

For medium measuring volumes: 4 3D Arena sensors on 3D Arena carbon frame for 4 camera

Includes:

- 4 camera cables, 10 m, type 2023
- Calibration tool
  - Calibration scale bar 1000 Retro (DAkkS), without case
  - Reference cross Retro carbon fibre 400 x 400 mm on magnetic holder
- Scale bar transportation bag

130872

## 3D Arena – 16 Cam Probing

For medium measuring volumes: 16 3D Arena sensors on 3D Arena carbon frame for 16 camera

Includes:

- 16 camera cables, 10 m, type 2023
- Calibration tool
  - Scale bar 1430 retro/mounted, without calibration
  - Reference cross Retro carbon fibre 400 x 400 mm on magnetic holder
- Scale bar transportation bag 1430

## Upgrade package

130873

## 3D Arena – 4 Cam Upgrade Package

Enlargement of existing 3D arena setups by 4 additional cameras.

Effort for engineering, installation, project management and documentation is additional and has to be offered separately (engineering depends on the project).

Includes:

- 4 3D Arena sensors
- 3D Arena carbon frame for 4 cameras
- 4 camera cables, 10 m, type 2023
- Syncbox-S for 3D Arena
- Transportation box for 3D Arena cameras with shock stop, for up to 4 cameras



# Accessories for 3D Arena

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# Photogrammetry

130026

## DPA Industrial (Retro) add-on for 3D Arena

High-precision mobile photogrammetry system with certification, for measurement of single points

Includes:

- Photogrammetry C1 camera with transportation case and DAkkS calibration of an optical 3D measuring system according to VDI 2634 part 1
- Ring flash for DPA Industrial (for white and retro targets)
- Accessory Package 10-1430 Retro
  - 2 DPA scale bars 1430 Retro (DAkkS) type: 2020
  - Reference cross Retro carbon fibre 400 x 400 mm on magnetic holder
  - Targets 14bit code retro Ø1 = 10 mm no. 2-150 magnetic
  - Targets noncoded retro Ø1 = 10 mm Ø2 = 13 mm with ring, 5000 targets on roll
  - Scale bar transportation bag 1430
- AICON 3D Studio software modules DPA, Transform, Deform, Dynamic, Adaptor, Feature and Geometry
- DPA Pilot plug-in for inspection software packages
- Set of connection crosses Retro
- Extension set connection crosses Retro
- 12 months Software Maintenance Agreement for AICON 3D Studio



106011

## DPA Professional (Retro) add-on for 3D Arena (Retro)

High-precision mobile photogrammetry system with certification for capturing targets with the highest accuracy

Includes:

- High-end digital camera DPA with photogrammetry metric lens 28mm for Canon and DAkkS calibration of an optical 3D measuring system according to VDI 2634 part 1
- Transportation case for DPA high-end camera
- DPA scale bar 830 Retro (DAkkS) type: 2020 and DPA scale bar 1430 Retro (DAkkS) type: 2020 with scale bar transportation bag 1430
- AICON 3D Studio software module DPA, Transform, Defor, Adapter and Geometry
- DPA Pilot plug-in for inspection software packages
- 12 months Software Maintenance Agreement for AICON 3D Studio



109835

## Upgrade from DPA add-on to DPA Professional (stand alone version)

Includes:

- Dongle incl. carry over of existing DPA add-on license and DPA Pilot plug-in
- Software upgrade fee; not an additional license

# Probing accessories

109367

## **Probe set (MI.Probe software needed)**

Includes:

- MI.Probe handle and MI.Probe L400
- MI.Probe Extender 200 mm, with probe tip length = 35 mm, ruby sphere 5 mm, straight, incl. bayonet
- Probe tip with bayonet ruby 5 mm, length = 100 mm, straight
- Probe tip calibration tool with magnetic holder (calibration sphere not included)
- 1.5" sphere for calibration tool ( $\varnothing$  38,1 mm )
- Bluetooth USB adaptor LogiLink, range 100 m, 4.0 adaptor, class 1
- Transportation box 3D Arena Probing set



131041

## **MI.Probe handle WLAN**

MI.Probe controller with quick release trigger and function keys, WLAN connection (2.4 Ghz), automatic probe recognition, LED status display, rechargeable battery and charging cable



106139

## **MI.Probe L400**

Torsion free carbon fiber bar with retro targets and impact protection, exchangeable probe tip and bayonet (shaft 35 mm, ruby sphere  $\varnothing$  5 mm, straight), length 400 mm



109856

## **Probe tip extension 200 mm incl. full calibration**

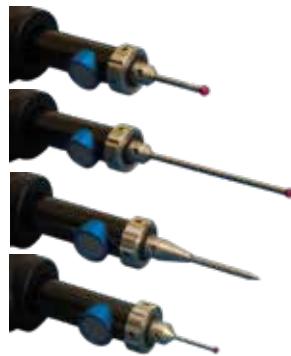


109369

## **Probe tip calibration tool with magnetic holder (calibration sphere not included)**

# Probing accessories

106246      **Probe tip with bayonet ruby 5 mm, length = 35 mm, straight**  
Shaft 35 mm, ruby sphere 5 mm diameter, straight



106251      **Probe tip with bayonet ruby 5 mm, length = 100 mm, straight**  
Shaft 100 mm, ruby sphere 5 mm diameter, straight

106256      **Probe tip with bayonet hard metal, length = 61 mm, straight**

106261      **Probe tip with bayonet ruby 3 mm, length = 35 mm, straight**  
Shaft 35 mm, ruby sphere 3 mm diameter, straight

107275      **Replacement probe tip with ruby sphere d = 5 mm, length = 35 mm, hard metal shaft**  
D = 11 mm, dk (diameter sphere) = 5, d1 = 3.5 mm, L = 35 mm, ML = 22 mm,  
without bayonet

107273      **Replacement probe tip with ruby d = 5 mm, length = 100 mm,  
hard metal shaft**

107259      **Bayonet connection**



# Targets

Retro, coded, permanent

107111	<b>Target 14 bit code retro Ø1 = 10 mm no. 2-75 permanent</b>
107112	<b>Target 14 bit code retro Ø1 = 10 mm no. 76-150 permanent</b>
106157	<b>Target 14 bit code retro Ø1 = 10 mm no. 2-150 permanent</b>
106160	<b>Target 14 bit code retro Ø1 = 10 mm no. 151-500 permanent</b>
106158	<b>Target 14 bit code retro Ø1 = 10 mm no. 2-500 permanent</b>
110641	<b>Target 14 bit code retro Ø1 = 15 mm no. 2-75 permanent</b>
110642	<b>Target 14 bit code retro Ø1 = 15 mm no. 76-150 permanent</b>
107043	<b>Target 14 bit code retro Ø1 = 15 mm no. 2-150 permanent</b>
110569	<b>Target 14 bit code retro Ø1 = 15 mm no. 151-500 permanent</b>
107044	<b>Target 14 bit code retro Ø1 = 15 mm no. 2-500 permanent</b>
106165	<b>Target 14 bit code retro Ø1 = 20 mm no. 2-150 permanent</b>
106166	<b>Target 14 bit code retro Ø1 = 20 mm no. 2-500 permanent</b>
111355	<b>Target 14 bit code retro Ø1 = 20 mm no. 151-500 permanent</b>



All permanent targets are made of High Gain 7610 material, temperature resistance from 15°C (+59°F) to 65°C (+149°F).

Depending on the configuration of your 3D Arena system, we recommend a target size of  $\text{Ø1} \geq 15 \text{ mm}$ .

# Targets

## Retro, coded, magnetic

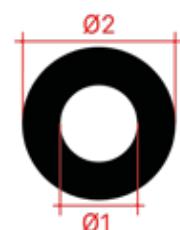
- 106194      **Target 14 bit code retro Ø1 = 10 mm no. 2-75 magnetic**
- 111269      **Target 14 bit code retro Ø1 = 10 mm no. 76-150 magnetic**
- 106195      **Target 14 bit code retro Ø1 = 10 mm no. 2-150 magnetic**
- 111271      **Target 14 bit code retro Ø1 = 10 mm no. 151-500 magnetic**
- 106196      **Target 14 bit code retro Ø1 = 10 mm no. 2-500 magnetic**
- 111274      **Target 14 bit code retro Ø1 = 15 mm no. 2-75 magnetic**
- 111275      **Target 14 bit code retro Ø1 = 15 mm no. 76-150 magnetic**
- 111277      **Target 14 bit code retro Ø1 = 15 mm no. 151-500 magnetic**
- 110825      **Target 14 bit code retro Ø1 = 15 mm no. 2-150 magnetic**



Depending on the configuration of your 3D Arena system, we recommend a target size of  $\text{Ø1} \geq 15 \text{ mm}$ .

## Retro, noncoded

- 107127      **Target noncoded retro Ø1 = 10 mm Ø2 = 13 mm with ring, 5000 targets on roll**
- 107126      **Target noncoded retro Ø1 = 10 mm with center dot, 1200 targets**  
Significant price saving when buying 4 units
- 107128      **Target noncoded retro Ø1 = 15 mm Ø2 = 20 mm with ring, 1000 targets on roll**
- 107130      **Target noncoded retro Ø1 = 20 mm Ø2 = 27 mm with ring, 5000 targets on roll**



Depending on the configuration of your 3D Arena system, we recommend a target size of  $\text{Ø1} \geq 15 \text{ mm}$ .

# Other accessories

106127

## Accessory Package Retro Target Ø 10mm

Includes:

- Targets 14bit code retro Ø1 = 10 mm no. 2-75 magnetic
- Targets 14bit code retro Ø1 = 10 mm no. 76-150 permanent
- Targets noncoded retro Ø1 = 10 mm Ø2 = 13 mm with ring, 1000 targets



106131

## Calibration tool

Carbon fibre scale bar with 40 mm diameter, length 1000 mm with magnetic holder, DAkkS certificate, 2 pin targets, 2 pin targets 90° and a reference cross carbon fibre 400 x 400 mm on magnetic holder (without certificate)



109365

## Calibration scale bar 1000 Retro (DAkkS) without case



108305

## 1.5" sphere for calibration tool (Ø 38,1mm)

Sphere: accuracy +/- 2,5µ



106092

## Reference cross Retro carbon fibre 400 x 400 mm on magnetic holder

Orientation tool for automatic calculation; material carbon fibre, 400 x 400 mm, 5 coded targets 10 mm; weight: approx. 280g, without certificate



131673

## Syncbox-S , type 2023

Synchronisation for up to 4 3D Arena cameras, external trigger: external clock signal, TTL/CMOS standard, for automated initiation of measurements, power supply AC 85-240 V including power cable and network cable with plug protection



110306

## Target set dynamic reference with magnetic holders

Includes:

- 6 rotating targets uncoded retro 16 mm
- 6 rotating targets 14 bit code retro 10 mm
- Accessory box black for 3D Arena



106447

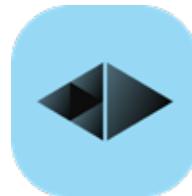
## Emergency Dongle

Valid 14 days after first activation, only valid in case of problems with original dongle, can be reactivated

X	-0,0629
Y	0,0477
Z	0,0000
d	0,0790

# **Application software for 3D Arena**

# Application software



106042

## **MoveInspect Pilot Base software**

Includes also AICON 3D Studio Base software and AICON 3D Studio Viewer with

- Project administration
- Parameterisation of cameras
- Calibration of cameras
- Easy determination of reference system points
- Acquisition and preview mode
- Acquisition modes: offline, online, real-time
- Optional: modules probing and tracking as well as import of image sequences

106043

## **MoveInspect Pilot Probing software**

Communication with MI.Probe, probe tip calculation (MoveInspect Pilot Base software required)

106044

## **MoveInspect Pilot Tracking software**

Session control plus add-on to use external image sequences, real time output, free LabView viewer (MoveInspect Pilot Base software required)

106045

## **MoveInspect Pilot postprocessing software package**

MoveInspect Pilot Base and Tracking software required, includes also AICON 3D Studio software modules Transform , Deform , Dynamic and Adaptor

111004

## **MoveInspect Pilot update for 3D Arena systems**

Software update from all older versions to the current version. Support and dongle loss protection are not included.

111081

## **MoveInspect Pilot update for 3D Arena with DPA add-on systems**

Software update from all older versions to the current version. Support and dongle loss protection are not included.

# Application software



All SMAs include:

- E-Mail and phone support
- Dongle-loss protection
- All software updates and upgrades for released within the contract period

106364      **1Y-SMA for MoveInspect Pilot 3D Arena**

110269      **1Y-SMA for MoveInspect Pilot 3D Arena and DPA add-on**

Significant discount when ordering SMA for 3 years

Full payment of SMA is to be made at the beginning of the contract period. Maintenance for third-party inspection software is not included in SMA.



# Warranty and maintenance

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# Hardware maintenance

As with all metrology devices, regular maintenance is an important part of long-term quality management. Saving on regular maintenance can result in loss of time and money, whether caused by reduced system performance or the cost of single-intervention repairs to avoid prolonged machine downtime.

## **Hardware maintenance 3D Arena**

On-site hardware maintenance for XR cameras plus syncbox incl. a complete function test. If available, maintenance of MI.Probe, MI.Probe handle, calibration scale bar (DAkkS) and recalibration (reference point field up to 4x4m with DPA) are included. Excl. software maintenance, travel and travel expenses

109579      **Hardware maintenance 3D Arena with max. 4 cameras**

109581      **Hardware maintenance 3D Arena with max. 16 cameras**

106370      **Hardware maintenance MI.Probe handle**

Including battery exchange, maintenance to be performed at Hexagon Braunschweig excl. packing and shipping costs

106371      **Hardware maintenance MI.Probe incl. recalibration**

Including marker exchange and factory calibration, calibration of a probe tip, maintenance to be performed at Hexagon Braunschweig excl. packaging and shipping costs

# Training

106407      **Training Photogrammetry products**

At Photogrammetry factory in Braunschweig, Germany, for max. 3 participants, incl. training material, also applicable for remote online training, unit = 1 day, during normal working hours;  
For an on-site training we charge an additional travel service fee

# Factory calibration and recalibration

106369

**Factory calibration of a calibration bar without calibration cross**

Factory calibration by Hexagon Braunschweig

109154

**Recalibration of a calibration bar without calibration cross**

Includes certificate from German Calibration Service (DAkkS) (Main distance only), factory calibration of 90° target distance

## Spare parts

131200

**Camera cable 10 m, type 2023**

Lemo plug both ends



131201

**Camera cable 5 m, type 2023**

Lemo plug both ends

106123

**Syncbox connection cable BNC (trigger)**

## Transportation

109275

**Transportation box Probing Set**

Lemo plug both ends



109898

**Scale bar transportation bag for Scale bar 1000 and DPA scale bar 830**


107198

**Scale bar transportation bag 1430**

For up to 3 scale bars

# Warranty plan renewals

111401

## **1 Year Warranty Extension for 3D Arena systems with max. 4 cameras**

Warranty extension on 3D Arena components by one year (max. 1 year additionally)

130288

## **1 Year Warranty Extension for 3D Arena systems with max. 16 cameras**

Warranty extension on 3D Arena components by one year (max. 1 year additionally)

- Extended warranty is issued for all repair work or replacement of components caused despite system conform handling and usage.
- An extended warranty is not issued in case of careless handling, damage caused by accident, improper transport, inadequate packaging and intentional destruction of the system or parts thereof.
- Consumable components, such as targets, are not covered by the warranty.
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# Warranty plan conditions

## Standard manufacturer warranty plan

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1. Repair of manufacturing defects on all delivered 3D Arena components.
2. The warranty of one (1) year is valid also without service check after 1 year.
3. Customer assumes all shipping costs.
4. Telephone and e-mail technical support is part of the SMA maintenance and each system will be delivered with 12 months SMA (Software maintenance agreement).

## Renewal of standard manufacturer warranty plan

The Photogrammetry factory offers 1-year warranty extensions for standalone 3D Arena products. To be eligible for a warranty extension, the customer must order it either with the instrument or before the existing warranty plan expires.

Extensions do not cover adaptors, computers or other accessories.

The standard factory warranty extensions for instruments have the following terms and conditions :

1. Replacement or repair, at Photogrammetry factory's option, free of charge, of any component or parts of the 3D Arena products which, upon examination, are found defective in workmanship or material.
2. Any required repairs not covered by the warranty plan extension are extra.
3. The 3D Arena product must be returned to the Photogrammetry factory or an authorized and certified Service Centre by Hexagon Manufacturing Intelligence if a repair, calibration, or certification needs to be performed.
4. Customer assumes all shipping costs.
5. Telephone and e-mail technical support for software is part of the SMA software maintenance agreement and is sold extra.

World-class service made simple

# Customer Care Packages



Owners of Hexagon products featured in this catalogue have the opportunity to invest in a Customer Care Package – a standardised after-sale service package designed to ensure equipment remains in top condition and can be relied upon for accurate measurement results.

- Maintenance and warranty plans that ensure top equipment availability
- Trouble-free usage and minimal downtime
- Preferred hotline access at no additional cost
- Access to professional advice whenever it's needed

Customer Care Packages include a selection of the following benefits, depending on the tier chosen.

- Planned annual service
- Customer hardware support
- Software support and software updates\*
- Annual maintenance and recertification
- Remote connected assistance
- Repair parts and labour\*\*
- Customised local benefits

For complete details of the benefits of each level of Customer Care Package, please contact a local Hexagon representative.

\* Photogrammetry product line software (plug-ins, drivers, etc.) only

\*\* Excludes cables, consumable items, computers and other peripheral hardware. Repair parts and labour are not issued in case of careless handling, damage caused by accident, improper transport, inadequate packaging and intentional destruction of the system or parts thereof.

# Customer Care Packages

	Platinum	Gold	Silver	Bronze
Planned annual service	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Customer hardware support	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Software support and software updates	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-
Annual maintenance and recertification	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-
Remote connected assistance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-
Repair parts and labour	<input checked="" type="checkbox"/>	-	-	-
Local customised benefits	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

For further information about Bronze, Silver, Gold and Platinum service contracts, please contact a local Hexagon representative.

# Service and support

## World-class products to rely on

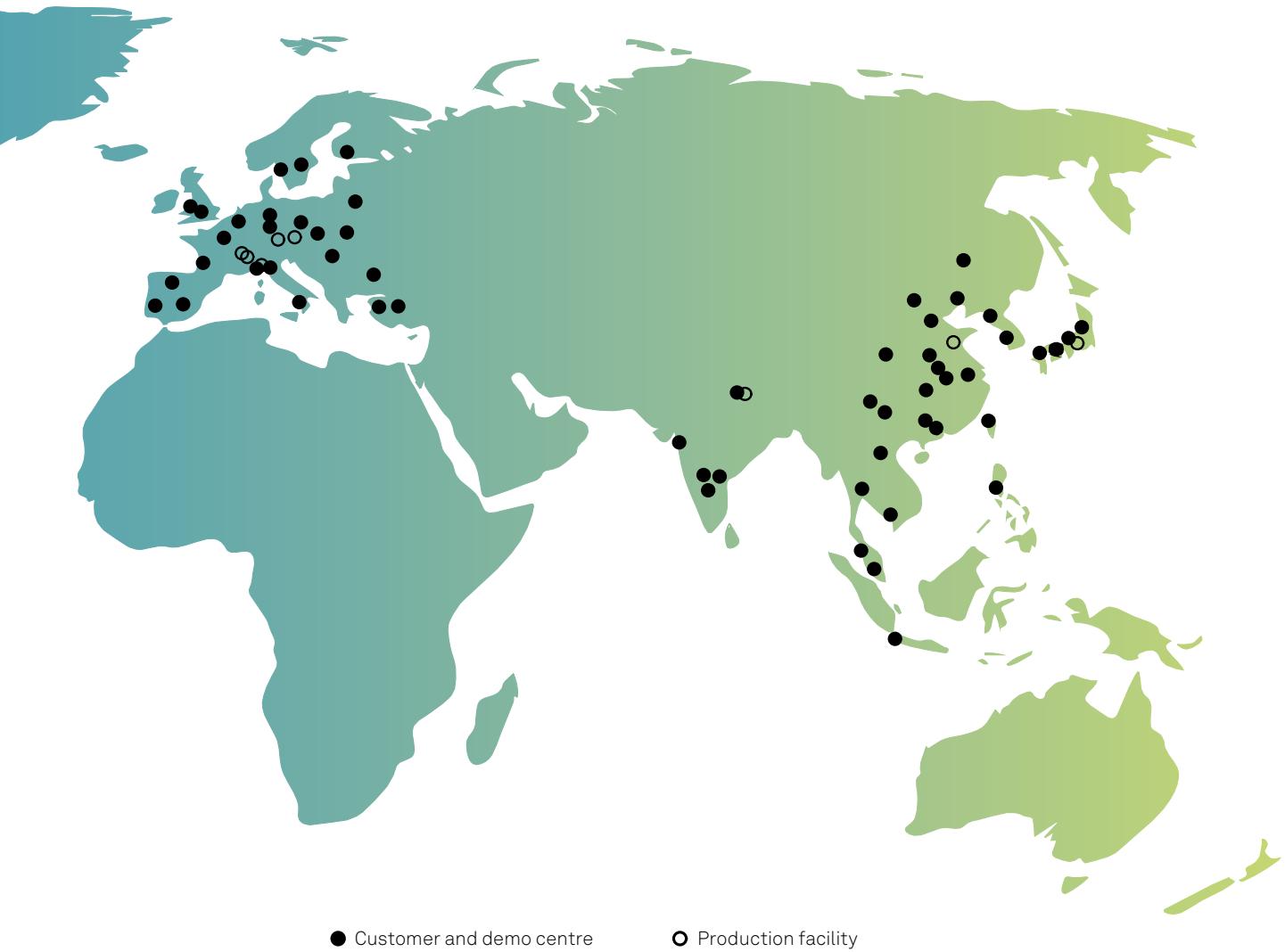
Drawing on decades of research and development experience, photogrammetry and structured light technology from Hexagon's Manufacturing Intelligence division is built on a long history of outperforming technological innovation. Deriving quality from experience to drive productivity is what keeps Hexagon in front and able to deliver first-class solutions for industries around the world.

Along with the assurance of five years of serviceability, owners of Hexagon photogrammetry and structured light technology systems benefit from a minimum 12-month factory warranty as standard – our guarantee that our technology will always meet the needs of our users.



## World-class support delivered locally

The international presence of Hexagon guarantees comprehensive aftersales support and services across the globe. With the largest dedicated service team of any metrology equipment manufacturer and an emphasis on locally delivered solutions, Hexagon is unmatched from service, repair, certification and calibration through operator training and software maintenance and upgrades.





Hexagon is a global leader in digital reality solutions, combining sensor, software and autonomous technologies. We are putting data to work to boost efficiency, productivity, quality and safety across industrial, manufacturing, infrastructure, public sector, and mobility applications.

Our technologies are shaping production and people-related ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

Hexagon's Manufacturing Intelligence division provides solutions that use data from design and engineering, production and metrology to make manufacturing smarter.

Learn more about Hexagon (Nasdaq Stockholm: HEXA B) at [hexagon.com](https://hexagon.com) and follow us [@HexagonAB](https://twitter.com/HexagonAB).