

CIDEON

engineering digitized.

Cideon – engineering digitized.

Cideon Inventor Toolbox

Small Tools With a Big Impact - For Your Accelerated Design Processes:

The Cideon Inventor Toolbox is a collection of practical tools that extend the standard of Autodesk® Inventor®. Inventor®. The small everyday helpers generate a noticeable improvement in the daily work with Inventor through more comfort, increased efficiency and assured quality.

The functions of the Cideon Inventor Toolbox are integrated into the Inventor menu ribbon. In the corresponding environments (assembly, part or drawing), only the tools are available for each case displayed.

Inventor 3D

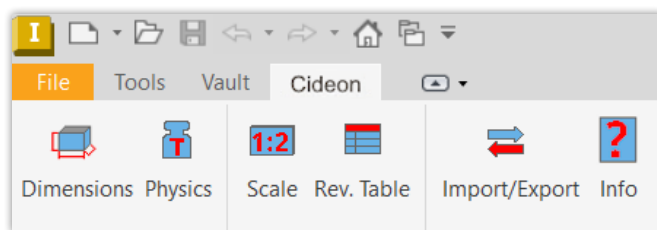
Dimensions

Physics

Inventor 2D

Scale

Revision Table



The Cideon Toolbox is integrated in Inventor

As part of the Cideon Professional Services, we offer useful additional Inventor Toolbox modules:

Inventor 2D/3D

[Time Machine](#)

[PDM PartFinder](#)

[CAD Export](#)

[File-Update](#)

Inventor 3D

[Stock Material Selector](#)

[Model Visualizer](#)

[Vessel Tool](#)

Inventor 2D

[Sheet Tools](#)

[Fitting Lists](#)

PROCESS CONSULTING

ENGINEERING SOFTWARE

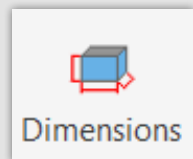
IMPLEMENTATION

GLOBAL SUPPORT

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Dimensions



Dimensions

Settings "Simple"

Assembly Dimensions

☒ Dimensions

☒ Length Width Height

Flat Pattern Dimensions

☒ DimensionFlatPattern

☒ Length Width Thickness

Part Dimensions

☒ Dimensions

☒ X axis Y axis Z axis

☒ Show Dimensions when saving

Display Time: 1.0 Seconds

Position: Bottom Right

☒ Use Extended Settings

Buttons: iProperties, Comp. Classes, Abort, OK

Changes are applied with Saving

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Configuration of the Dimensions in "Simple" mode

Settings

Separator: x ☒ With a leading and trailing Space

Decimal Places: 1 ☐ Rounding ☐ Trailing Zeros

Unit: Millimeter ☐ Show Units

Depiction: X - Y - Z

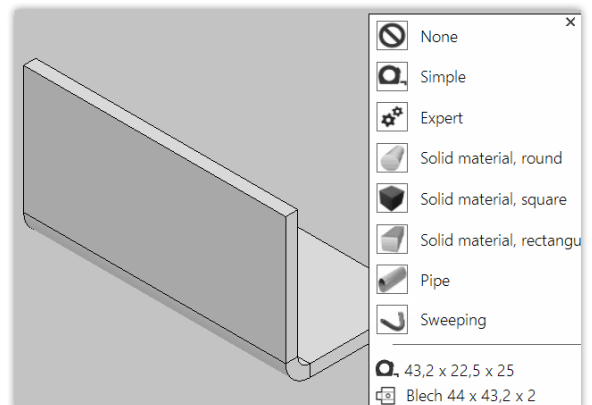
Prefix*: Suffix*

Result: No Dimensions
No Flat Pattern (Example Data)

Buttons: Abort, OK

Copyright © CIDEON * does not apply to split properties

Options for value transfer of sheet metal unwindings



The component classes and their dimensions are displayed with file saving

Model Dimensions Quickly Maintained

"Dimensions" provide functions to automatically transfer or update various dimensions of an Inventor model to its user-defined properties during each save operation.

Dimension Settings "Extended"

Comp. Classes

Definition

Solid material, round: $\varnothing <bbDiameter> \times <bbProfile>$

Solid material, square: $\square <bbDiameter> \times <bbProfile>$

Solid material, rectangular: $\text{Fl} <bbMedium> \times <bbSmall> \times <bbBig>$

Pipe: $\varnothing <bbDiameter> / <bbThickness> \times <bbProfile>$

Sweeping: $\varnothing <swpOuterDiameter> / <swpInnerDiameter> \times <swpLength>$

☒ Display thickness and diameter with 2 decimal places

Using '<>' parameters can be specified: (e.g.: <d14>)

The following bounding boxes and calculated values are also available:

BoundingBox: Unit = <bbUnit>

Length X-Axis = <bbX> Diameter = <bbDurchmesser> Sweeping Diameter: Inner = <swpInnerDiameter>

Length Y-Axis = <bbY> Profile Length = <bbProfile> Outer = <swpOuterDiameter>

Length Z-Axis = <bbZ> Thickness = <bbThickness> Sweeping Length: <swpLength>

BoundingBox Sorted: <bbGroß>, <bbMittel>, <bbKlein>

For the parameter <mtbstrength> the sheet thickness is used for sheet metal parts. For all other parts, the parameter <G_T> used. Additional user-defined parameters for the strength can also be set here.

Thickness Parameter Name:

Buttons: Abort, OK

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Settings in "Extended mode"

Especially when using a PDM system, it may be necessary to use the properties with standardized formatting or conversion options. For this purpose, the tool offers extensive setting options.

An ad-hoc selection from different component classes (e.g. for pipe, solid material or sweeping values) can also be made manually directly via the preview that appears when saving. In the advanced mode, the tool also allows the precise determination of the parameters relevant for the dimensions directly via the graphic in the Inventor model, if this is required in individual complex situations.

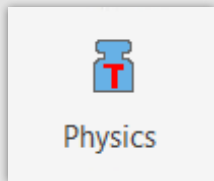
Name	Value
Definition	$\varnothing 0.11 / 185 \text{ mm}$
Diameter	0.11 mm
Height	39 mm
Length	171.8 mm
PartClass	Sweeping
Width	29 mm

Example of iProperties of a sweeping part

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Physics



Physical Model Properties Quickly Collected

The configurations for writing the physical properties of components or assemblies into the Inventor iProperties are available via the Cideon "Physics" tool. These are created or updated each time the model is saved.

Physics

Settings

☒ Weight iProperty Name: Weight Options

☒ Area iProperty Name: SurfaceArea Options

☒ Volume iProperty Name: Volume Options

Changes are applied with Saving

[Copyright © CIDEON](#) Abort OK

Settings for the transfer of physical properties in iProperties

Bauteil1a.ipt ([Primary]) iProperties

General Summary Project Status Custom Save Physical

Name: Add

Type: Text Delete

Value:

Name	Value	Type
SurfaceArea	4176.60	Text
Volume	0.00	Text
Weight	0.00	Text

Close Abbrechen Übernehmen

Automatically filled iProperties of an Inventor part

Settings

☒ For Parts

☒ For Assemblies

Decimal Places: 2 ☒ Rounding

Decimal Separator: .

Unit: Kilogram ☐ Show Units

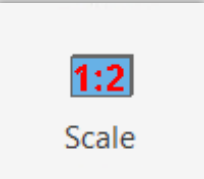
Result: 0.00

[Copyright © CIDEON](#) Abort OK

"Physics" setting options (e.g. weight)

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Scale



Collected Scales

The Cideon "Scale" tool provides settings to transfer or update all scales used in drawing derivations to Inventor iProperties.

Each time the drawing is saved, all present drawing views and their scales are collected, differentiated by main view and secondary view.

The scales are then written to one or more iProperties and are subject to configurable formatting options.

Scale

Settings

☒ First View Scale

iProperty Name

MainScale

☐ Including Spaces

☒ Secondary View Scales

iProperty Name

SecScale

☐ Including Spaces

☒ Including Brackets

☒ Ignore ISO-Views

☐ Merge Scale of first and secondary views

Separator

Changes are applied with Saving

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Abort

OK

Settings for determining the scales used

Name	Value	Type
MainScale	1:1	Text
SecScale	(2:1, 10:1)	Text

Scales used on drawing sheets in iProperties

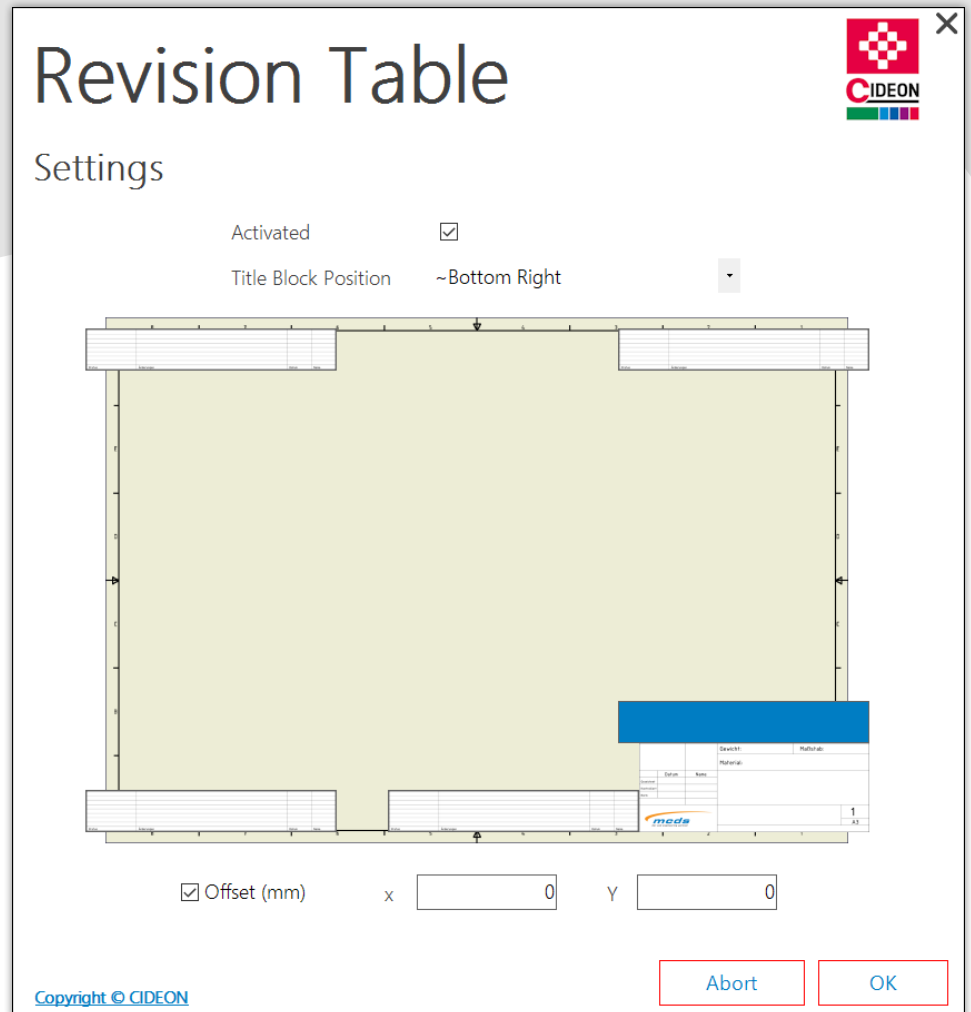
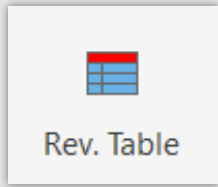
		Scale 1:1 (2:1, 10:1)	
Date	Name	Sheet Metal	
Drawn	22.05.2024 de80009087		
Checked			
Standard			
		1	
		A4	

Inventor drawing title block with entry of the used scales

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Revision Table



Graphical selection of the placement of the revision table on a drawing

Quickly Place Revision Tables

"Revision Table" provides configurations for automatic positioning of the revision table on an Inventor drawing.

This is specifically useful when using the Autodesk Vault PDM system, since its revision table is not automatically repositioned when the sheet size of a drawing is changed.

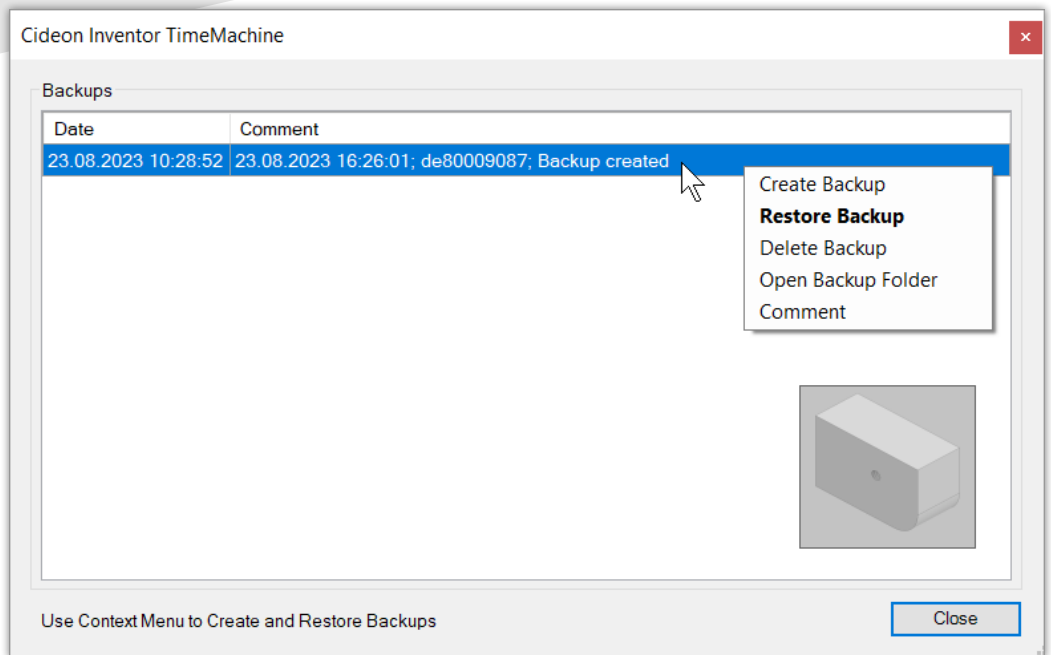
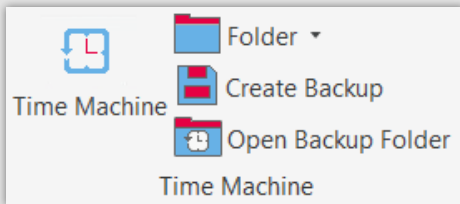
To avoid manual rework, the tool takes care of automatic placement on the drawing sheet, depending on the position of the title block. For this purpose, it is possible to work with direct constraints towards the title block as well as with offset settings in relation to the border of the drawing.

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Time Machine



**Available as Additional
Consulting Service**



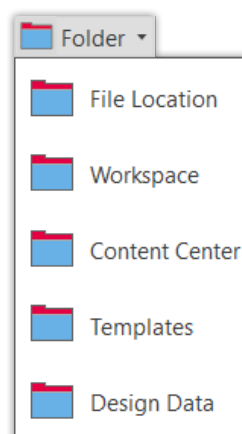
List of available backups of an Inventor file with preview and context menu

More Secure Working has Never Been so Easy

"Time Machine" offers functions for saving and restoring different versions of Inventor documents. This provides the option of versioning - even without using a PDM system.

When working with Autodesk Vault, the use of "Time Machine" does not make sense, therefore the tool is deactivated if an Inventor – Vault connection exists.

The individual document statuses/versions can be restored, called up, commented on or deleted via their context menu. In addition, a preview is displayed for each version for quick identification.



In addition, Time Machine provides quick access to relevant local storage locations of Inventor files and templates.

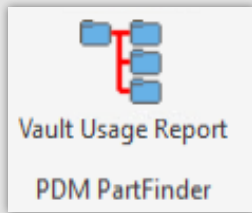
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Cideon Inventor Toolbox

PDM PartFinder



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Consulting Service



The Vault usage report is
written to a text file

```
C:\Users\User\AppData\Local\Temp\Demo-Baugruppe.iam_2022_07_26_13_11_39.txt - Notepad++
Datei Bearbeiten Suchen Ansicht Codierung Sprache Einstellungen Werkzeuge Makros Ausführen Plugins Fenster ?
Demo-Baugruppe.iam_2022_07_26_13_11_39.txt
1 *****
2 VaultFileCheck Erstellt am : '2022-07-26 13:11:39'
3 Geprüfte Baugruppe : 'C:\AUTODESKVAULT\WorkFolder\Dokumente\Drone.iam'
4 *****
5
6 *****
7 Dateien, die in Vault über den Dateinamen gefunden und lokal aktualisiert wurden!
8 Lokale Dateien = Vault Datei lokal aktualisiert
9 *****
10
11 C:\AUTODESKVAULT\WorkFolder\Dokumente\ElectricalConverter.iam = C:\AUTODESKVAULT\WorkFolder\Dokumente\ElectricalConverter.iam
12 C:\AUTODESKVAULT\WorkFolder\Dokumente\Fan.ipt = C:\AUTODESKVAULT\WorkFolder\Dokumente\Fan.ipt
13 C:\AUTODESKVAULT\WorkFolder\Dokumente\Spacer.ipt = C:\AUTODESKVAULT\WorkFolder\Dokumente\Spacer.ipt
14
15 *****
16 Dateien, die in Vault über das Property 'OriginalFileName' gefunden und lokal aktualisiert wurden!
17 Lokale Dateien = Vault Datei lokal aktualisiert
18 *****
19
20 C:\AUTODESKVAULT\WorkFolder\Dokumente\SpiderArm.ipt = C:\AUTODESKVAULT\WorkFolder\Dokumente\Parts\100113.ipt
21 C:\AUTODESKVAULT\WorkFolder\Dokumente\ElectricUnit.iam = C:\AUTODESKVAULT\WorkFolder\Dokumente\100114.iam
22 C:\AUTODESKVAULT\WorkFolder\Dokumente\SpiderBase.ipt = C:\AUTODESKVAULT\WorkFolder\Dokumente\Check\100115.ipt
23 C:\AUTODESKVAULT\WorkFolder\Dokumente\SpiderSpinner.ipt = C:\AUTODESKVAULT\WorkFolder\Dokumente\Parts\100116.ipt
24 C:\AUTODESKVAULT\WorkFolder\Dokumente\SpiderTop.ipt = C:\AUTODESKVAULT\WorkFolder\Dokumente\Parts\100117.ipt
25
26 *****
27 Dateien, die in Vault über die PropertySuche mehrfach gefunden wurden!
28 Lokale Datei
29 *****
30
31 C:\AUTODESKVAULT\WorkFolder\Dokumente\DistributionBoard.ipt = &/Dokumente/Parts/100109.ipt
32 C:\AUTODESKVAULT\WorkFolder\Dokumente\SpiderBattery.ipt = &/Dokumente/Parts/100110.ipt
33
34 *****
35
36 Dateien, die nicht in Vault existieren!
37 Lokale Datei
38 *****
39
40 C:\AUTODESKVAULT\WorkFolder\Dokumente\Motor.ipt
41
Normal text file length: 2517 lines: 46 Ln: 46 Col: 1 Pos: 2518 Windows (CR LF) UTF-8 INS
```

Manage Design Properly

The Cideon "PDM PartFinder" is used for file synchronization when using Inventor with Autodesk Vault as PDM system.

The tool checks if components used in an assembly already exist in Vault in order to avoid creating duplicates. If components are already stored in Vault, they can be exchanged automatically within the assembly after a confirmation.

The components are found by their file names in Vault. This can be done either directly or via the values of the iProperties.

The results are displayed in a text report at the end of the command, allowing a controlled overview.

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PROCESS CONSULTING

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IMPLEMENTATION

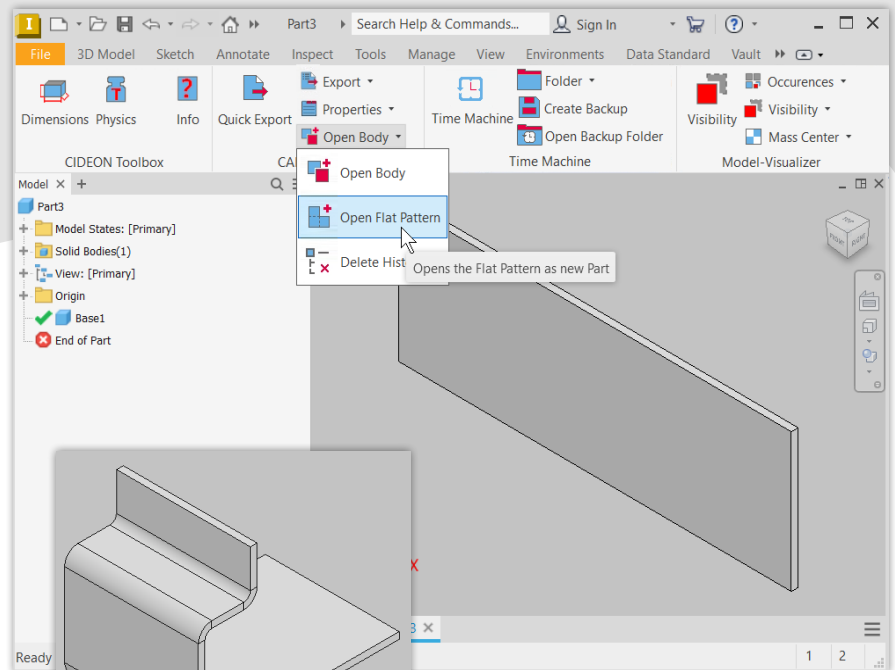
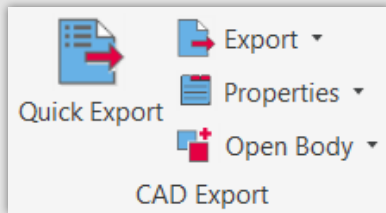
GLOBAL SUPPORT

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CAD Export



Available as Additional Consulting Service



With a Click Everything at one Glance

"CAD Export" offers cool functions for a more efficient way of working:

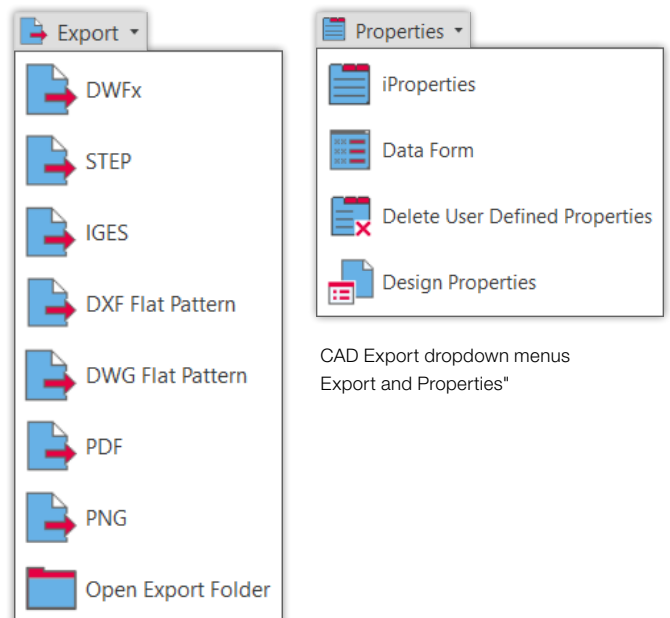
- **Open body** (only for Inventor parts)
This command can be used to open parts or flat patterns as dumb bodies and to delete the modelling history. The quick copy of a solid as a new part is also practical.

- **Export of Inventor documents into various neutral formats**

The drop-down menu allows the purposeful selection of export formats. These are time-stamped for each document and stored in a subfolder with the name of the original document. The base folder path is configurable. The configurable "Quick Export" generates all export formats, which are possible for the active Inventor document.

- **Properties – Easy management of model properties**

iProperties of documents can be viewed, filtered and edited in a user-friendly table. User-defined properties can be deleted with one click. The configurable data sheet allows the input of often used iProperties.



CAD Export dropdown menus
Export and Properties"

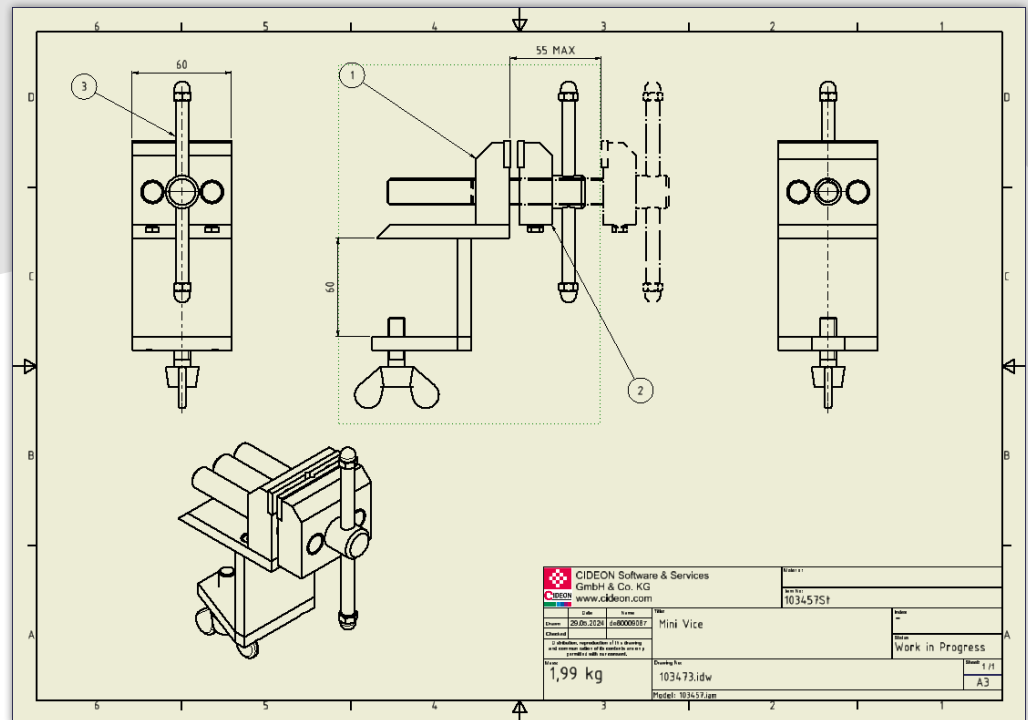
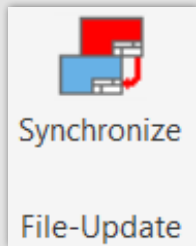
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File-Update



Available as Additional Consulting Service



A drawing synchronized with a template

Simple and Fast - Always up to date

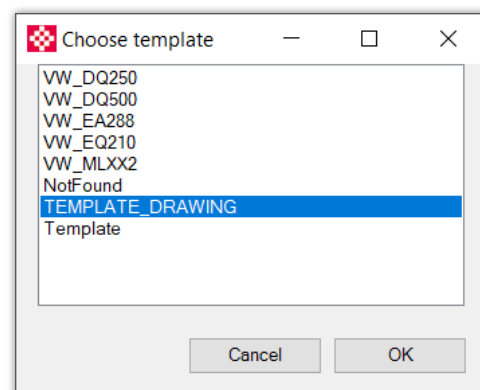
"File-Update" is used to update the resources of drawings and models based on templates. In the process, the settings of the template are copied to the active drawing and drawing resources that are no longer needed are deleted.

Possible settings (all Inventor files):

- Styles
- Parameters
- Properties
- iLogic rules

Additional settings (Inventor drawings):

- Drawing format
- Frame
- Title blocks
- Drawing views



(Optional) selection of a predefined Inventor template

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Stock Material Selector



Cideon Stock Material Selector

Durch Inventor ermittelte Blechstärke: 6,0 mm + Aufmaß: 0,0 mm
 Durch Inventor ermittelte Länge: 970,3 mm + Aufmaß: 0,0 mm
 Durch Inventor ermittelte Breite: 100,0 mm + Aufmaß: 0,0 mm

Bleche

ID no	Thickness	Material	Type of check	Description	Length	Width
20474	6	S235JRG2	3.1	BL 6 3.1	970,300	100,000
20480	6	S235JRG3	3.1	BL 6 3.1	970,300	100,000
20624	6	S235JRG2	2.2	BL 6 2.2	970,300	100,000
25157	6	S235JRG3	2.2	BLECH TS 22	970,300	100,000

Flachmaterialen

ID no	Thickness	Material	Type of check	Description	Length	Width
20730	6	S235JRG2	3.1	FL 60° 2.2	970,300	100,000
25656	6	S235JRG3	3.1	FL 90° 2.2	970,300	100,000

☐ Export DXF

OK Cancel

Dialog "Semi-finished Selection" for sheet metal parts

Selection of Stock Material Made Easy

The tool simplifies the selection of stock materials for sheet metal parts and profiles. It analyzes the geometry of a sheet metal part and offers two lists stock materials (sheets and flat materials) to the user. Sheet metal is filtered according to material thickness; for flat bars, the width is also taken into account.

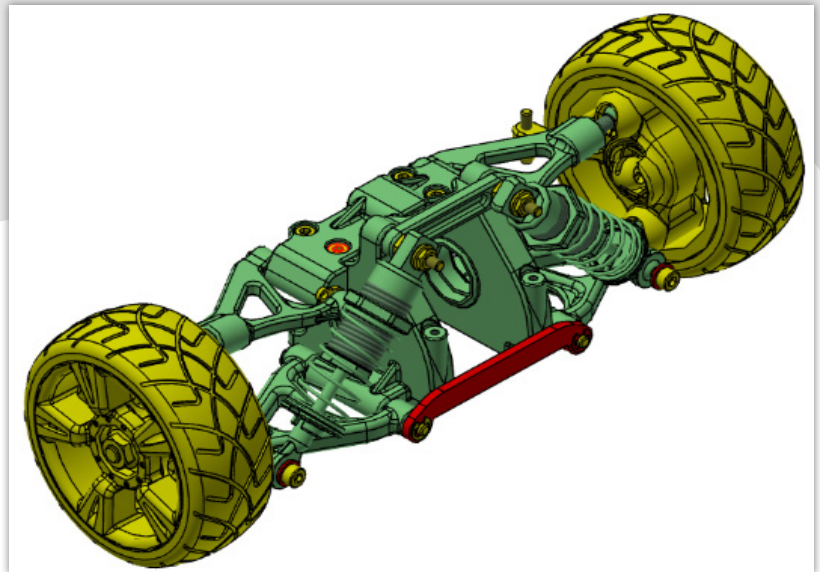
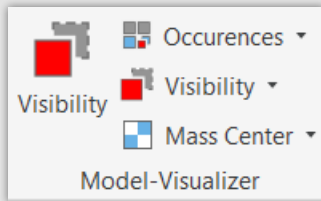
For sheet metal parts, an additional part number can be determined from the preset data source. The selection criterion 'sheet thickness' is determined by finding the two largest parallel surfaces in the part and calculating the distance between them. Machining allowances are handled as well.

Raw dimensions (length, width) of the sheet metal are automatically determined from the Inventor part and written to the corresponding iProperties. Then they are evaluated and used as filter criterion for the display of the flat materials in the selection dialog.

Functions

- Converts suitable parts into sheet metal parts
- Detects thickness, length and width of sheets and profiles
- Determines the dimensions of the sheet metal part
- Searches for a suitable semi-finished part from a data source (CSV files, SQL database or the PDM systems Autodesk Vault and PRO.FILE)
- Automatic DXF export

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Color display of the degrees of freedom of contained components

Keeping the Overview

The Cideon "Model Visualizer" offers functions to improve the overview and to visually analyze assemblies and parts.

■ Visibility

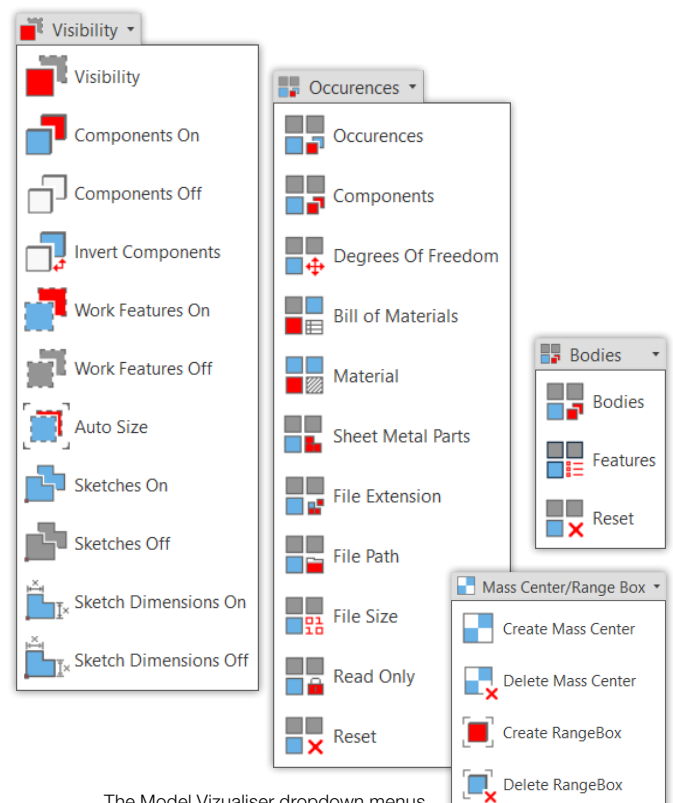
This function allows to quickly switch on and off the visibility of solid bodies or, in the case of assemblies, the used components, as well as sketches, working elements and dimensions.

- **Occurrences** (only available for Inventor assemblies)
These functions can be used to perform extensive color analyses according to various criteria.

- **Bodies** (only available for Inventor parts)
Solid bodies and surfaces of features can be colored variously.

■ Center of Gravity/Rangebox

This function allows the visualization of the model range of parts. For assemblies, working points can be created in the center of gravity.



The Model Visualiser dropdown menus

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Vessel Tool



Create a new vessel with the wizard

Cideon Vessel Tool

Base parameter

☒ Nominal diameter DIN DN 1000

☐ Outer diameter da 1016,00

Total length L 1500,01

Number of segments aS 3

Head

Head type Klöpper head DIN 28011

Thickness (DIN: 4/5/6 mm) s 4,00

Distance a 3,00

Cylinder height h1 20,00

Crown height h2 194,90

Crown radius r1 1016,00

Knuckle radius r2 101,60

Interior height h3 214,90

Segments

Thickness (DIN: 4/5/6 mm) s 4,00

Distance a 3,00

Segment	Length	Distance
Segment1	482,67	3
Segment2	482,67	3
Segment3	482,67	3

OK Abort

Create Vessels Quickly and Easily

The Cideon vessel tool provides functions to define complete, upright vessels from their overall dimensions and to build them element by element.

This function allows you to create and use:

- Vessels with multiple wall segments
- Heads automatically according to standard
- Common head shapes
- Various nozzle shapes on wall and heads
- Matching feet and brackets

Vessel Foot

Dimension of vessel foot

Vessel nom. diameter DN 1000 Vessel Outer diameter da 1016,00

Base plate thickness s2 12,00 Side length base plate b1 200,00

Hole spacing b2 80,00 Hole base plate d5 18,50

Outer diameter d2 114,30 Wall thickness s1 5,60

Reinforcement thickn s3 12,00 Reinforcement diameter d3 150,00

Head radius r 382,00 Clearing distance Hb 200,00

OK Abort

Definition of a vessel foot

Vessel Lifting Clamp

Dimensions lifting clamp

Lifting clamp nominal size 1

Support width GB_E 100,00 Outside diameter da 1016,00

Support length GB_F 95,00 Outer distance of gusset plate Ab_g 80,00

Support spacing Ab_K 17,50 Gusset plate/support thickness S1 6,00

Reinforcement radius r1 20,00 Gusset plate height h3 160,00

Reinforcement height h2 119,00 Gusset plate width t1 80,00

Reinforcement thickness S2 10,00 Lifting clamp type ☒ With support (A) ☐ W/o support (B)

OK Abort

Definition of a vessel lifting clamp

Segment

Dimensions

Nominal size DN 150

Outer diameter da 168,30

Wall thickness (DIN: 4/5 mm) s 4,00

Length l 500,00

Distance to next segment a 3,00

☒ DIM dimensions

Select dimension h

OK Abort

Definition of a vessel segment

Segment Split

Dimensions

Outside diameter da 1000,00

Wall thickness s 4,00

Angle from 0-plane w 0,00

Distance a 2,00

OK Abort

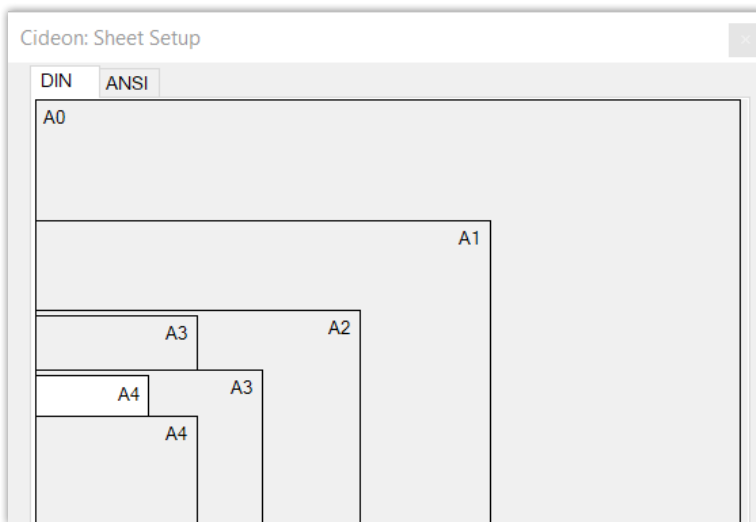
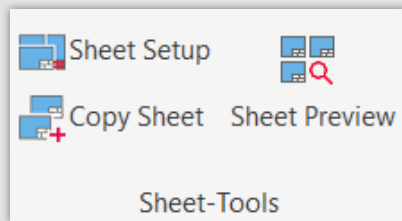
Splitting of a wall segment

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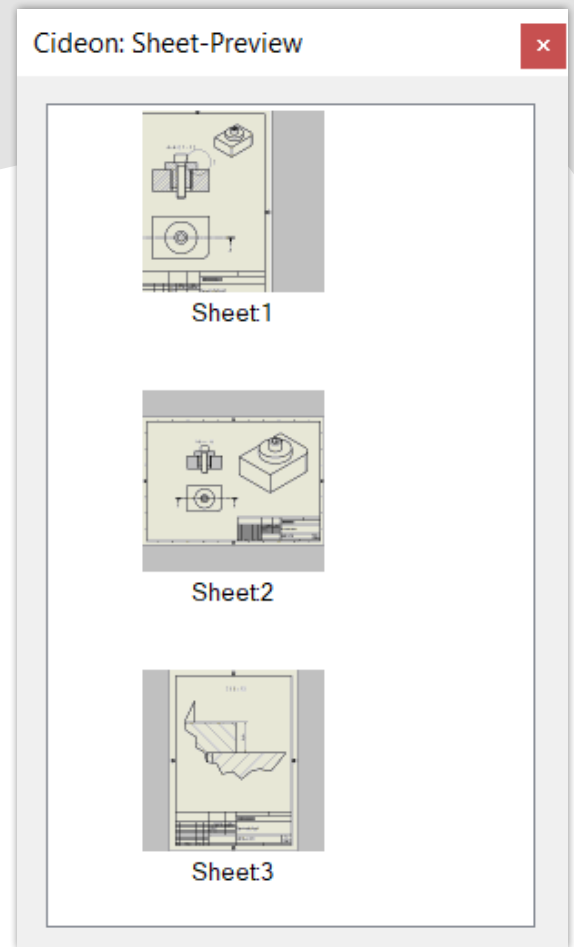
Sheet Tools



Available as Additional
Consulting Service



Quick adjustment of the border and title block in an Inventor drawing



Preview of all sheets in an Inventor drawing

Edit Drawings in Seconds

The Cideon "Sheet Tools" offer a fast overview of drawing sheets via a graphic interface and the possibility of quick adjustment.

The functions allow borders and title blocks to be adjusted very quickly. Furthermore, individual sheets can be copied and a dialog box with a preview of all sheets is available for quick navigation.

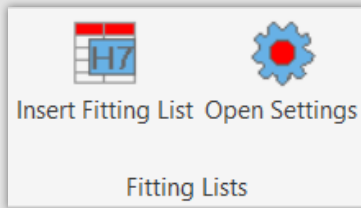
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Cideon Inventor Toolbox

Fitting Lists

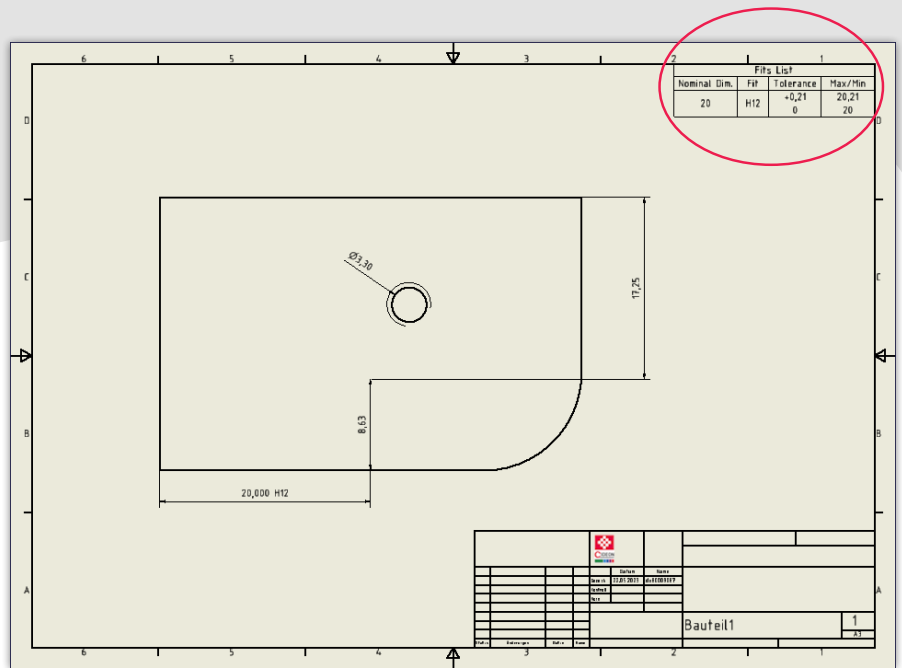


Available as Additional Consulting Service



Fast, Simple, Efficient

The Cideon tool "Fitting Lists" enables the quick insertion of a fits list in Inventor drawings. The tool searches the drawing for holes and their fits, collects the values and inserts them as a table in the drawing.



Inventor drawing with automatically generated fitting list

Requirements for the Cideon Inventor Toolbox and the additional toolbox modules:

- Autodesk Inventor Professional 2022 or newer
- Optional PDM system (depending on tool):
Vault Professional 2022 and higher, or PRO.FILE
- Windows 10 (64 Bit) or higher



Cideon Add-Ons: Automation, Optimization, Integration

With our experience from hundreds of projects, we have built up a unique product and consulting know-how. Together with our customers, we have identified solutions, defined use cases and implemented individual requirements. **You can now benefit from this.** In addition to our deep software expertise in PDM/PLM and engineering environments, we offer a comprehensive consulting- and service portfolio, plus best practices for your efficient design processes. **Contact us!**

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