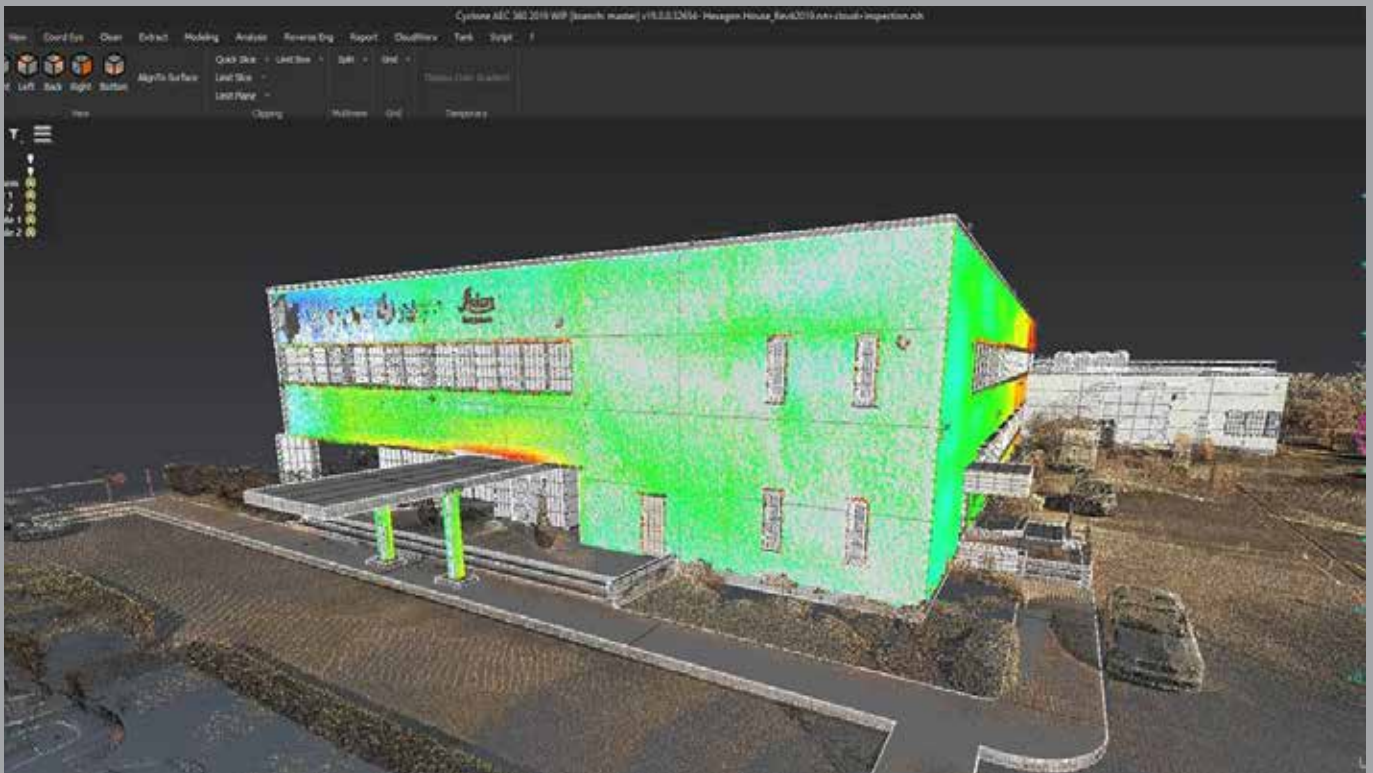


Leica Cyclone 3DR Technical Specifications



Valid as of January 2021

leica-geosystems.com



- when it has to be **right**

Leica
Geosystems

PART OF
HEXAGON

Leica Cyclone 3DR Technical Specifications

FEATURE	STANDARD (BASE)	SURVEY (OPTION)	AEC (OPTION)	TANK (OPTION)	PRO (EDITION)
POINT CLOUD PROCESSING					
Noise detection	◆				◆
Clean/Separate clouds by fence	◆				◆
Separate with object	◆				◆
Reduce	◆				◆
Density homogenisation	◆				◆
Segmentation (by distance, scan station and colour)	◆				◆
Target extraction	◆				◆
Ground extractor filter		◆			◆
Walls and floors filter		◆	◆		◆
Tunnel filter		◆	◆		◆
CLOUDWORX					
Connect to Cyclone IMP, LGS and JetStream server	◆				◆
Create UCS and align views	◆				◆
Create and manage limit boxes, limit slices and limit planes	◆				◆
COORDINATE SYSTEMS					
Local coordinate systems	◆				◆
Translation, rotation, free move	◆				◆
Best align N points	◆				◆
Best fit	◆				◆
SURFACE MODELLING					
3D meshing	◆				◆
Spherical meshing	◆				◆
2D meshing	◆				◆
Mesh refining: smoothing, decimation, hole filling sharp, edges and borders reconstruction, junctions, cut mesh, inspection steps, subdivide	◆				◆
Mesh extrusion	◆				◆
Mesh convex hull	◆				◆
Meshing under constraints (with polylines)	◆				◆
Spikes detection	◆				◆
Write on mesh	◆				◆
DSM and DTM creation		◆			◆
Building extraction		◆	◆		◆
CONTROL/INSPECTION/ANALYSIS					
Angle, distance, surface	◆				◆
Cubature/volume	◆				◆
Geometric shape extraction	◆				◆
3D inspection	◆				◆
2D inspection	◆				◆
Reporting (CSV, PDF and 3DPDF)	◆				◆
Stockpile measurement		◆			◆
Cross-sections for tunnels and roads (creation, inspection, volumes, unroll)		◆	◆		◆
Surface analysis (levelness, flatness, slope)		◆	◆		◆
Clash analysis			◆		◆

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POLYLINES/SECTION/EXTRACT					
Sections (planar, radial, etc.)	◆				◆
Smoothing	◆				◆
Decimation	◆				◆
Chaining	◆				◆
Neutral axis extraction	◆				◆
Breakline extraction (single)	◆				◆
Planar contour extraction	◆				◆
Contour lines		◆			◆
Breakline extraction (multiple)		◆			◆
Polyline edition (stretch, edit, resample, replace...)	◆				◆
Scan to Plan			◆		◆

IMAGE/TEXTURE MANAGEMENT					
Conversion between inspected or coloured mesh to textured mesh		◆			◆
Automatic and manual mapping of pin hole, cube faces and spherical images		◆			◆
Automatic and manual mapping of ortho-images		◆			◆
Camera calibration		◆			◆
Take colours from cloud	◆				◆
Creation of texture atlas		◆			◆
Ortho-image (including georeferencing information as Word file)		◆			◆
Texture edition (adjust, explode, remove)		◆			◆
Texture from material		◆			◆

REVERSE ENGINEERING					
IGES, STEP and DXF import	◆				◆
REVIT, IFC and DWG import			◆		◆
CAD Surface creation			◆		◆
Local or overall surface improvements			◆		◆
Reverse engineering workflow (creation and edition of networks, CAD surface generation based on networks, manage overlapped surface)			◆		◆
IGES/STEP export (geometrical shapes and existing CAD model)	◆				◆
Support of measuring arm with RDS			◆		◆

TANK MONITORING MODULE					
3D inspection				◆	
Roundness and verticality				◆	
Settlements				◆	
Export and reporting				◆	

USER INTERFACE					
Orthographic and perspective view	◆				◆
Multiview	◆				◆
Tree explorer	◆				◆
AutoSaves	◆				◆
Limit box, limit planed and limit slices	◆				◆
Grid	◆				◆
Shortcuts	◆				◆
Send to/Send from AutoCAD	◆				◆

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Send to/Send from Hexagon MinePlan	◆				◆
Localisation	◆				◆
Cyclone camera	◆				◆
Unit management	◆				◆

AUTOMATION

Scripting	◆				◆
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POINT CLOUD IMPORT FORMATS

Leica Geosystems (*.pts, *.ptx) and LGS (*.lgs)	◆				◆
Leica Nova M550/60 (*.sdb, *.xml)	◆				◆
ShapeGrabber (*.3pi)	◆				◆
3DReshaper binary file (*.nsd)	◆				◆
AutoDesk DXF (*.dxf)	◆				◆
STL (*.stl)	◆				◆
Polyworks (*.psl)	◆				◆
Leica T-Scan + Steinbichler (*.ac)	◆				◆
LiDAR data (*.las; laz)	◆				◆
Other ASCII (*.*)	◆				◆
Zoller and Fröhlich (*.zfs - *.zfc)	◆				◆
PLY points without triangles (*.ply)	◆				◆
ESRI ASCII (raster format *.asc)	◆				◆
FARO (*.fls - *.fws)	◆				◆
POLYWORKS (*.psl)	◆				◆
E57 (*.E57 files)	◆				◆
LandXML files (*.xml)	◆				◆
DOT Products (*.dpl)	◆				◆
RDBX	◆				◆

MESH IMPORT FORMATS

STL format (*.stl)	◆				◆
Binary PBI format (*.pbi)	◆				◆
DXF 3Dface format (*.dxf)	◆				◆
ASCII POLY format (*.poly)	◆				◆
OBJ format (*.obj)	◆				◆
ASCII Leica format (*.msh)	◆				◆
VRML files (*.wrl / *.vrml / *.iv)	◆				◆
OFF files (*.off)	◆				◆
PLY (*.ply)	◆				◆

CONTOUR/SECTION IMPORT FORMATS

IGES format	◆				◆
DXF polyline format	◆				◆
Binary MLI format (*.mli)	◆				◆

CAD MODEL IMPORT FORMATS

IGES	◆				◆
STEP	◆				◆
DWG			◆		◆

BIM MODEL IMPORT FORMATS

IFC			◆		◆
RVT			◆		◆

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PROJECT FILES - IMPORT					
RESHAPER (*.rsh)	◆				◆
DXF	◆				◆
XML	◆				◆
Cyclone MSView and JetStream database through the CloudWorx plugin	◆				◆

POINT CLOUD EXPORT FORMATS					
ASCII FILES (*.asc, *.csv...)	◆				◆
Binary files (*.nsd)	◆				◆
Leica Geosystems (*.pts, *.ptx)	◆				◆
E57 (*.e57)	◆				◆
IGES (*.igs)	◆				◆
LAS (*.las)	◆				◆
LAZ (*.laz)	◆				◆
AutoDesk DXF (*.dxf)	◆				◆

MESH EXPORT FORMATS					
ASCII and binary STL format (*.stl)	◆				◆
Binary PBI format (*.pbi)	◆				◆
DXF 3Dface format (*.dxf)	◆				◆
ASCII POLY format (*.poly)	◆				◆
Vertices only (*.asc)	◆				◆
DXF polyline (*.dxf)	◆				◆
STEP file (*.stp)	◆				◆
ASCII Leica format (*.msh)	◆				◆
VRML 2 (*.wrl / *.vml / *.iv)	◆				◆
PLY (*.ply)	◆				◆
LandXML (*.xml)	◆				◆
OBJ format (*.obj)	◆				◆

CONTOUR/SECTION EXPORT FORMATS					
IGES format	◆				◆
DXF polyline format	◆				◆
Binary MLI format (*.mli)	◆				◆
ASCII formats	◆				◆

CAD MODEL EXPORT FORMATS					
IGES (geometrical shapes and existing CAD model)	◆				◆
STEP (geometrical shapes and existing CAD model)	◆				◆
Image export format	◆				◆
Ortho-image including georeferencing information as World file	◆				◆

PROJECT FILES - EXPORT					
RESHAPER (*.rsh)	◆				◆
DXF	◆				◆
PDF 3D	◆				◆
SKETCHFAB	◆				◆
Animation - Video	◆				◆

Recommended Specifications

Processor	2 GHz Dual Quad Core i7 processor or better
RAM	Minimum 16 GB or more for 64 bit OS
Hard Disk	1 GB free disk space
Graphic Card	NVidia – Quadro or GeForce 1GB (with OpenGL support, versions 4.3 or higher)
Operating System	Microsoft Windows® 7 – 8 – 10 (64 bits supported)

Edition Components

Cyclone 3DR Survey Edition	Cyclone 3DR Standard Cyclone 3DR Survey Option
Cyclone 3DR AEC Edition	Cyclone 3DR Standard Cyclone 3DR AEC Option
Cyclone 3DR Tank Edition	Cyclone 3DR Standard Cyclone 3DR Tank Option
Cyclone 3DR Pro Edition	Cyclone 3DR Standard Cyclone 3DR Survey Option Cyclone 3DR AEC Option

Customer Care Package (CCP) Information

Cyclone 2021	January 25, 2021
Cyclone REGISTER 360 2021	January 25, 2021

Revolutionising the world of measurement and survey for nearly 200 years, Leica Geosystems, part of Hexagon, creates complete solutions for professionals across the planet. Known for premium products and innovative solution development, professionals in a diverse mix of industries, such as aerospace and defence, safety and security, construction, and manufacturing, trust Leica Geosystems for all their geospatial needs. With precise and accurate instruments, sophisticated software, and trusted services, Leica Geosystems delivers value every day to those shaping the future of our world.

Hexagon is a global leader in sensor, software and autonomous solutions. We are putting data to work to boost efficiency, productivity, and quality across industrial, manufacturing, infrastructure, safety, and mobility applications. Our technologies are shaping urban and production ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

Hexagon (Nasdaq Stockholm: HEXA B) has approximately 20,000 employees in 50 countries and net sales of approximately 3.8bn EUR. Learn more at [hexagon.com](https://www.hexagon.com) and follow us [@HexagonAB](https://twitter.com/HexagonAB).

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