Leica 3D Disto

Tutorial
Pool Covers

PART OF HEXAGON

- when it has to be **right**

Leica Geosystems

Pool Covers

What do you need to know?

The complete area for the pool cover – Width, length, area, curves, steps, cut outs.

Current methods:
Measurements using a roller tape or a steel rule have to be carried out, in some cases where shapes are irregular a template has to be made and then taken back for fitting. The measurements have to be inputted in a CAD software to be designed. These then have to be taken back to the site for checking. A mistake with the measurement or a figure inputted wrong can be costly.

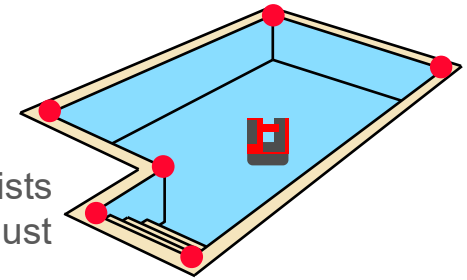
In this tutorial we will show you how the Leica 3D Disto will save you time and money and reduce the amount of workflow during the process.

Pool Covers

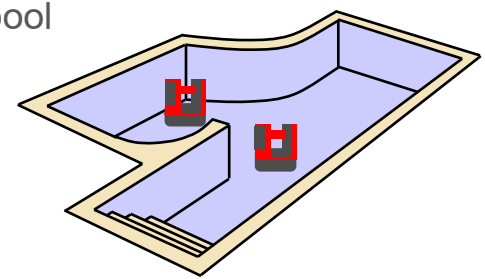
What kind of pool?

The tutorial handles different workflows, depending on the pool's geometry:

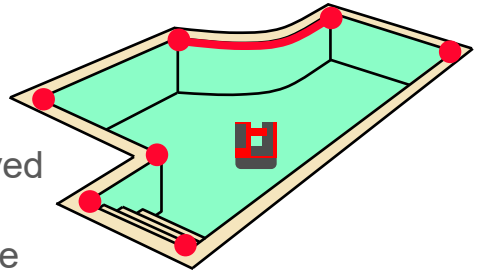
Straight:
The pool's outline consists of straight lines → you just need to measure the corners



Large:
You need to change the 3D Disto's position to reach all points of a large pool



Curves:
The outline is curved → you need to measure the shape



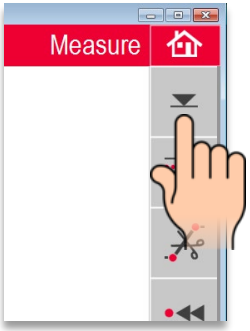
Pool Covers

Setup

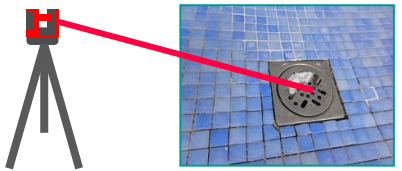
Step 1:

Set your 3D Disto unit on a flat surface or a tripod. Try and ensure that you can see all of the surface that you need to measure.

Measure a height reference, e. g. the floor drain as zero-level →



Reference height = 0.000



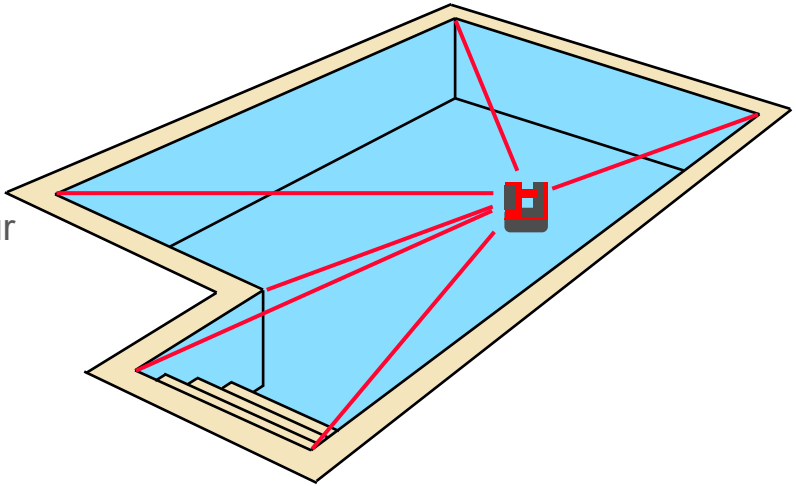
Pool Covers

Measuring straight outlines

3 minutes

Step 2:
Measure corners and other points of interest. Use the live-cam-Pointfinder to target. All data is stored three-dimensional.

Ready?
Save the measurement and press the File Manager's EXPORT key to generate a 1:1 DXF file. It will fit to your preferred CAD system.



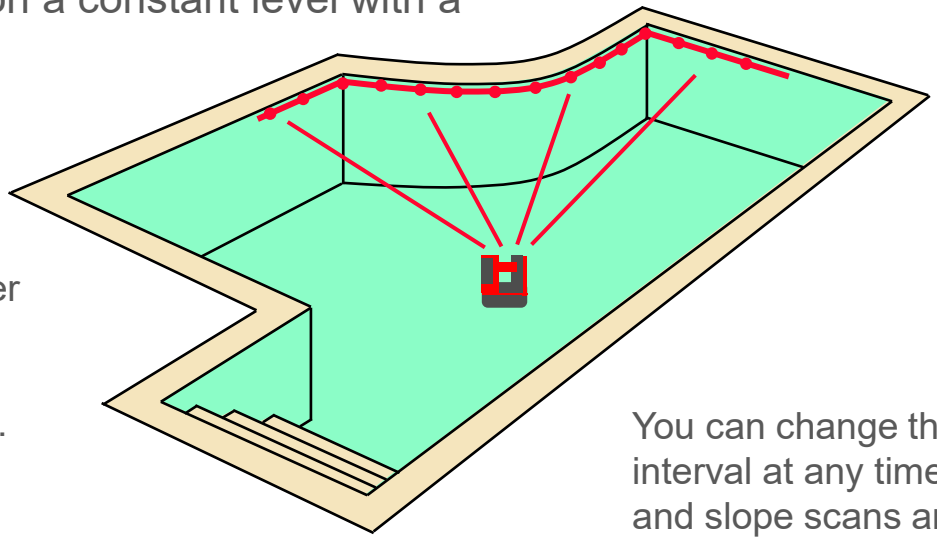
Not yet? You want to scan?
Then go on with step 3 before you export the measurements.

Pool Covers

Measuring a curved outline

If the pool has a curved outline you can easily measure the shape using the scan functions. The 3D Disto automatically measures points on a constant level with a fix spacing.

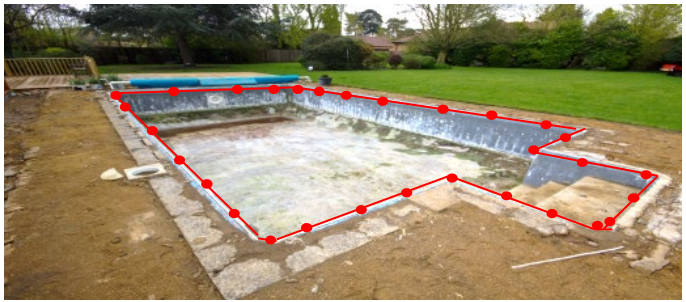
Scanning is also possible at straight pools. It takes a longer time and you get much more data than necessary but you can do other work meanwhile.



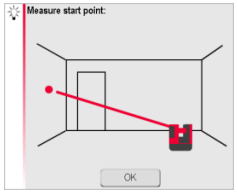
You can change the scan interval at any time. Vertical and slope scans are optional.

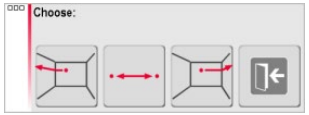
Pool Covers

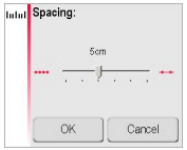
Measuring a curved outline



You want to measure around an inch below the top of the pool line. Follow this procedure:







Step 3:
Choose a horizontal scan.

Measure your start point, choose scan direction left or right.

Choose the units that you wish to scan in. On the longer straighter lengths then 50 cm is ideal. Switch to smaller intervals for details.

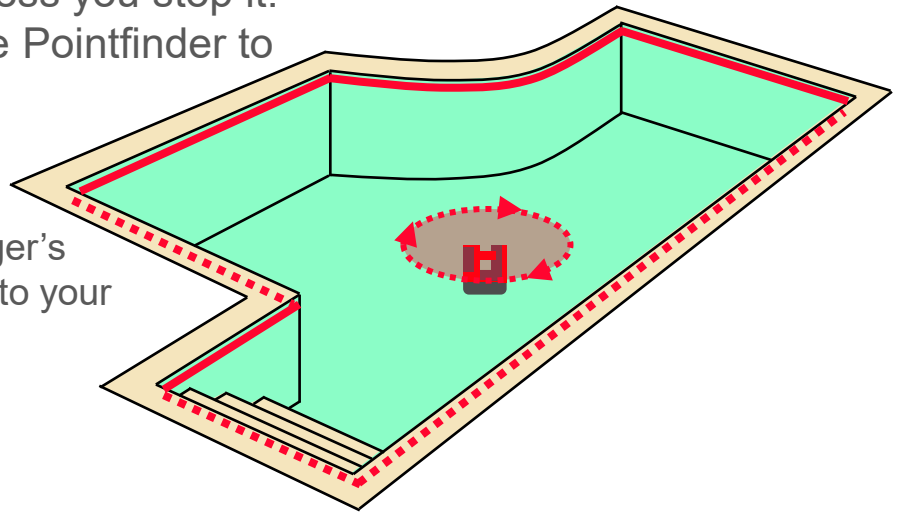
Via BREAK key you can change the scan interval at any time to measure intricate parts of the pool area.

Pool Covers

Measuring a curved outline

10 minutes

The 3D Disto now makes a 360° scan unless you stop it. Make as much scans as necessary, use the Pointfinder to measure singular points and edges.



Ready?

Save the measurement and press the File Manager's EXPORT key to generate a 1:1 DXF file. It will fit to your preferred CAD system.

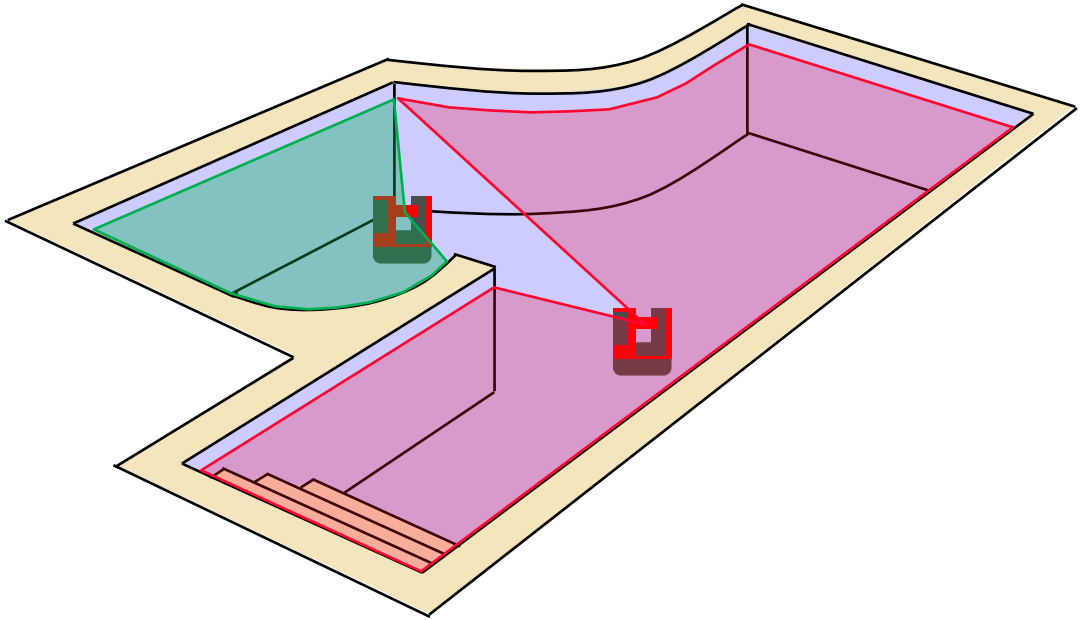
Not yet? You need to change the 3D Disto's position?

Then go on with step 4 before you export the measurements.

Pool Covers

Relocation

With complex shapes you will need to secure your location and relocate to measure all of the pool area.



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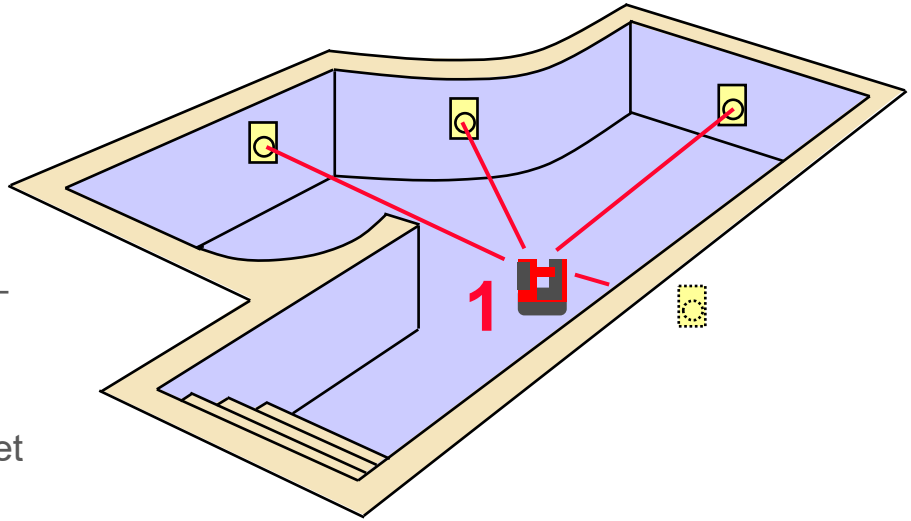
Relocation

You have measured all accessible points and you want to change the 3D Disto's position to continue. Follow this procedure:



Step 4:

Before you change the position, select "Menu" – "Application" –"Location" – "Secure Location"

Mark and measure 3-5 points. These should be objects that will not move; you can use the target stickers provided in the box or just make some marks with a permanent pen.

Pool Covers

Relocation

15 minutes

Change the 3D Disto's position.

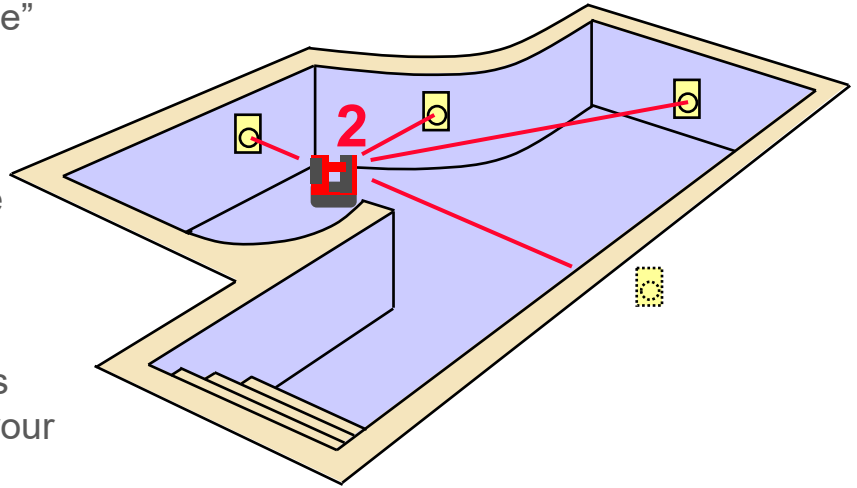
Select "Menu" – "Application" – "Location" – "Relocate"

Measure the same points again.

Now you can continue your measurements or start more scans. For further relocations proceed like before.

Ready!

Save the measurement and press the File Manager's EXPORT key to generate a 1:1 DXF file. It will fit to your preferred CAD system.



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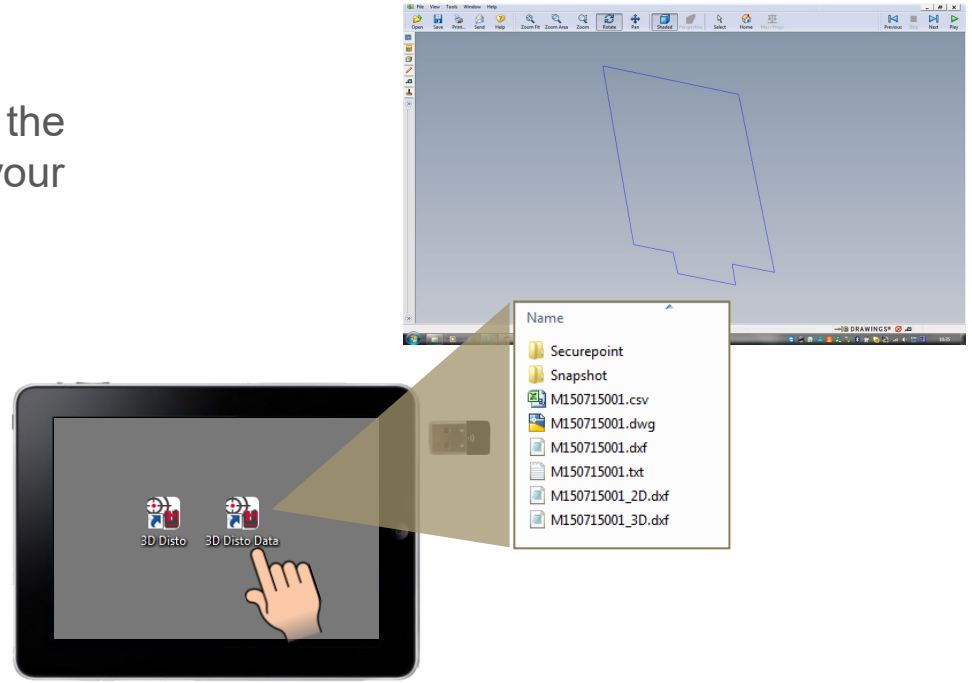
Post processing

Step 5:

Copy the export data from the folder on your desktop to your CAD system.



Pool Covers

Manufacturing

Step 6:

You will then send your measurements to the manufacturer for cutting of the pool cover.

Once complete your pool cover can be fitted and will fit accurately 100% every time.

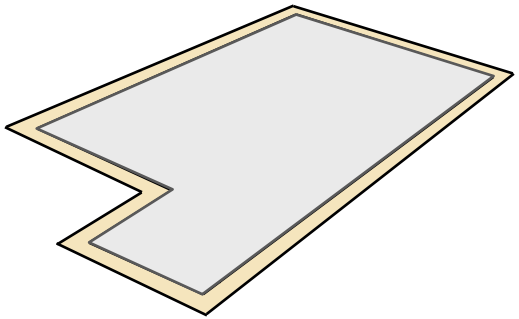
Four to six easy steps to saving time and money and cutting down the workflow enabling a faster and more efficient process.

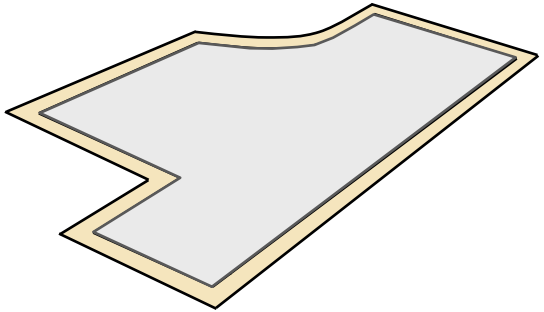
Pool Covers

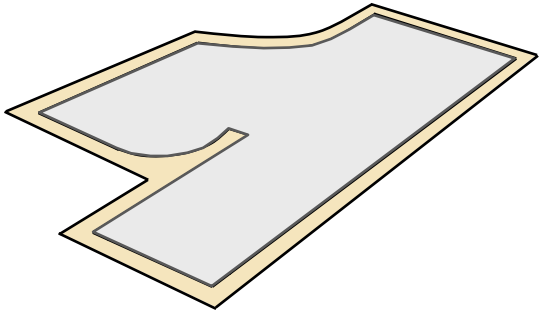
Finish

Step 7 – The finished product:

The pool cover is now installed and is a perfect fit.







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