

Importing AutoCAD files

Overview

Various forms of AutoCAD files are imported to FrameMaker and the effects demonstrated.

There is no straight forward method to import dwg and dxf files into FrameMaker. The best possible results are achieved with a detour via a graphics program (such as FreeHand).

Not all of the strange things are visible on the screen (hence also not in the PDF version of this file) - but only when printing.

The current version of AutoCAD is something around 14 and AutoCAD 200 is round the corner. Version 12 was the last version for which the dxf file format was more or less standardised.

In CAD programs line types are coloured for easy recognition. This is not wanted in the illustrations. Hence you must first change all colours to black (in AutoCAD):

- In most cases some text will still be coloured. To catch this, use **Format > Bemassungsstil > Masstext** and change the colour to black (colour 255)

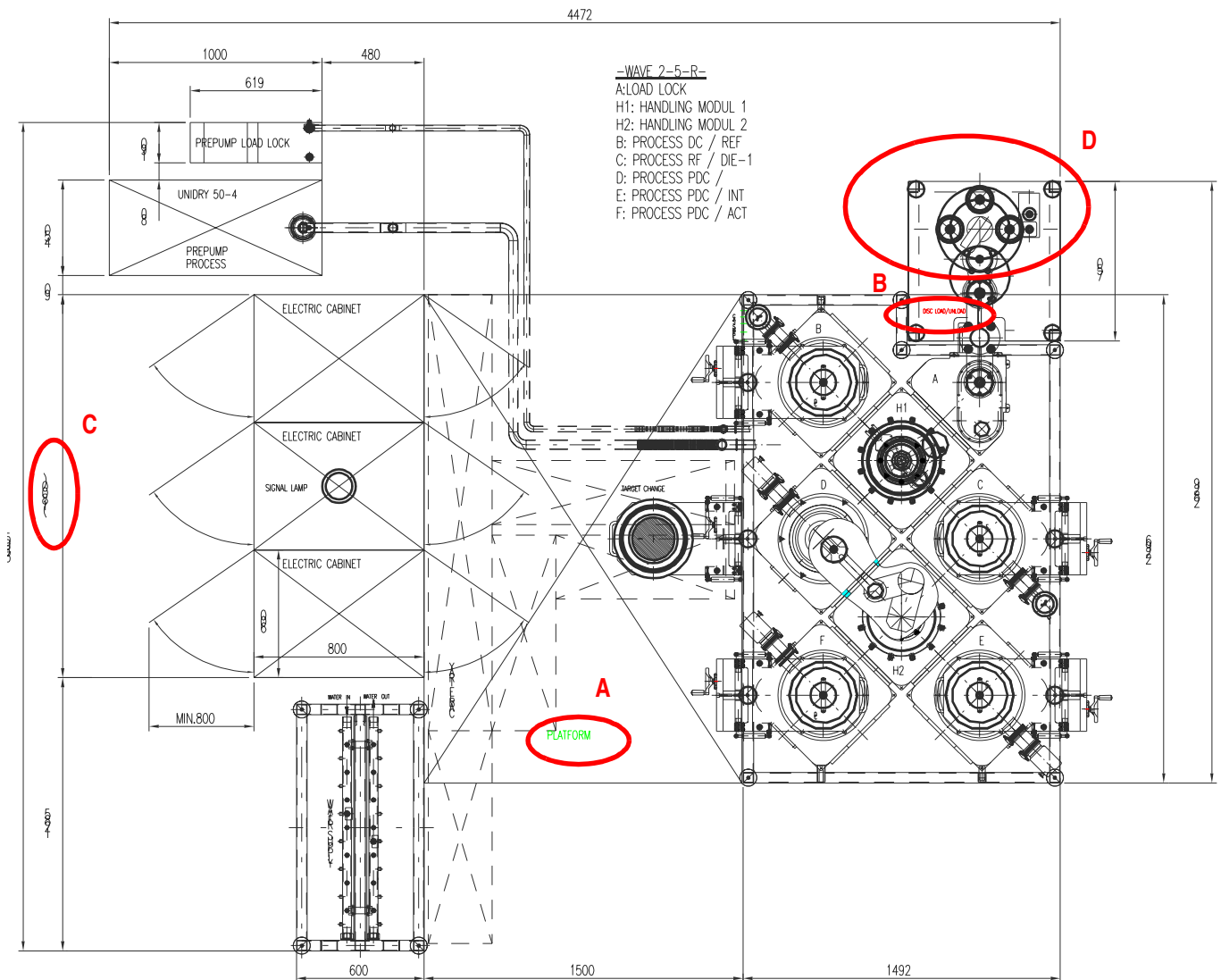
Some people still use plotter fonts built with strokes rather than outlines. This is fine for output with pen-plotters but not needed for any other output device.

AutoCAD does not support T1 (PostScript) fonts. Only TT (TrueType) fonts are listed in the fonts dialogues. Hence you can change fonts only to TT. This is a problem in generating EPS...

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AutoCAD dwg file

Import the AutoCAD file test_.dwg (a version 12 file saved from a version 14 AutoCAD LT). Manually scaled to fit the width of the text frame after import.



Observations

- I did not manage to convert all texts to black. There is still green and red text (A, B).
- The size of the vertical script (B) does not conform to the original drawing.
- Line width is incorrect (for to large) on various places, e.g. (D).
- It seems that there is still colour in the lines, because when printing they are gray (fine dotted)

Technical drawing of a machine layout, showing dimensions and labels. The drawing includes a side view on the left and a top view on the right.

Dimensions:

- Overall width: 1000
- Overall height: 480
- Internal width: 619
- Internal height: 800
- Minimum distance: MIN. 800
- Platform width: 600
- Platform length: 1500
- Platform height: 1492

Labels and Components:

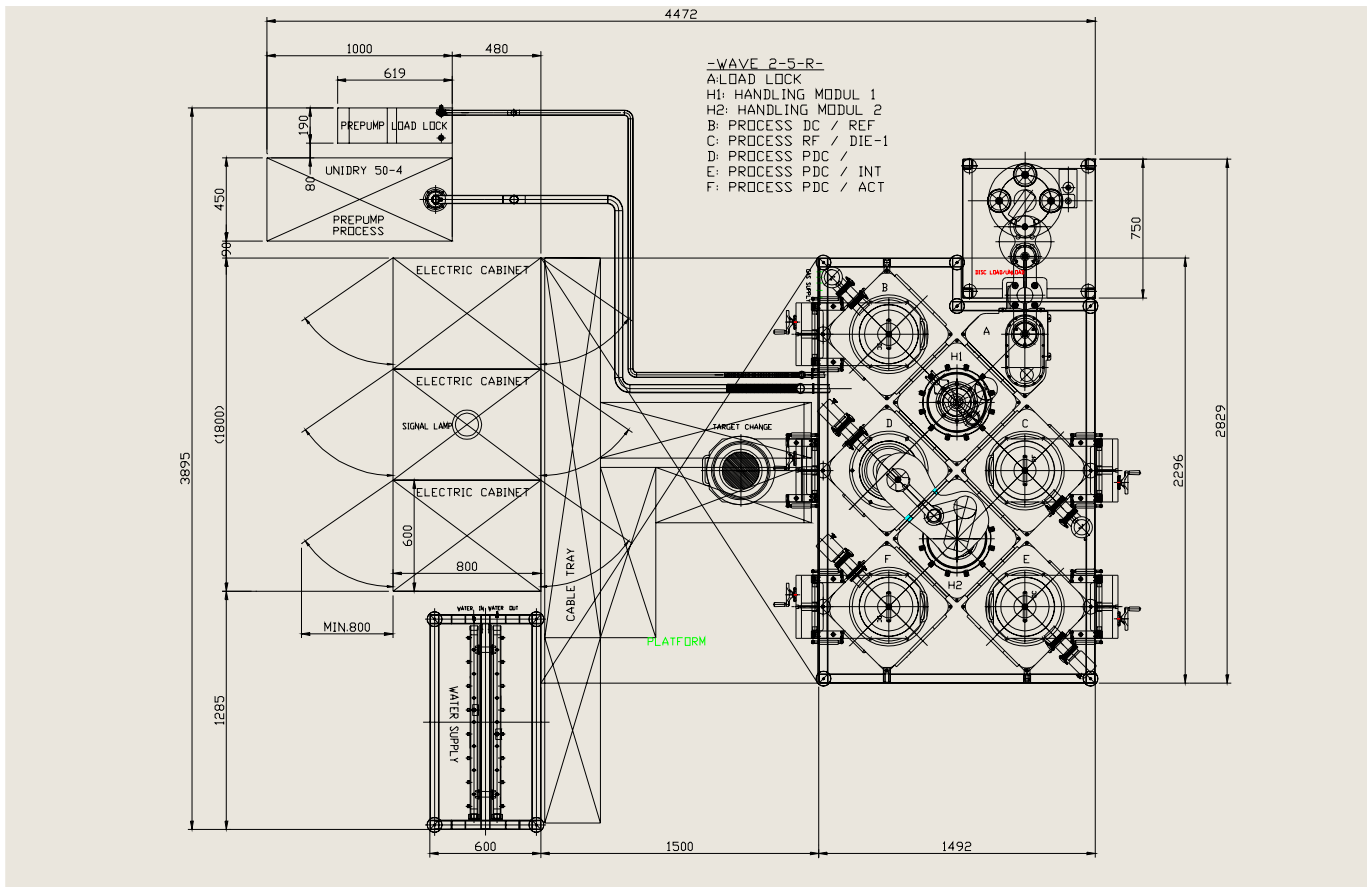
- PREPUMP LOAD LOCK
- UNIDRY 50-4
- PREPUMP PROCESS
- ELECTRIC CABINET
- SIGNAL LAMP
- PLATFORM
- WAVE 2-5-R
- A: LOAD LOCK
- H1: HANDLING MODUL 1
- H2: HANDLING MODUL 2
- B: PROCESS DC / REF
- C: PROCESS RF / DIE-1
- D: PROCESS PDC /
- E: PROCESS PDC / INT
- F: PROCESS PDC / ACT

The drawing shows a complex arrangement of components, including a platform, electric cabinets, and various processing modules. The side view shows the platform and electric cabinets. The top view shows the platform and the arrangement of the processing modules. The drawing is a technical drawing of a machine layout, showing dimensions and labels.

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AutoCAD export wmf

Import the AutoCAD file `test_ac.wmf` (a version 12 file exported from a version 14 AutoCAD LT). Manually scaled to fit the width of the text frame after import.

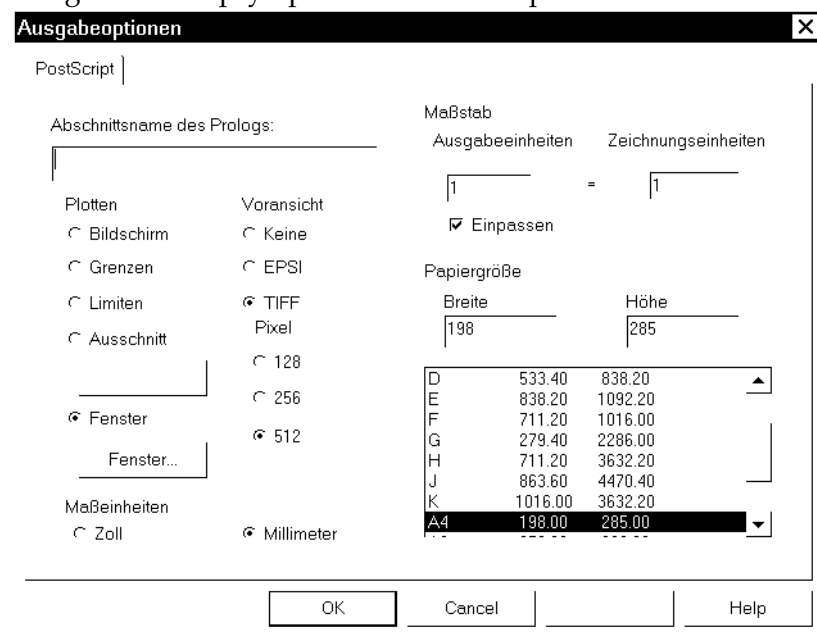


Observations

- The colour of the screen background is exported.
- The screen size defines the bounding box
- When presenting an enlarged section the curves get rough: wmf does not use arcs or splines but only vectors...

AutoCAD export eps

Import the AutoCAD file `test_ac.eps` (a version 12 file exported from a version 14 AutoCAD LT). The only method creating a non-empty eps file uses these parameters:



The behaviour of the program is quite strange:

With **File > Export** and selection of eps you get the chance to set options (see the screen shot).

Choose **Window** and then click the **Window** button, you get a dialogue to define the window size.

Click the **Select** button to get a chance to visually define the window with the mouse: You get a message how to proceed, click OK.

Close the options dialog with **OK**.

You are back in the **Save As...** dialogue and click **Save**.

The status line requests you to define the first and second corner of the window with the mouse. Drag from the top right to the lower left corner of the desired size.

The status line displays the number of objects (8500). The eps file created is 800 kB.

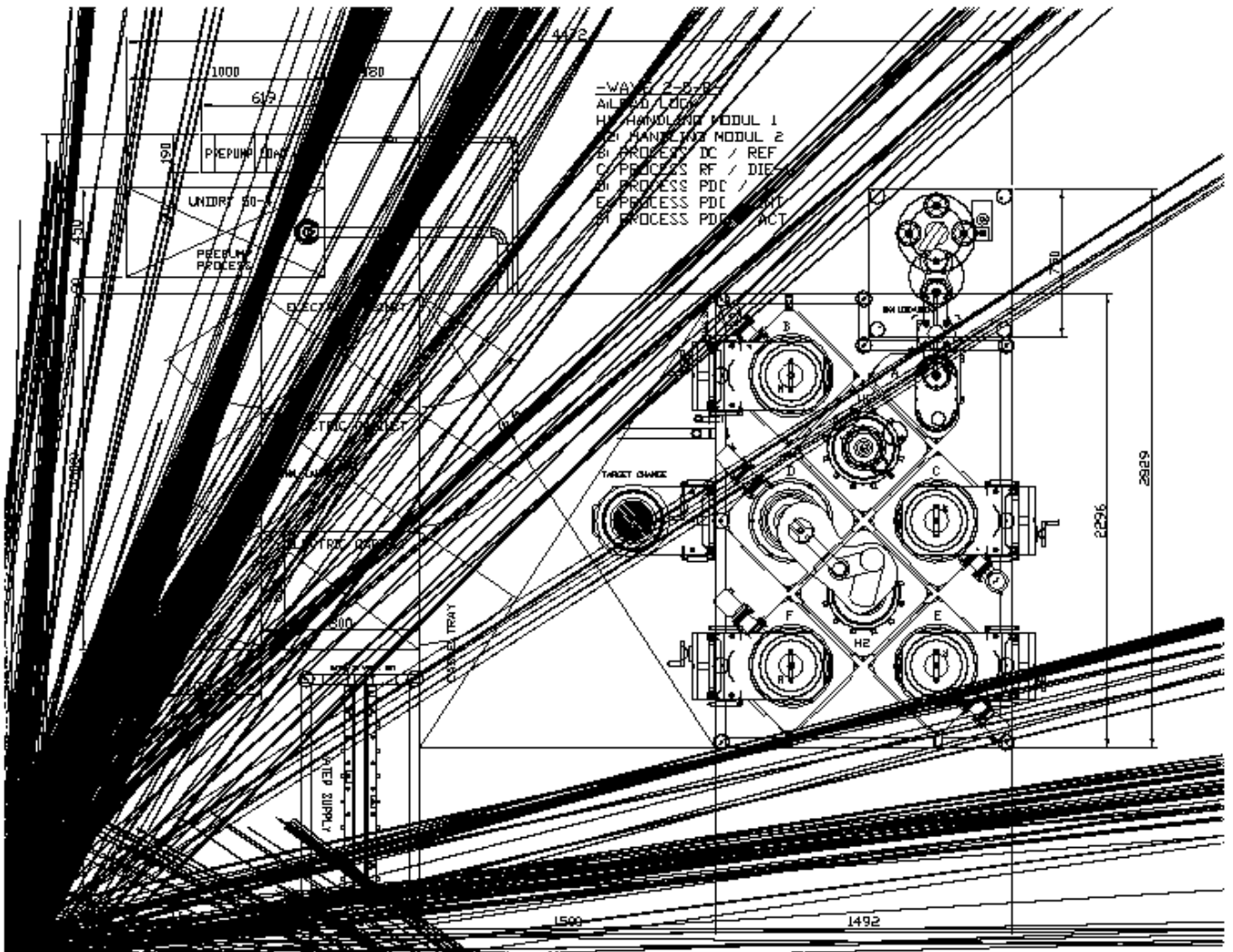
After import to FrameMaker I have adjusted the size to fit to the frame width (about 95%).

Observations

- It takes an awful length of time to print this eps due to very many vectors which you can not see on the screen preview. In my case the printer stopped working after 20 minutes with the *time out* PostScript message.
- These vectors are in cyan, and all other lines are also in colour because they are printed in shades of gray as this partial screen shot from GhostScript demonstrates:

- The same thing happens if you create a PDF from such an eps
- so this stuff must be generated by AutoCAD...

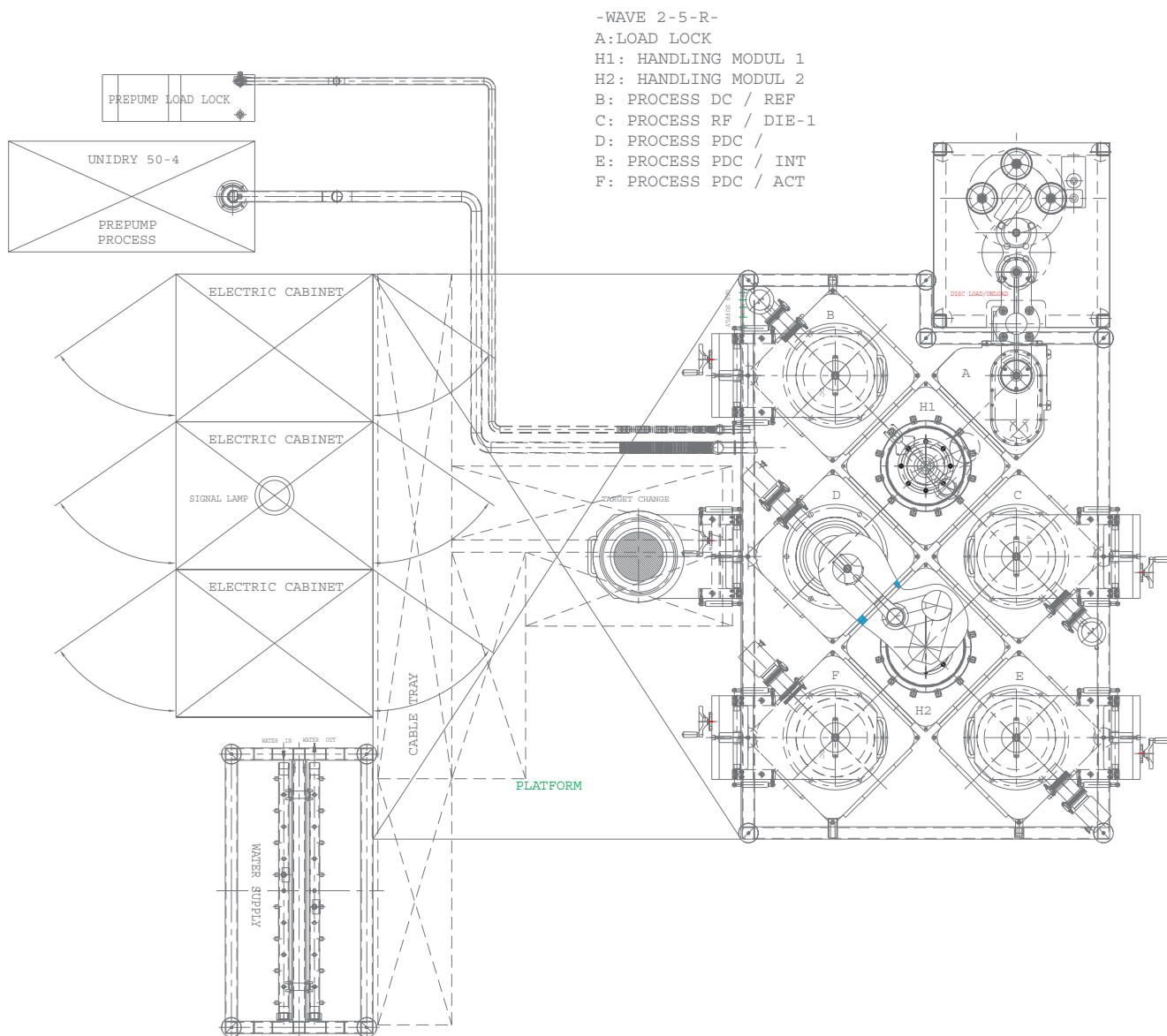
The following image does not display the real eps, but the results when printed on either a PostScript printer or with GhostScript.



Convert dxf in FreeHand 8 to eps

FreeHand can import dxf and output correct eps. The main problem is the handling of fonts:

- In AutoCAD only a TT font could be specified (Arial)
- FreeHand allows to change 'any font' to a distinct font with Edit > Find and Replace > Graphics.
- Alas, although many things seem to be converted, the eps export reports "TrueType fonts in the export...".



Observations

- Line widths are very small. Hence the image looks gray scaled.
- The fonts are not correct (the printer default Courier is used).
- The size was somewhat awkward, scaling to about 60% was necessary.
- There are unknown fonts which are printed as Courier.

Convert the dxf file with DxfConv

Getting rid of all annoyances

Many people have trouble with dwg and dxf files outside the creating program (AutoCAD). This gave birth to special programs to handle the problems. One of the best is DXFCNV from

Kazmierczak Ingenieurbüro GmbH
Heumadener Straße 4
73760 Ostfildern-Kemnat

Tel.: 0711 / 451150
Fax: 0711 / 4570638

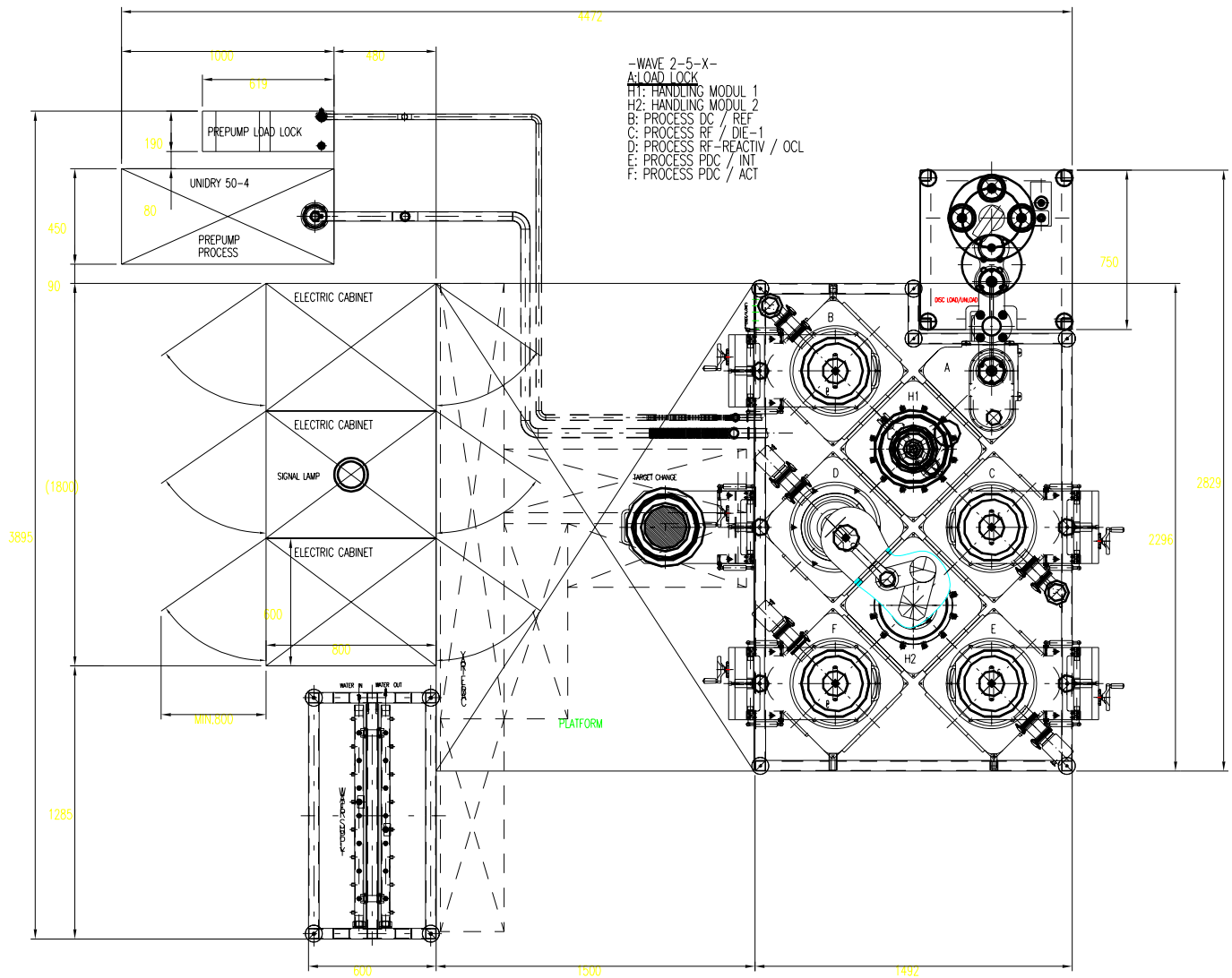
<http://www.dxfkonv.de/>
E-Mail: info@dxf.net

Import of test_2.dxf.

In DxfConv I changed the following properties of the original file:

- Any font to Helvetica
- Any colour to Black

And then exported it to test_2.dxf.



Observations

- There are still texts (measurement figures) in yellow (well, this might be a lousy definition on my part).
- Some particles in cyan are visible
- The same problems as with any dxf import to FrameMaker occurs: inconsistent line widths (same as with *AutoCAD dxf file* on page 4).