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Profile Importer 8.0

1. Information

1.1 Special Indications

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Validity

This document is wholly valid errors and omissions excepted.

1.3 Release

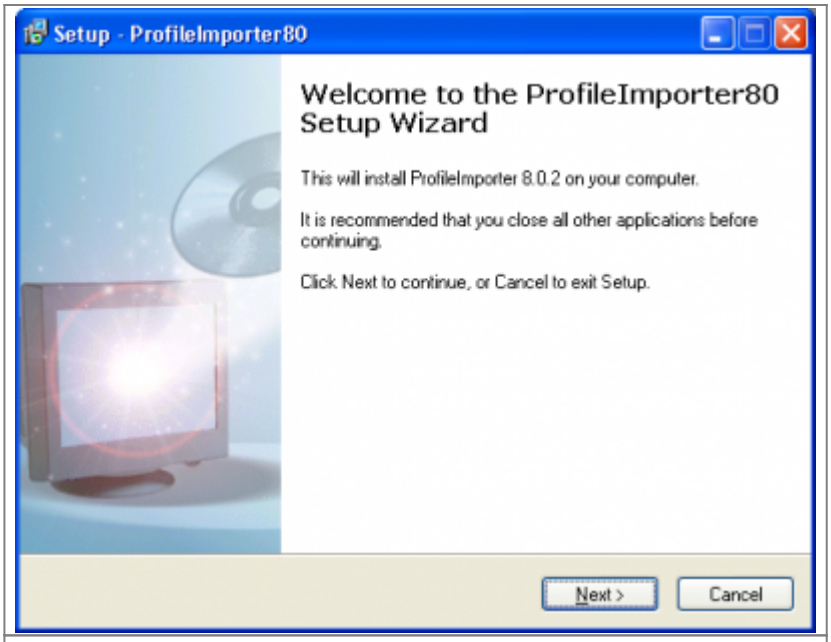
Product version	Manual release	Description	Data
8.0.1	0	New manual.	18/05/11

2. Introduction

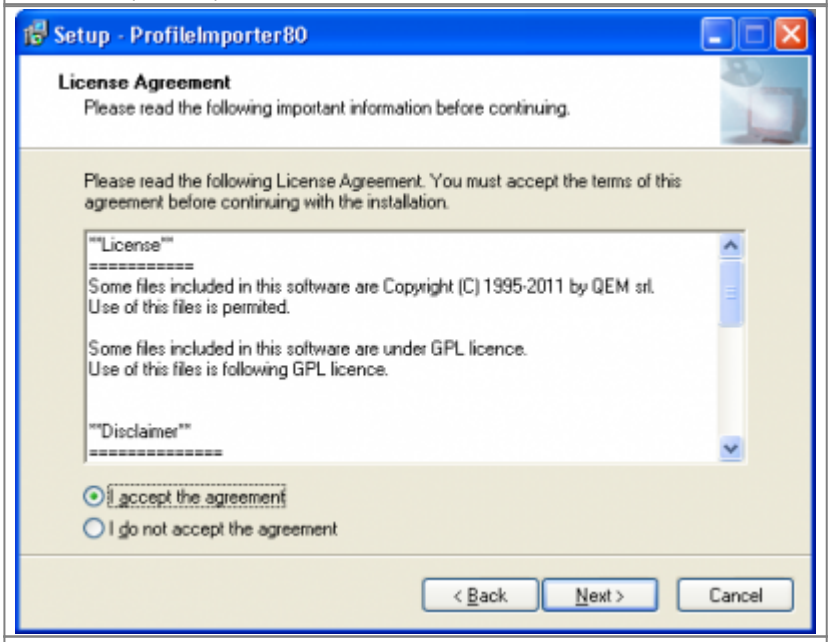
This document contains information on installation and use of Profile Importer 8. This application allows 2D geometry and profile import from DXF files. Drawing data is then transferred to the application or saved in a .CSV file.

3. Installation

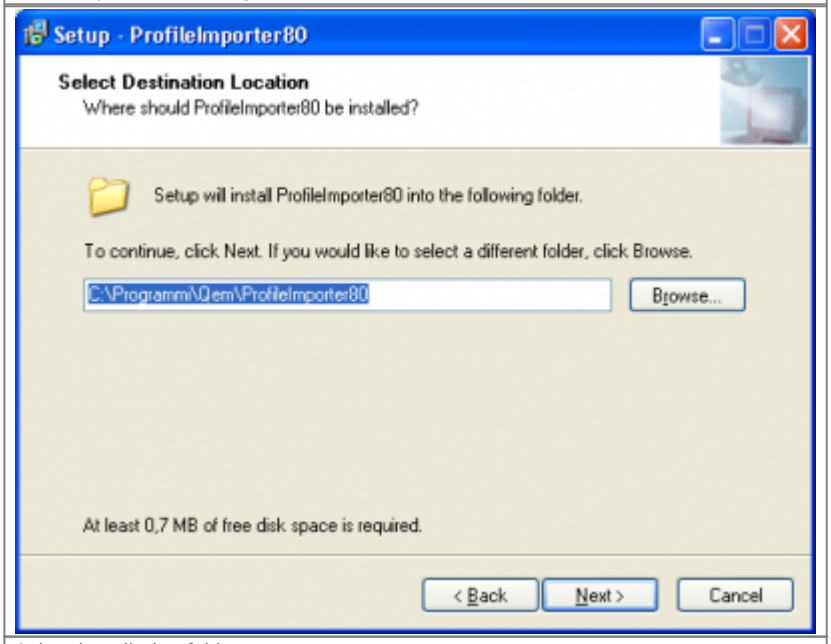
ProfilleImporter-8 is deliver with a installation CD. To install insert the CD into CDROM reader (if autoplay function is active) or start manually the “ProfileImporter-8.0.1.exe” file. This start an installation wizard that guide into installation procedure. Here are the installation screen shot:



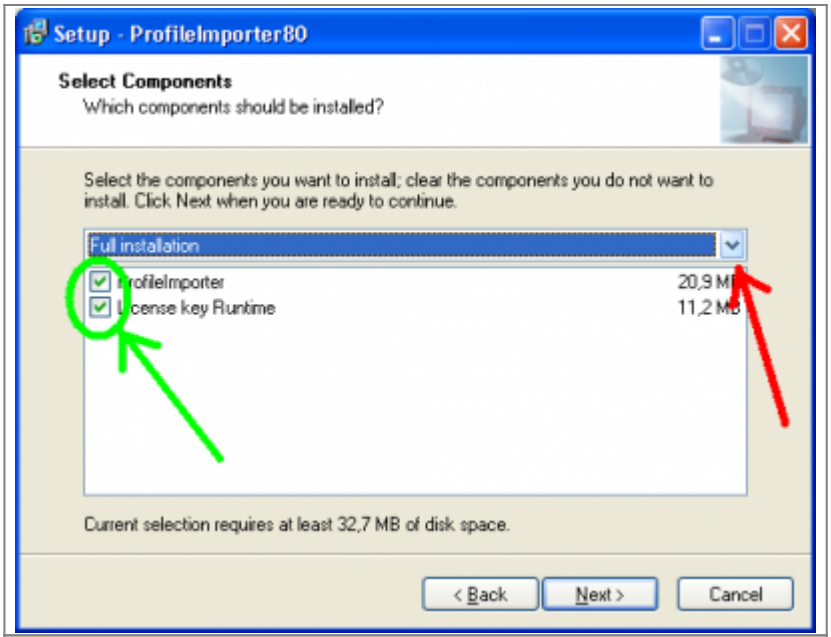
Welcome to profileimporter installation



Profileimporter license agreement

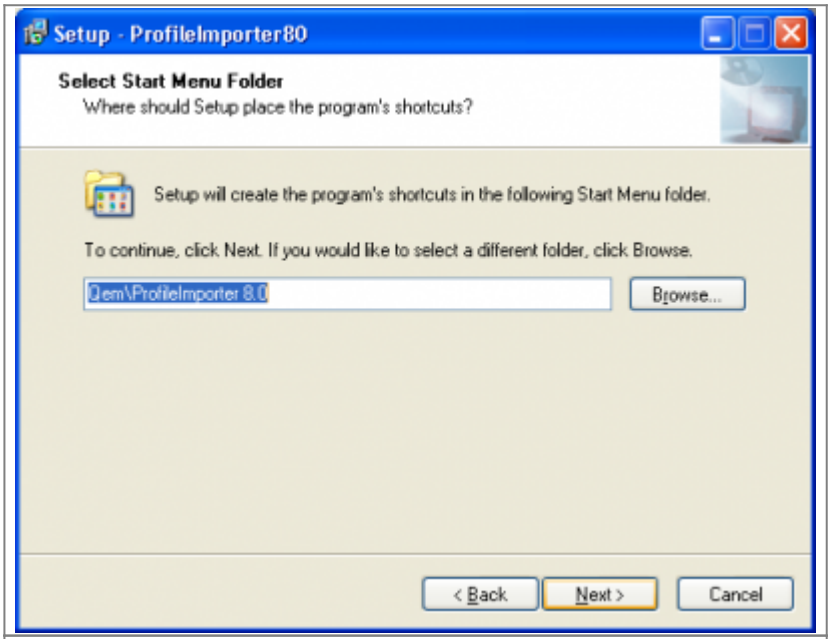


Select installation folder

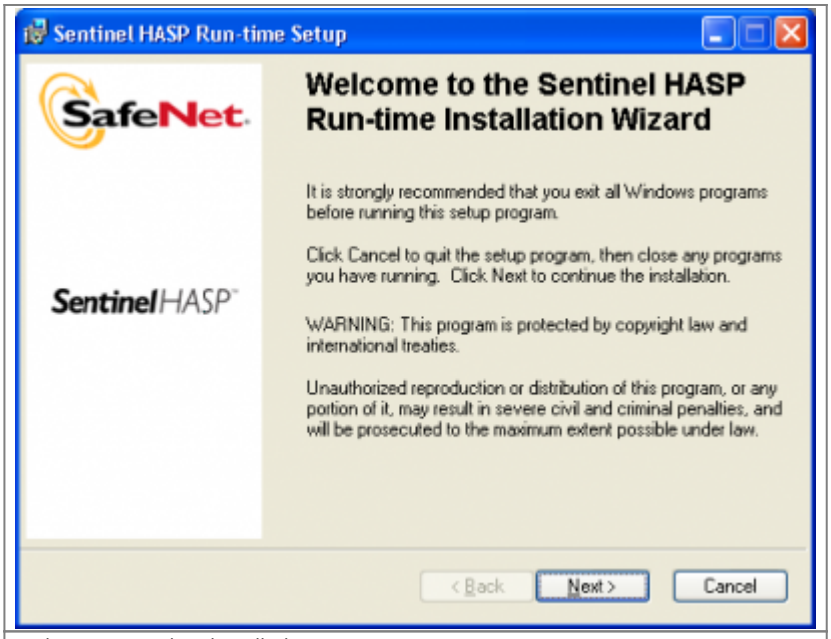


Select components

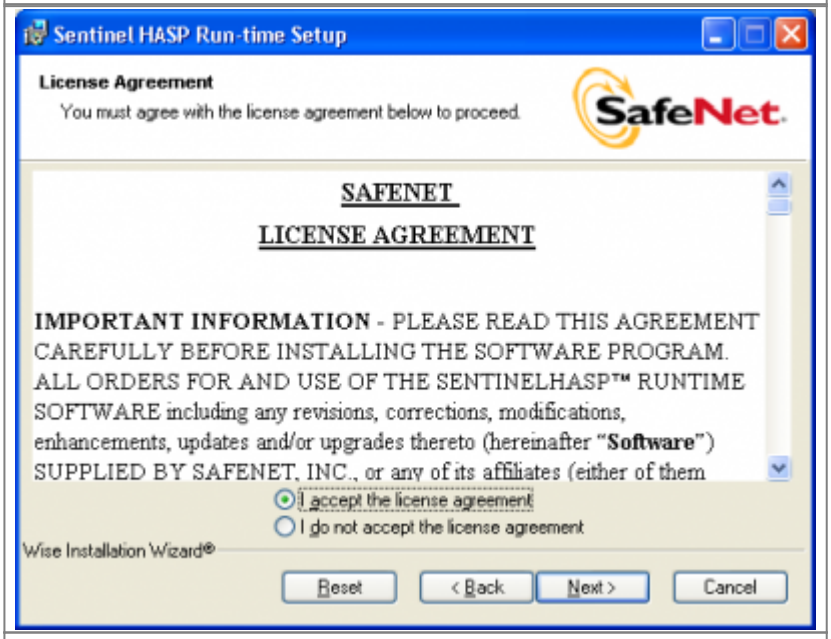
In the Fig. “Select components” screen shot it is possible to select if install the Security key RunTime. If you have already installed this software please deselect this components (select “Custom installation” (red pointer) and disable “License key Runtime” (green pointer).



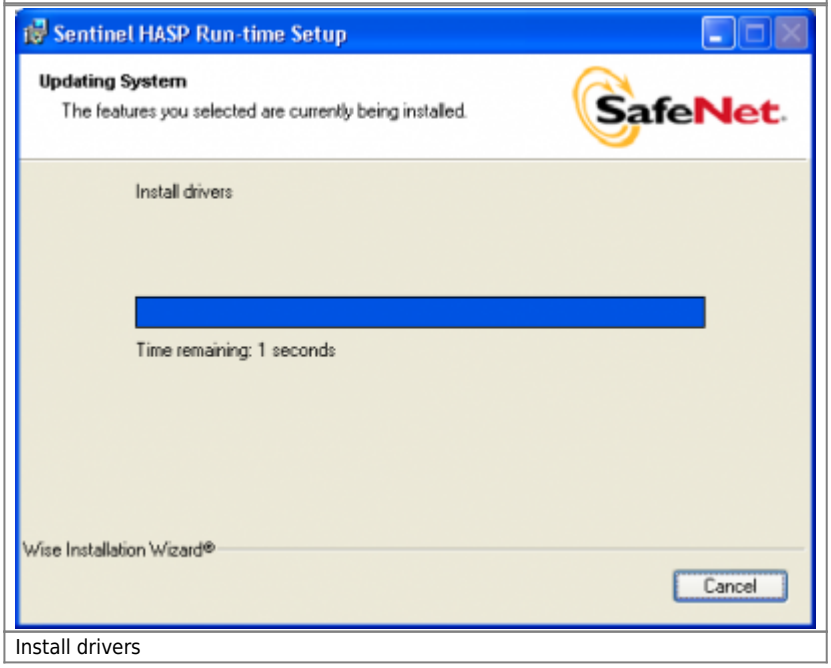
Select menu name



Welcome to runtime installation

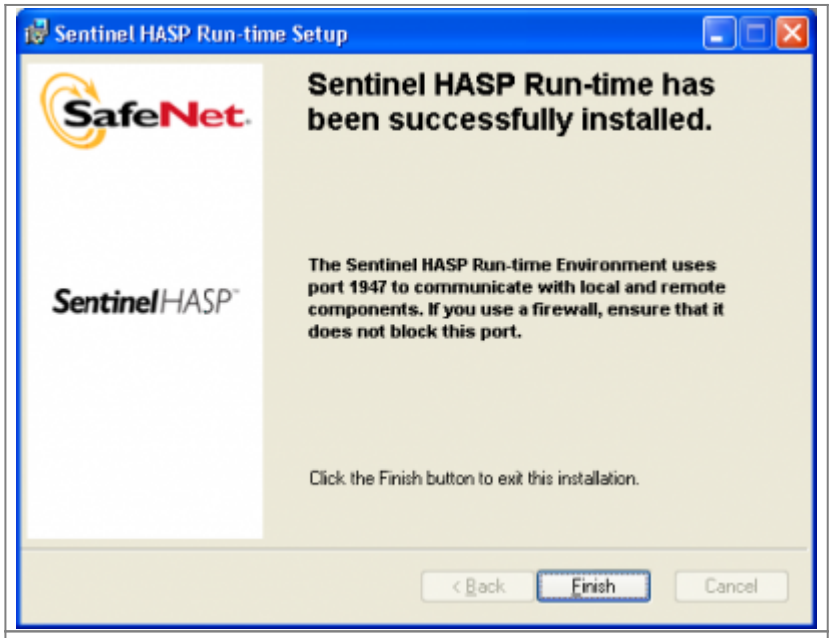


Runtime license agreement



Install drivers

The step represented in Fig. “Install drivers” could remain some minute.



End of runtime installation

End of profileimporter installation

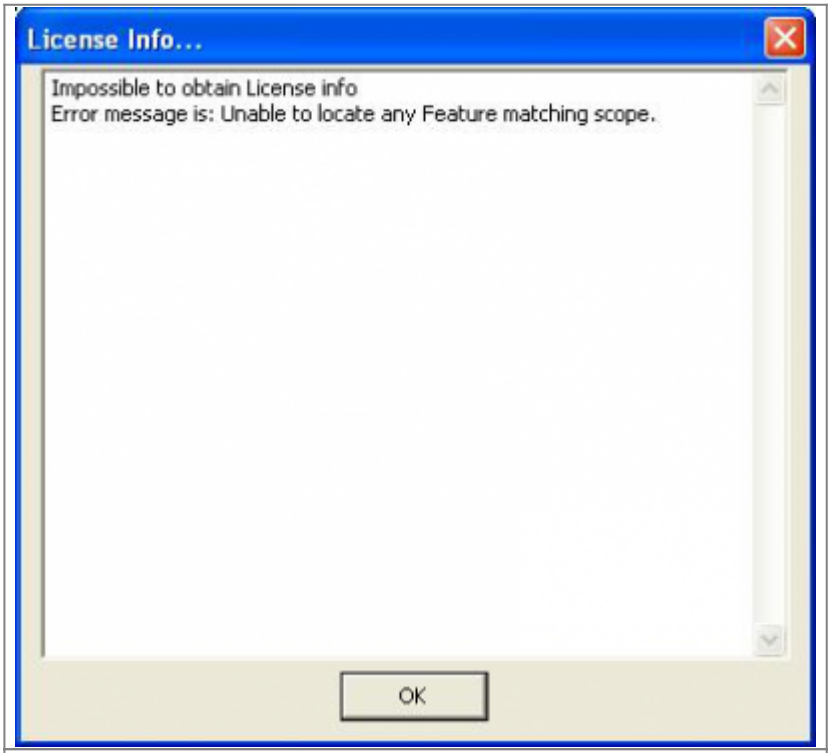
3.1 License

Access to all the program features is subject to the presence of an USB security key, supplied with the installation program.

The absence of such key may affect the complete execution of export procedures and may be notified by a message upon ProfileImporter startup.

License error

The user may obtain more information on the installed licences and the USB security key by accessing the “License Info” menu.



License information

The user may obtain other license information opening the “http://localhost:1947” page into pc browser (i.e. Internet explorer).

3.2 Symbols file

Placed into installation folder there is the ”SYMBOLS.SYM” file that is used only with serial transfer. This file must be the same used to develop qmove application. If the file into the profileimporter8 installation folder is outdate please update it (keep the same name ”SYMBOLS.SYM”).

4. Using Profile Importer 8.0

The ProfileImporter-8 program allow to perform two operations “Importing a Profile” and “Importing 2D geometries” that are following described:

4.1 Importing a Profile

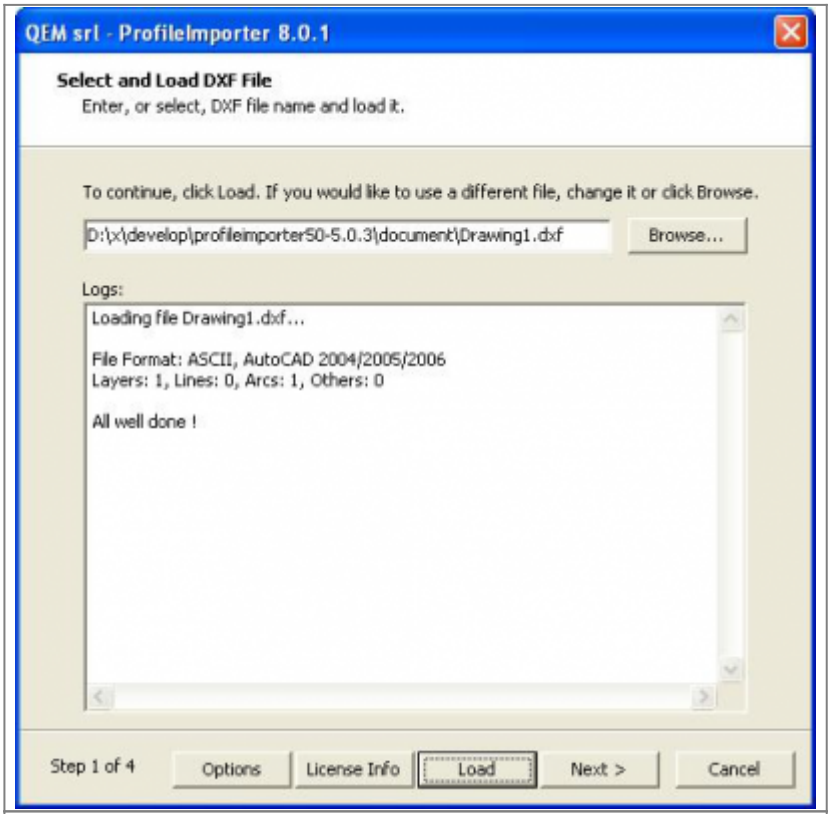
Only vertical cutter profiles may be imported by ProfileImporter. Profiles may not contain undercuts. Profile Importer will attempt to correct the geometry, if possible. The profile may be transformed into a symmetrical horizontal cutter profile from within the application (if it is supported by target application). The import process follows these four steps

- DXF file selection
- Drawing Preview
- Drawing processing

- Save to file and/or .CSV.

4.2 DXF file selection

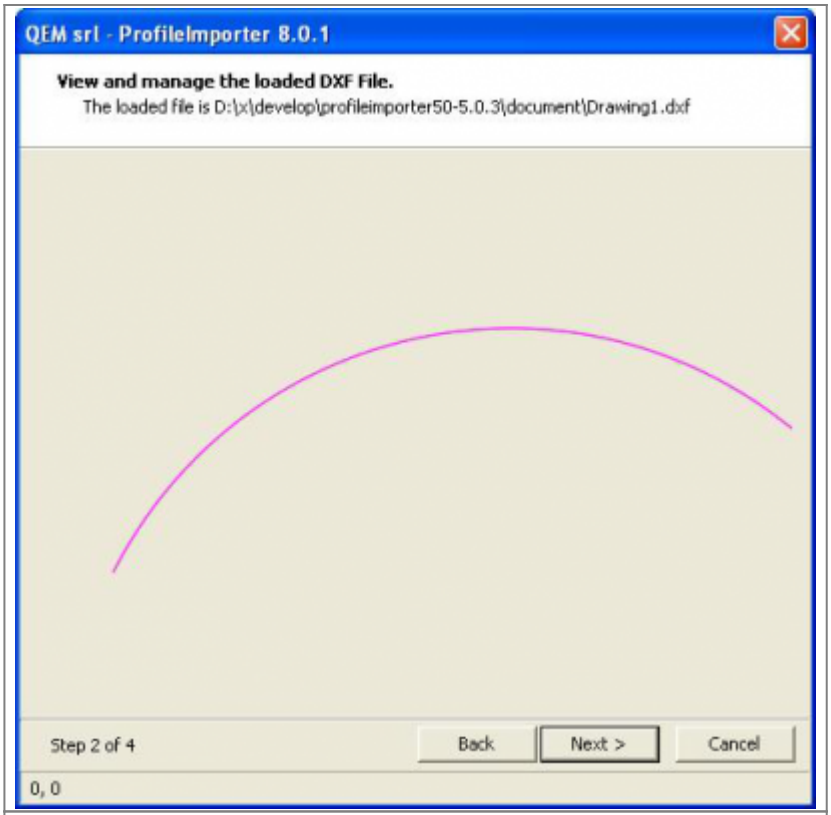
First of all check if dxf file satisfy the features listed in chapter DXF Requirements.
DXF File selection may be performed either by entering the absolute pathname in the text box, or by pressing the “Browse...” button and navigating to the correct file.
The file is then acquired by pressing the “Load” button.



DXF file selection

4.3 Drawing Preview

The file contents are displayed, in order to obtain immediate profile recognition and to exhibit profile details. Zooming within the drawing may be performed either with the mouse wheel or by right-clicking and moving the mouse within the drawing area. This function is useful for spotting processing errors, as performed by the following step.



Dxf file preview

4.4 Drawing processing

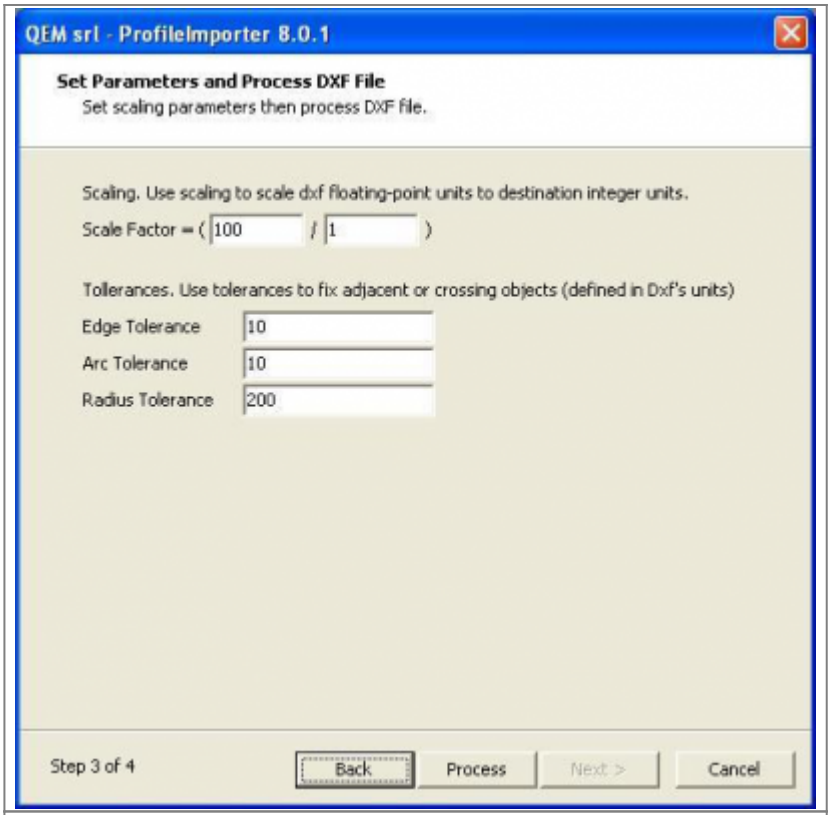
The main import step converts DXF information into a format understood by the QMOVE application. A workable profile must have the following features:

- The profile does not exhibit undercuts
- Every segment except the first begins where the previous segment ends.
- Every segment is monotonic (either ascending or descending)
- Every segment lies on the YZ plane

By clicking on the “Process” button, the drawing shall be processed in order to satisfy the above conditions. Whenever necessary (and possible) this step shall modify the original drawings taking tolerances into account. Drawing tolerances shall be user-defined, and in the original DXF units of measure*.

- Y/X Scale factor: the drawing may be scaled as it is transferred from the XY to the YZ plane. For example, a 10:1 scale (one tenth of a millimetre), when applied to a 1000-wide DXF entity, shall result in an entity that is 10mm wide (1000/10 = 100 tenths of millimetre = 10 millimetres).
- Consecutive Segment Tolerance. The endpoint of any segment and the starting point of the consecutive segment must lie no farther than a specified tolerance. If the drawing satisfies this condition, the two segments are joined at their common point.
- Arc Tolerance: if an arc is not monotonic, it is subdivided into two segments, each of which is monotonic. An arc is monotonic if no line through the centre intersects the arc.
- Minimum Radius Tolerance: the minimum arc radius is calculated so as to not perform undercutting.

* Even though DXF files do not have intrinsic units of measure, these are obviously known to the draft person. It is therefore important to acquire these units before importing the file.



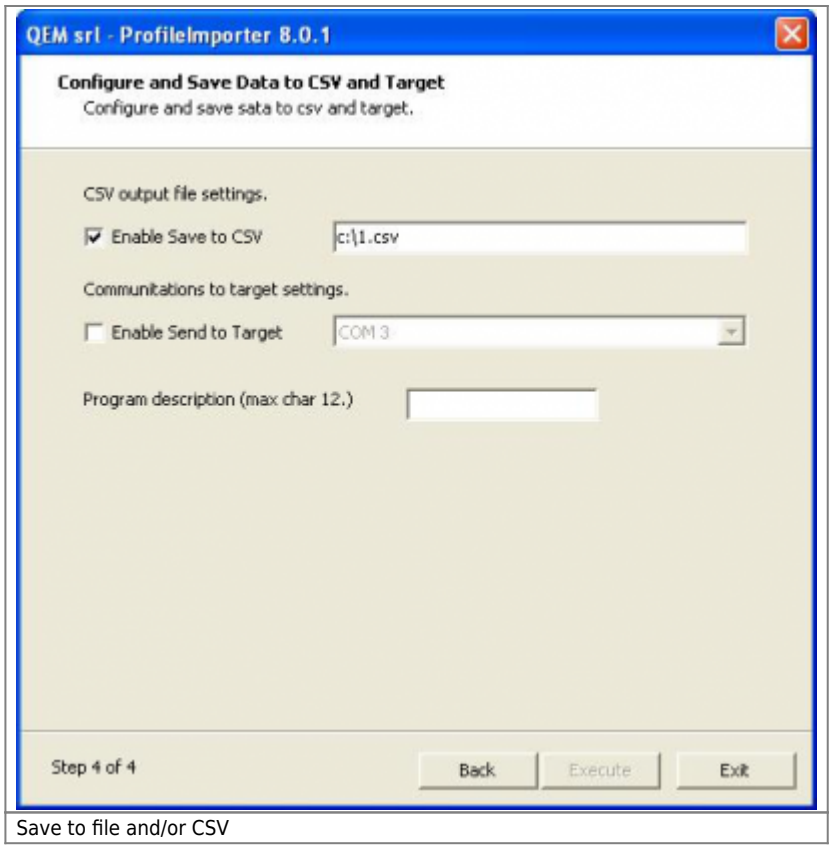
Drawing processing

4.5 Save to file and/or CSV

The processed results may be transferred in either of two ways:

1. by saving the results to a local .CSV file. Subsequently the file may be transferred to the machine's internal memory by means of an MMC card. The user is advised to enter the full pathname (i.e. C:\1.csv)
2. by downloading the profile to the machine's internal memory via serial port.

In order to allow MMC file transfer, the file must be named with a number between 0 and 99999999 (i.e. 1234.csv), and it must reside in a directory named 'DS' i.e. “G:\DS\1234.csv”.



Save to file and/or CSV

Mode 2 is only allowed when the application is in programming mode, otherwise the download will stop.

Application screen

A program description may be entered (up to 12 characters) in the machine's internal memory.

4.6 Importing 2D geometries

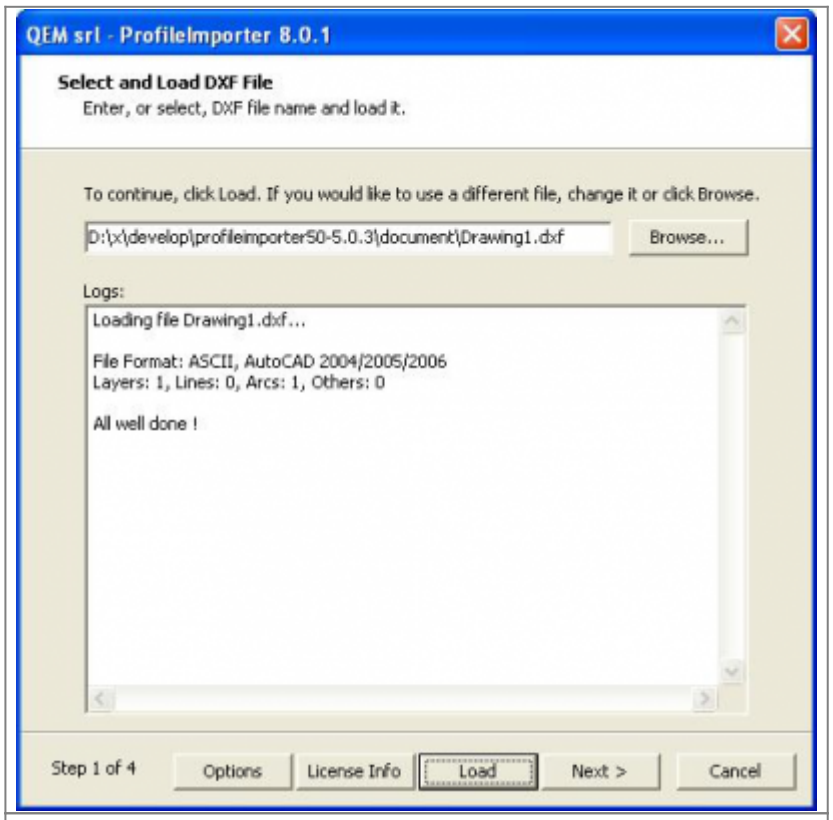
The Profile Importer application is capable of importing geometries for the purpose of 2D work program definition. 2D geometry import follows these steps:

- DXF file selection.
- Drawing Preview.
- Drawing processing.
- Save to file and/or .CSV.

4.6.1 DXF file selection

First of all check if DXF file satisfy the features listed in chapter DXF Requirements.

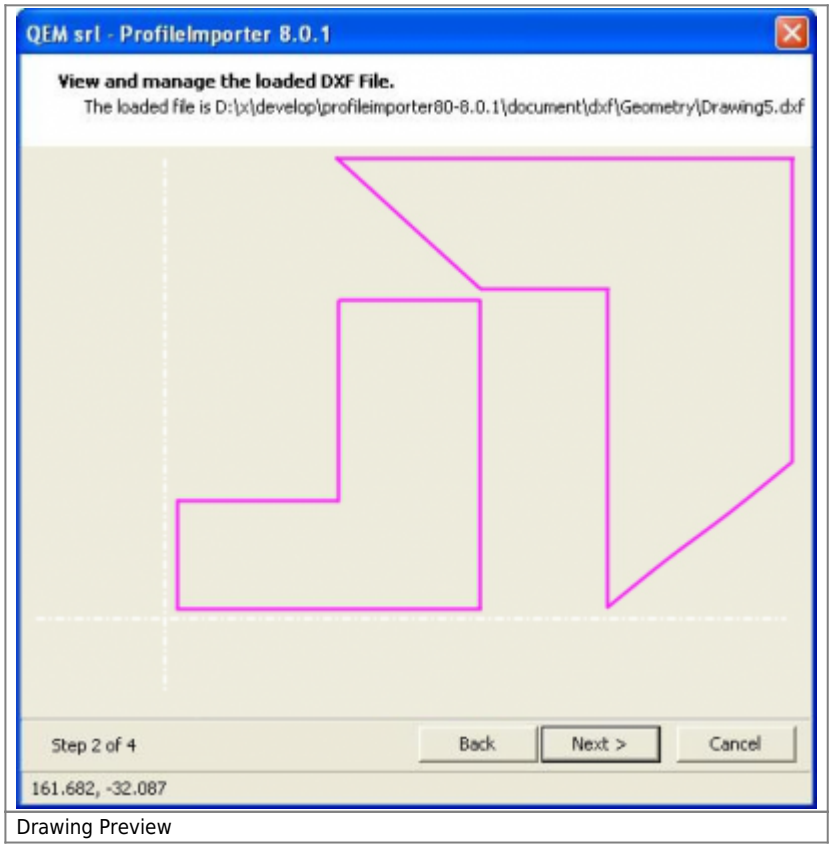
DXF File selection may be performed either by entering the absolute pathname in the text box, or by pressing the “Browse” button and navigating to the correct file.
The file is then acquired by pressing the “Load” button.



DXF file selection

4.6.2 Drawing Preview

The contents of the preceding step are displayed, to provide immediate geometry recognition and to exhibit drawing detail. Zooming within the drawing may be performed either with the mouse wheel or by right-clicking and moving the mouse within the drawing area.

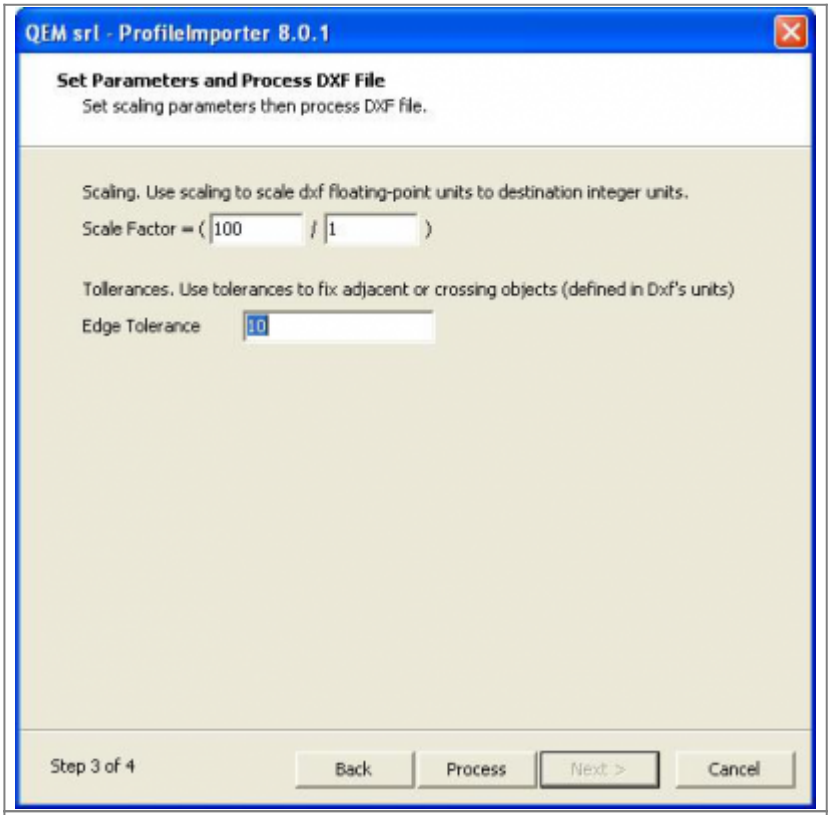


Drawing Preview

N.B.: The possibility to transfer to the target segment type arc must be verified with the features of the Qmove application. Some applications allow the elaboration only of linear lines.

4.6.3 Drawing processing

The imported geometry may be composed of lines and arc. In this phase these elements are grouped in consecutive segments, as these geometries are suitable for the QMOVE application.



Drawing processing

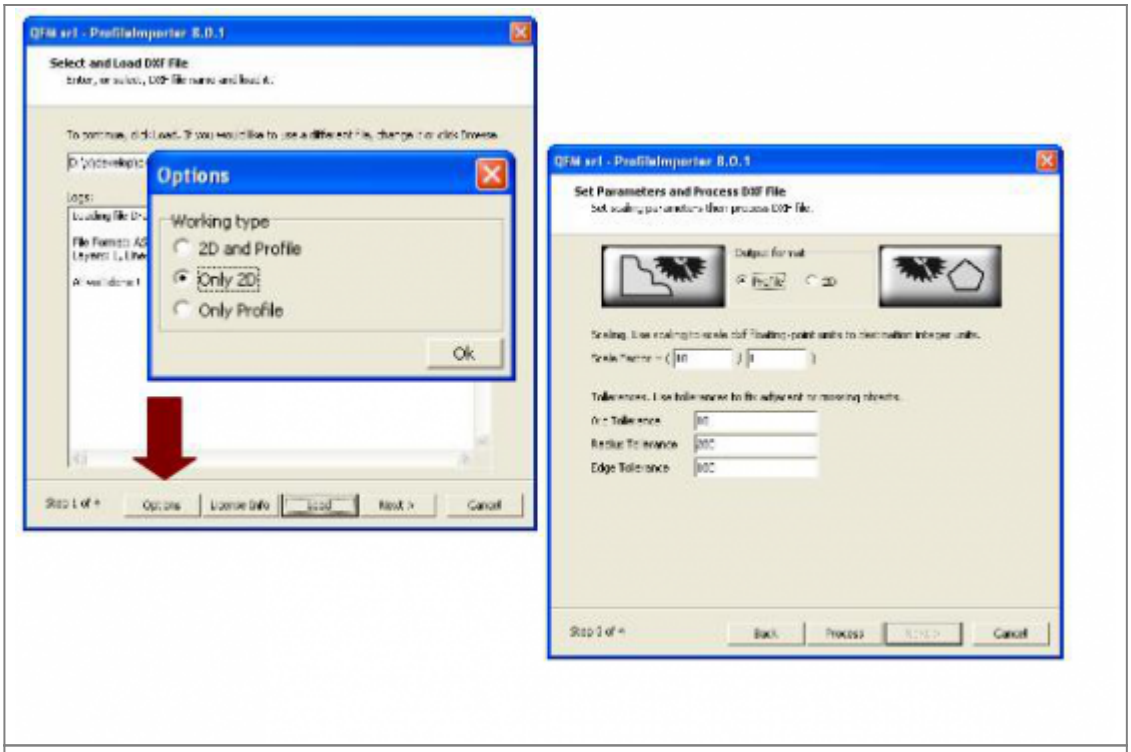
The DXF processing parameters are:

- Y/X Scale Factor: the drawing may be scaled as it is imported. For example, a 10:1 scale (one tenth of a millimetre), when applied to a 1000-wide DXF entity, shall result in an entity that is 10mm wide (1000/10 = 100 tenths of millimetre = 10 millimetres).
- Consecutive Segment Tolerance: these are entered in the original DXF units of measure. The endpoint of any segment and the starting point of the consecutive segment must lie no farther than a specified tolerance. If the drawing satisfies this condition, the two segments are joined at their common point.

* Even though DXF files do not have intrinsic units of measure, these are obviously known to the draft person. It is therefore important to acquire these units before importing the file.

4.7 Options

Profile Importer 8 allows import selection, either Profiles of Geometry, and either option may be disabled. If both are enabled, processing operations may be selected during the parameter input phase.



Options

5. Appendix

5.1 DXF Requirements

DXF files must be version 12 or higher, in ASCII or binary format. The allowed entities are LINE, CIRCLE, RECTANGLE, ELLIPSE, SPLINE, POLYLINE, LWPOLINE and ARC.
Groups are not supported.
Data from a single layer may be extracted. If drawing has more than one layer, Profile Importer will prompt the user for the layer number at import time.

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