

DXF2PDMS™ User's Manual  
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## **3D DXF to PDMS/E3D**

**User's Manual**  
Server Version 4.xx



## Disclaimer

Please read the following carefully:

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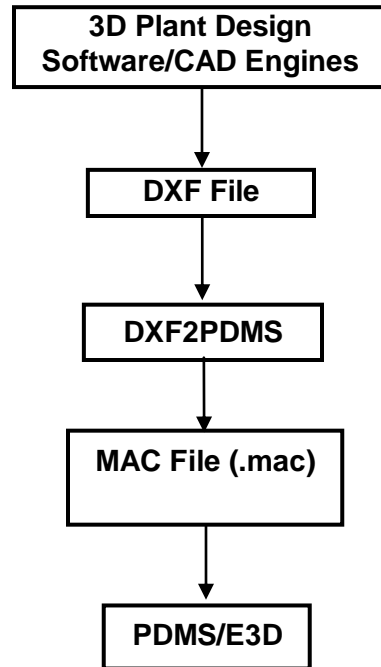
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# 1. Introduction

**3D DXF to PDMS/E3D:** 3D DXF to PDMS/E3D Translator (DXF2PDMS) program is a stand-alone program, which shall be used for transferring geometry from 3DXF file (which is created by other design software) to PDMS/E3D.

The sequence of this interface operation is shown diagrammatically in Figure 1-1.



**Figure 1-1**

## 1.1 How the Interface works?

1.1.1 The equipments (structures, pipes with out intelligence) modeled in 3D Plant Design Software/CAD Engines such as PDS, TRIBON, CADMATIC, CATIA, AUTOCAD, etc., can initially shall be saved as a DXF file (\*.dxf).

1.1.2 The windows executable DXF2PDMS.exe reads this DXF file and generates the macro file (\*.mac), which can then be imported into PDMS/E3D.

Note: This interface is compatible with PDMS 11.2 or Later and E3D. At this time, this product is fully tested and validated with PDMS Versions 11.2 or later and E3D.

## 2.0 Installing the Program

Refer Section 1 in SST License Manager User's Manual for details.

## 3.0 Limitations

1. Facetted object from DXF shall be transferred as Polyhedron elements in PDMS/E3D. If the number of vertex in a facetted object exceeds 8188, program will automatically splits the facetted elements as several polyhedron (POHE) elements of 8188 vertices each.
2. The current version of the software transfers the following entities to PDMS/E3D at this time.

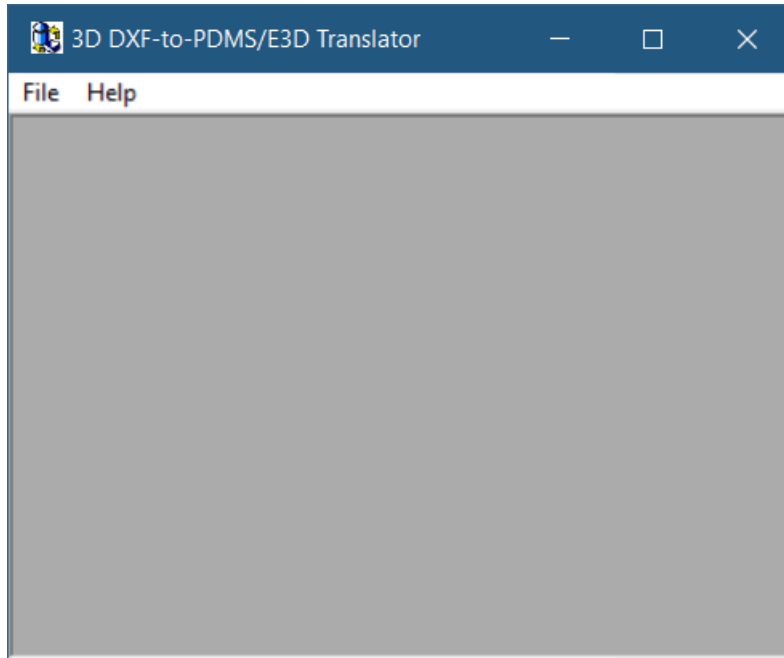
- a. 2D and 3D Line.
  - b. 2D and 3D Circle.
  - c. 3D Face
  - d. 3D Mesh
  - e. Vertex
  - f. Block
  - g. Insert
  - h. Polyline (2D and 3D)
  - i. LWPolyline
3. Proprietary data on 3D Solid Entities such as Box, Sphere, Cylinder, Wedge, etc., modeled using AutoCAD Geometry Modeler (AcDBModelerGeometry) will NOT be transferred at this time, due to unavailability of access to such proprietary data. However, the same can be transferred to PDMS/E3D with few percentage losses of data by exploding such objects completely using AutoCAD.
4. The following entities are not transferred to PDMS/E3D at this time.
- a. ARC
  - b. Ellipse
  - c. Spline

## 4. Key Features

1. The version of the product can read/transfer the 3D DXF files generated from any 3D Plant Design Software/CAD Engines, which are compatible with AutoCAD R12 through AutoCAD 2006.
2. Name of the Block from 3D DXF shall be assigned as Equipment/Structure name in PDMS/E3D, if the model is saved as a Block in 3D DXF file.
3. If the model in 3D DXF is saved as a Block and is inserted into 3D DXF using the "Insert" entity definition in DXF file, then the name of the Equipment/Structure in PDMS/E3D shall be generated by suffixing the running numbers with the Block name.
4. If the Block Name in DXF is not available, then macro file name shall be used as name of Equipment/Structure
5. Transfer the Circle with thickness as Cylinders to PDMS/E3D.
6. Creates an Obstruction Volume covering the whole Equipment/Structure.

## 5. Working Procedure

5.1 On launching the program the above form will appear.



5.2 From the menu "Interface", click "3D DXF-to-PDMS/E3D". A form will be displayed as shown below.

5.3 Select the input units used in DXF file through "Units" option shown in the form above. By default, the input unit used in DXF is set to "Inches". User has an option of specifying the input units as either "Inches" or "mm" at this time. If you have input units in DXF files other than "Inches" or "mm", then select the input units as "mm" from the "Units" option and specify the corresponding scale factor in the "Scale" text box as shown in figure above. For example, if the input units in DXF are specified in "meters" then specify the Scale as "1000" by selecting the option "Units" as "mm".

Note: Scale can also be used for scaling the model to the desired factor.

5.4 Specify the "Transfer As" option as either "Equipment" or "Structure".

- a. Selecting the “Transfer As” option to “Equipment” transfers the model from 3D DXF as Equipment in PDMS/E3D. This option shall be useful in converting the equipment model supplied by vendors in 3D DXF format as PDMS/E3D Equipment. User can then add the attributes that are desired for equipment.
- b. Selecting the “Transfer As” option to “Structure” transfers the model from 3D DXF file as Structural Components in PDMS/E3D. This option shall be useful for importing the graphics of a 3D Plant/portion of a 3D Plant modeled using other Plant Design software/CAD engines such as “PDS, CADMATIC, TRIBON, AutoCAD, etc.,” into PDMS/E3D. The imported model can then be used as a reference model in PDMS/E3D, thereby allowing the user to integrate the models developed using different 3D Plant Design software into one system (PDMS/E3D) for detecting the clashes with other disciplines.

**Note:** Do not use the “Transfer As” option to “Equipment” for transferring the 3D Plant/portion of a Plant modeled using other Plant Design software as it produce undesirable results in P&ID comparison with 3D, Equipment listing and Bill of Materials.

Plant Design Software/CAD Engines should have the provision to save the model in DXF format.

- 5.5 Selection of Input / Output File can be done in two ways viz. by entering the name of the File along with the valid path in the text box provided or by navigating through the corresponding button.
- 5.6 Click the button “Apply” to transfer model to PDMS/E3D format. Upon successful transfer, user gets the message “Transfer Successful”.



## Appendix D

### Error messages

***“57 The process cannot access file <File\_Path\File\_Name> because it is being used by another application”***

The DXF which you are trying to convert being used by another application. Close the file/application before transfer.

***“Input file name not specified”***

Enter the name of the input file (DXF file to be transferred to PDMS/E3D) and proceed.

***“Output file name not specified”***

Enter the name of the output file (MAC file name to be imported into PDMS/E3D) and proceed.

***“Could not find the path of the file <File\_Name>”***

Occurs, If the path / network drive does not exists

# Samples

