DASSAULT SYSTEMES

DraftSight Essentials

DraftSight™

DraftSight Essentials

An introductory guide to learn essential tips to make the most of DraftSight tools and productivity features. DraftSight offers multiple product options to support the needs of your business. To see which features are available in each, visit **DraftSight.com** or see our Feature Matrix.

DraftSight™

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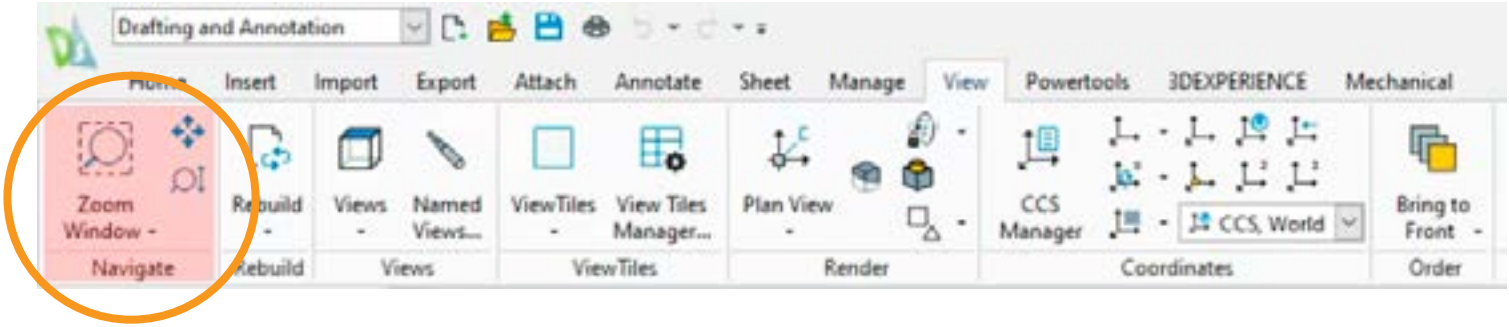
Viewing

Navigating within your DraftSight drawing is easiest using the scroll wheel on your mouse. Scroll forward to zoom in, and backward to zoom out. The location of the zoom will center around the location of your cursor. Holding the wheel down will allow you to Pan around the drawing, and double clicking the scroll wheel will zoom to the extents of the drawing.

All of this can be done while you're in a command, which creates a fast and intuitive way to move about in your drawing.



If you don't have a mouse with a scroll wheel, these and other navigation commands can be found in the View tab of the Ribbon, or you can simply type them into the **Command Window**.

DraftSight Essential Tips Video – Zoom and Pan with Mouse

Geometry

DraftSight provides you with all the tools you need to create your 2D designs. From the **Draw** panel of the **Home** tab, you have access to tools such as **Line, Polyline, Circle, Arc, Ellipse, Hatch** and more. Lines are better thought of as individual segments, while a Polyline is a connected group of lines or arcs that comprise a single entity.

The **Annotate** tab gives you access to tools like **Note** and **SimpleNote**, which allow you to add textual entities to your drawing.

Most of these commands have various options which can affect their creation and display. Keep an eye on the **Command Window** for these options along with prompts which can help you create your entity.

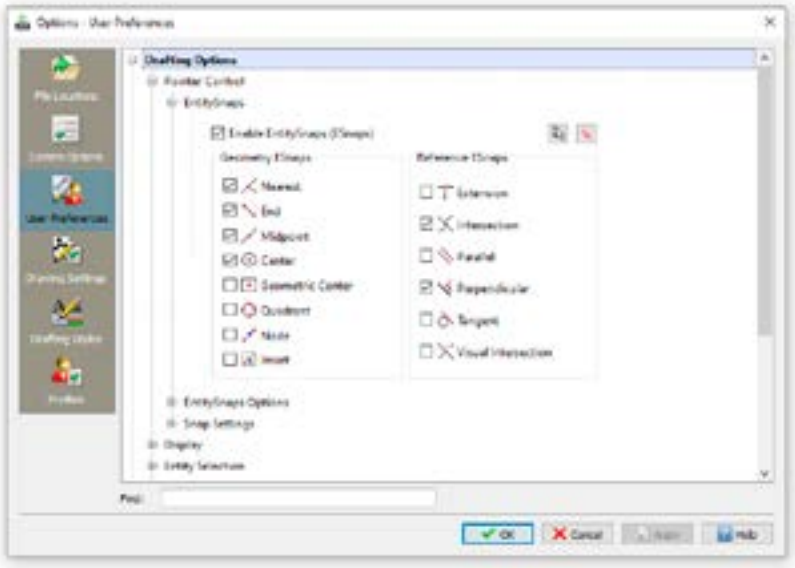
DraftSight Essential Tips Video – The Difference Between a Line and a Polyline

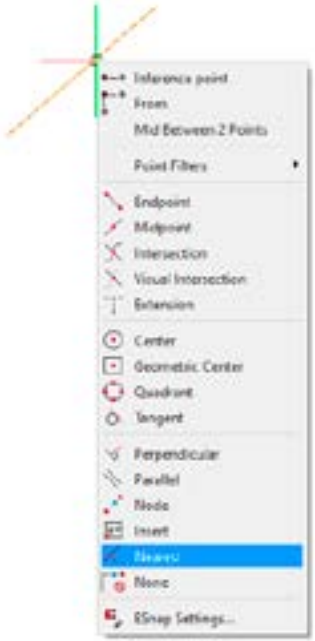
ESnaps

Ensure your drawings and designs are accurate by using DraftSight's **EntitySnaps (ESnaps)** to detect and snap to geometric definition points on drawing entities. For example, you can snap to the Intersection of two lines, the Midpoint of a line, or to the Center Point of a circle.

DraftSight allows you to set up your favorite set of **ESnaps** as shown below. You can then toggle your set on or off either from the **Status Bar**, or by pressing F3.

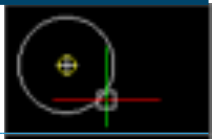
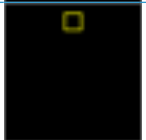
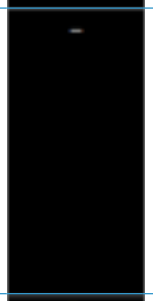
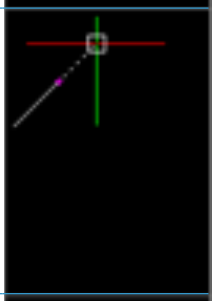
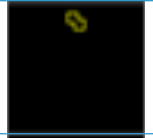
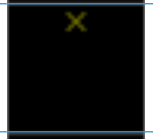
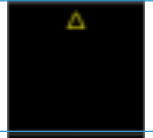
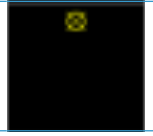
You can also quickly access them as needed whenever you're prompted for a point. Just press Shift and Right-click to display the Entity Snap popup menu.



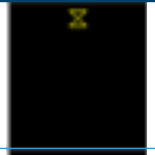
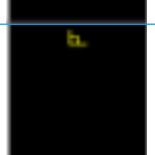
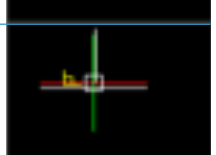
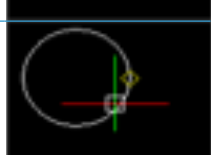
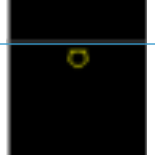
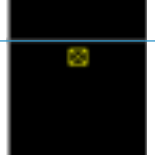


DraftSight Essential Tips Video - Esnaps

Types of ESnaps

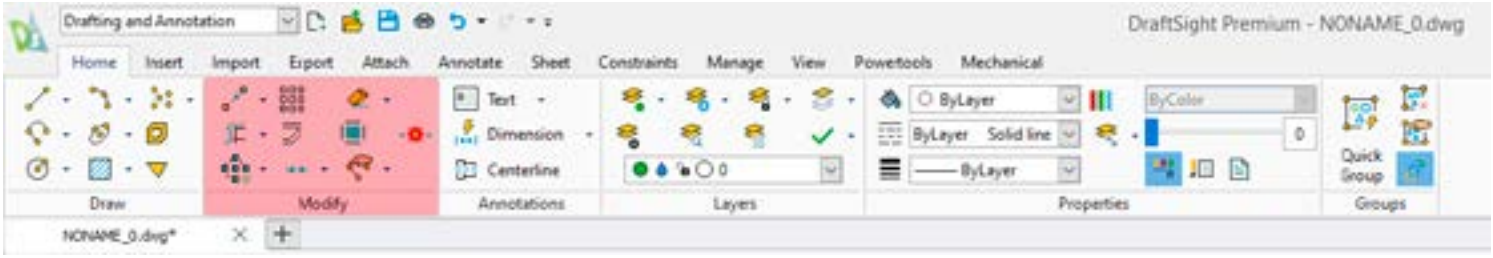
Entity Snap Mode	Abbrevation	Marker	Description	Example
Center	cen		Snaps to the center of a Circle, Ellipse, Ring, or Arc.	
Endpoint	end		Snaps to the end point of a line, Arc or other entity. Planes or edges of solids can be recognized by Endpoint mode. The mode does not differentiate between the start or end point of an entity.	
Extension	ext		Snaps to the extension of an entity or to the intersection of the extension of two entities. A temporary extension line or arc displays as a dotted line when you pass the pointer the extension. To snap to the extension of two entities, first moved the pointer over the end point of an entity. The entity is marked for extension. Then move the pointer over the end point of another entity. This enityt is marked tooo. Finally, move the pointer near the intersection of the extensions. An X indicates the intersection. Click to accept	
Insertion point	ins		Snaps to the insertion point of a Block insrtion, an attribute, or a Text entity.	
Intersection	int		Snaps to the intersection points of Lines, Arcs, and Circles, or any combination of them.	
Midpoint	mid		Snaps to the mid point of a Line or an Arc. PLanes, or the edges of solids, are also interpreted as lines can be snapped ot with the **Midpoint** mode.	
Node	nod		Snaps to a point entity, dimension definition point, or Dimension text origin.	

Types of ESnaps, continued

Entity Snap Mode	Abbrevation	Marker	Description	Example
Nearest	nea		Snaps to the next situated point of an entity when at least ones point of the entity lies within the borders of the GravityBpx. If you select a point without using **Nearest** mode, the selected point might not be on the desired entity. This mode ensures that the entities share a point with the specified entity.	
Parallel	par		Constrains a linear entity to be parallel to another linear entity. When prompted to specify a second or next point whe ndrawing a vector, move the pointer over an existing linear entity until you see the **Parallel** EntitySnap marker. Move the pointer close to a parallel poistion. A dotted line appears, indicating the parallel ESnap. Click the second point of the line on the parallel.	
Perpendicular	per		Requirs that a start point for a funstion has been selected. Activating the EntitySnap mode relates this point to the snapped point. For instance, select the end point for the perpendicular, and **Perpendicular** mode is activated. The result is a perpendicularLine from the end point to the selcted entity.	
Quadrant	qua		Snaps to the nearest quadrant of a Circle or Arc. Quadrants refer to the points of a Circle or Arc of the circumference at 0°, 9°, 180° and 270°. These are intersecting pointsof the axes of a coordinates system upon whose origin lies at the center of the Circle or Arc with the circumference of the Circle or Arc. Only the next visible quadrant of an Arc an be snapped.	
Tangent	tan		Requires that a start point for a function has been selected. Activating the EntitySnap mode relates this point to the snapped point.For instance, to create a Line tangent to a Circle, select the end point for the tangent Line, and **Tangent** mode is activated. The result is a tangent Line from the end point to the chosen entity.	
Visual intersection	appint		Snaps to the location in the plan view of the current coordinate sysytem wher two entities would intersect if they were projected onto the plan view. In 3D space, Visual Intersection mode snaps to twoentities that might or might not actually intersect, whereas, in 2D draftling, it snaps to the projected intersection of two Line entities. If the GravityBox covers only one drawing entity when snapping, you are prompted to select a second entity.	

Modify

Once you've drawn your geometry, and ensured their accuracy with **ESnaps**, you will eventually need to modify them. DraftSight provides all the tools you'll need to change the shape of your entities, right from the **Modify** panel of the **Home** tab.



You can **Copy**, **Move**, **Stretch** or **Scale** your entities. **Break**, **Split** or **Weld** them, create **Offsets**, **Patterns**, or maybe you need to **Extend** or **Trim** them. And if you do, you'll no doubt find tremendous value in using **PowerTrim**, which you can find only in DraftSight.

Of course, entities aren't just geometry, they also have various properties that you may need to modify, such as their **Layer**, **LineColor**, **LineStyle**, or **LineWeight**. All these are easily changed from the **Properties Palette**. If it's not on, you can easily toggle its display by either pressing CTRL-1 on the keyboard, or just select the entity, right-click, and choose **Properties**.

DraftSight Essential Tips Video – PowerTrim

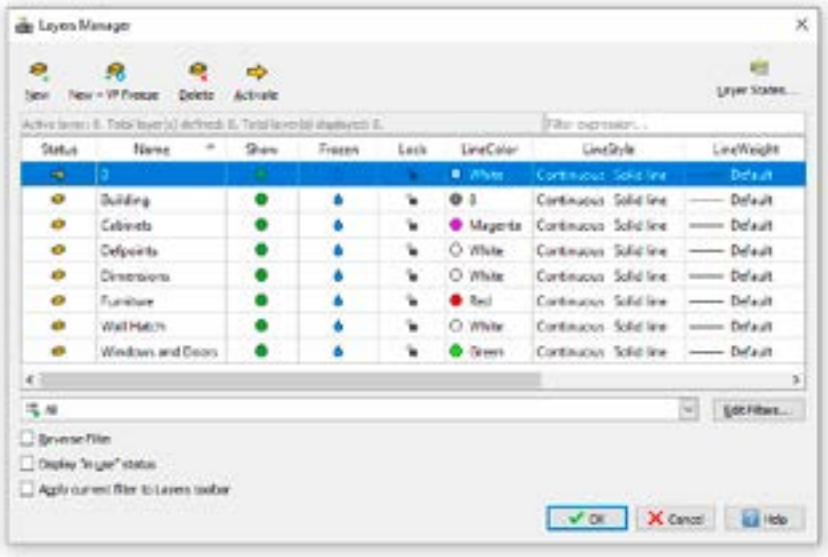
Layers

A fundamental element of a professional drawing is using layers to organize your work. You can organize a drawing by creating layers to group related drawing elements, such as walls, windows, or doors. They can also serve to separate types of annotation, such as notes and dimensions.

Each **Layer** has **LineColor**, **LineStyle**, and **LineWeight** properties. Anything you draw on the **Layer** adopts the layer's properties unless you explicitly set a **LineColor**, **LineStyle**, or **LineWeight** other than those of the active **Layer**. Learn more about Layers on the DraftSight blog.

This drawing is a floor plan of a small house. Each group of entities is a different color and represents a separate layer.

The **Layers Manager** provides easy access to all the functions you'll need to create and manage your layers, along with their visibility, properties, and behavior. This **Layers Manager** shows the layers used in the example drawing.

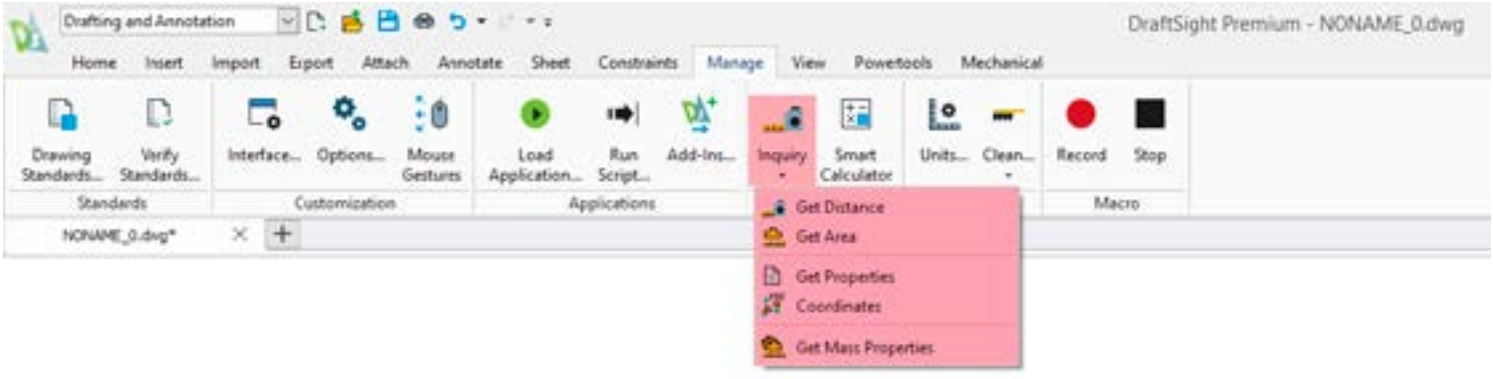


DraftSight Essential Tips Video - Layers

Inquiry Tools

DraftSight has numerous **Inquiry Tools** that allow you to quickly query various geometrical aspects of your drawing entities.

You can find them on the **Utilities** panel of the **Manage** tab.



Get Distance lists the distance between a start point and an endpoint.

Get Area gives the area and perimeter of an entity.

Get Properties view details of an entity, including **Type**, **Layer**, **LineColor**, **LineStyle**, **LineWeight**, **Mode** (model or sheet), its **Coordinates**, and other details depending on its type.

Coordinates click on a point for its X, Y and Z Coordinates.

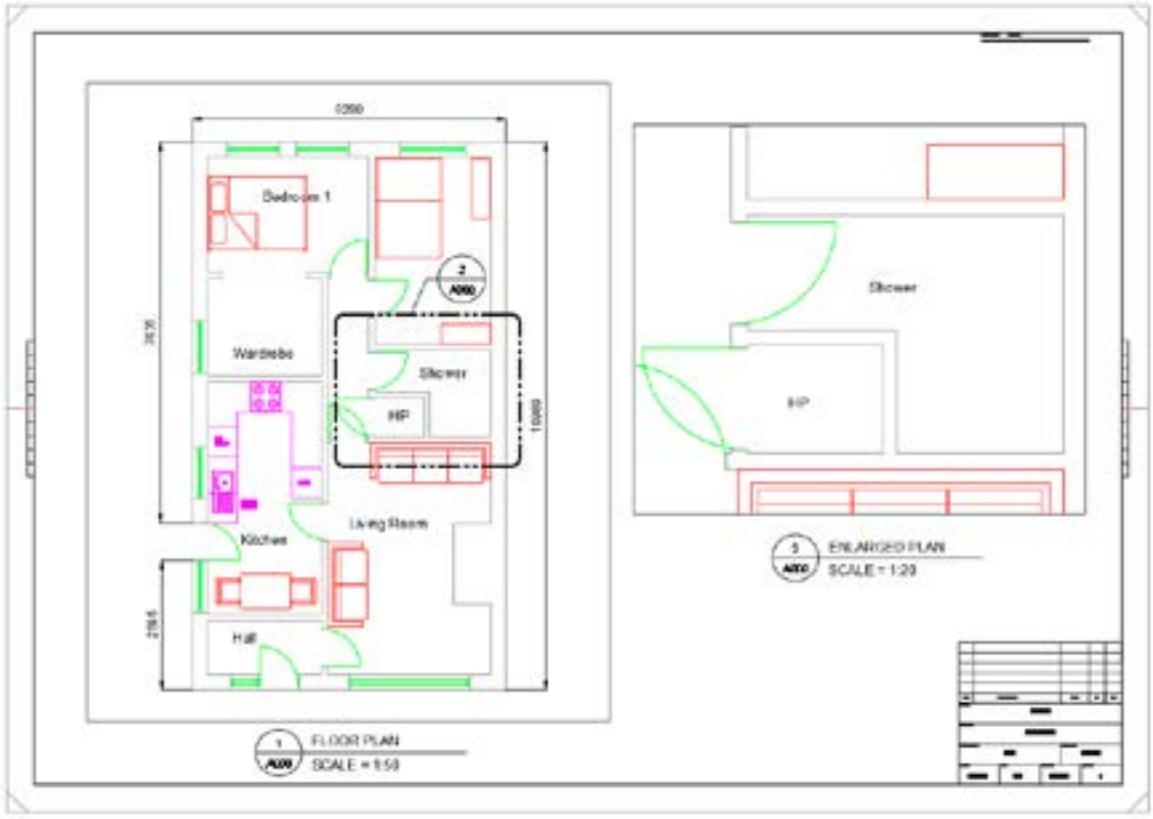
Get Mass Properties calculates and displays the mass properties of **3D Solids** and **Regions**.

Viewports and Sheets

The DraftSight interface consists of **Model Space**, which is where you create your full-scale drawings, and **Sheet Space**, which is where you set up your design for annotation and plotting.

You can view your design in **Sheet Space** through **Viewports**. You can create as many as you need, and they can even be different scales. Typically, title blocks and annotations are done in **Sheet Space**, and DraftSight can ensure that notes and dimensions are scaled accurately based on the **Viewport**.

In this example, the **Viewport** on the left is zoomed and scaled to see the overall design in **Model Space**, but the **Viewport** on the right is zoomed into the detail callout and scaled up.



Note and SimpleNote

Add textual annotations to your DraftSight drawings with the powerful features available to you with the **Note** tool. You can have full control of the appearance of your text entities. With **Notes**, your annotations appear as formatted blocks of text, allowing you to easily change things like the style or font, size, alignment. You can add special characters or even create numbered or bulleted lists. Editing is as easy as double clicking your **Note** block, which displays the built-in **Note Formatting** popup toolbar.

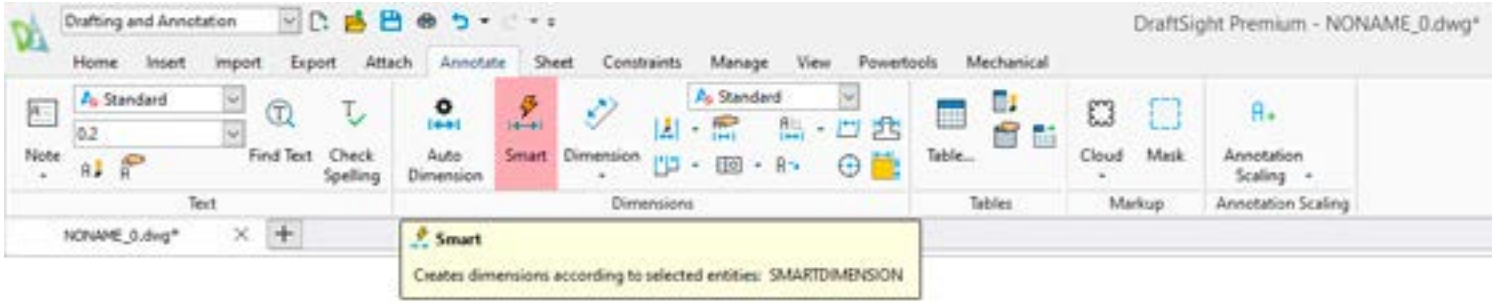
DraftSight Essential Tips Video - Note

If you need to a single line of text that is based on the current **TextStyle**, use **SimpleNote** instead. Just click your start point, agree to a couple of prompts (or change them), and start typing. Click **Enter** twice to exit the command, or once to make a new, independent line of text below the first. Editing is even simple – double click the text and the entire line will highlight, allowing you to begin editing immediately.

DraftSight Essential Tips Video - SimpleNote

Dimensioning

With DraftSight, you can dimension your drawings faster than ever with the new **SmartDimension** tool. Using **SmartDimension**, you no longer need to pre-determine which **Dimension** command to use, just click on your entity, and it will use the proper type based on that entity.



With **SmartDimension**, you'll save time by not having to continually end one **Dimension** command to start another. You can find it in the **Dimensions** panel of the **Annotate** tab.

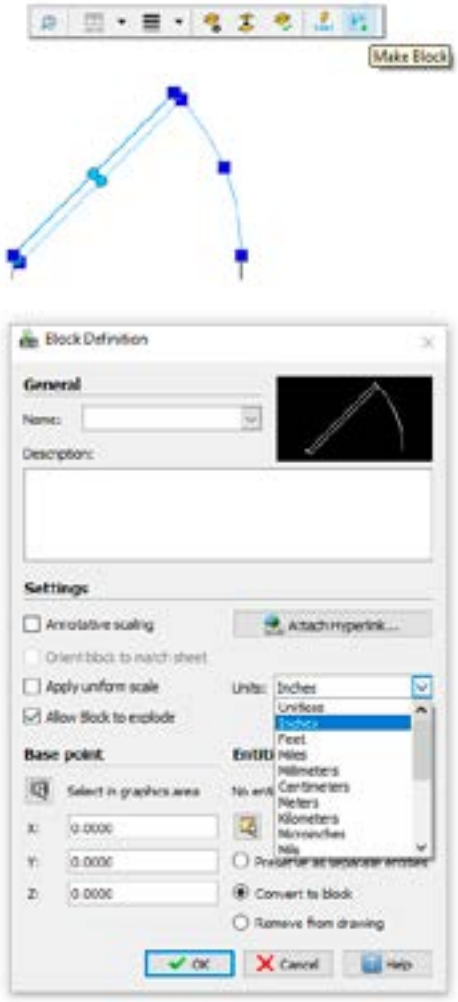
DraftSight Essential Tips Video – Smart Dimension

Blocks

A block is a named collection of entities that typically represent an object. Perhaps it's a chair, a door, or even a valve symbol. Whenever you need to show a group of entities in multiple locations, it's best to turn them into a block.

Blocks are stored in the drawing in which they were created but can easily be exported out to a new DWG file for use by others. In fact, any DWG file can be inserted into a DraftSight DWG file, and it will become a block within that file.

Using blocks in your drawings not only helps ensure the consistent look of your object or symbol, but also reduces the overall file size, which can impact performance.



Creating your Blocks

Making your own blocks is easy, but there are a few rules to follow. Typically, the entities that are in the block are on **Layer 0**. This method allows those entities to take on the properties of the current layer when **LineColor** and **LineStyle** and **LineWeight** are set to **ByLayer**. Make sure you choose an insertion point that makes sense for your block and select the units you used to create your block, which will ensure that it will scale correctly when used in drawing with other unit settings.

Naming and Managing Blocks

In time, you may develop a large library of blocks, so you'll want to have a good naming scheme. Consider things like its name, function, size, etc. in your name. It's usually best to make it descriptive, as others will need to understand what it is.

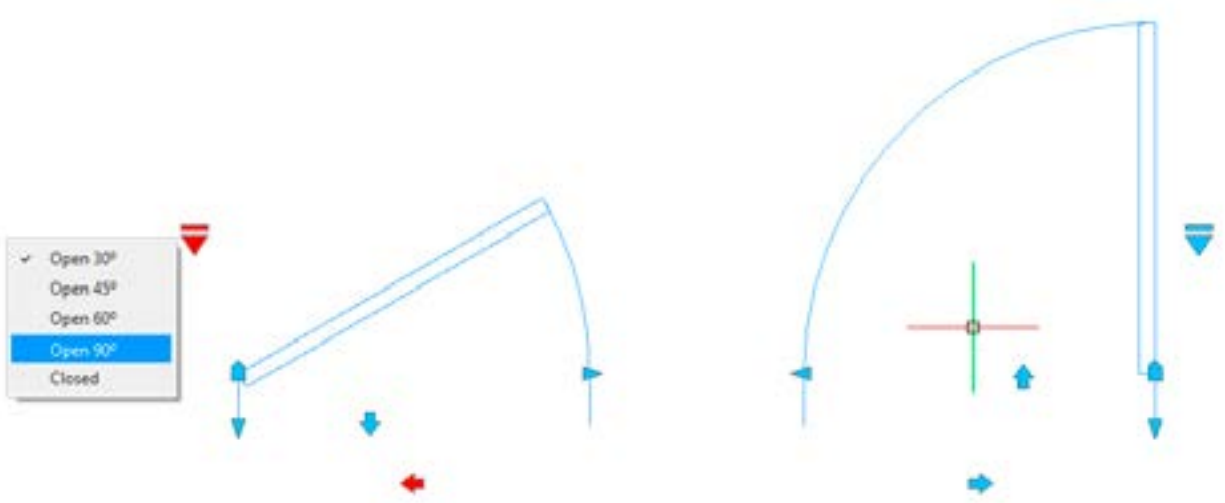
There are a couple of schools of thought to manage a block library. Some like to have a folder full of individual DWG's where each file is a single block. While others prefer to create a single drawing with each block defined within it.

Whichever method you choose, make sure the library is accessible to your entire team by placing it in a shared network drive, and remember to consider your naming scheme as you'll want the list to sort in a logical manner.

Dynamic Blocks

DraftSight now supports inserting and manipulating AutoCAD® **Dynamic Blocks**. When selected, these types of blocks display special grips that allow you to change its size or shape, change its orientation, or even choose how it is displayed.

In the image below, the selected door block displays several dynamic grips. By editing just two of them, you can change the display and orientation of the door. Here, we choose a new **Visibility State** with the down arrow grip, and then change the direction of swing with the **Flip** grip.



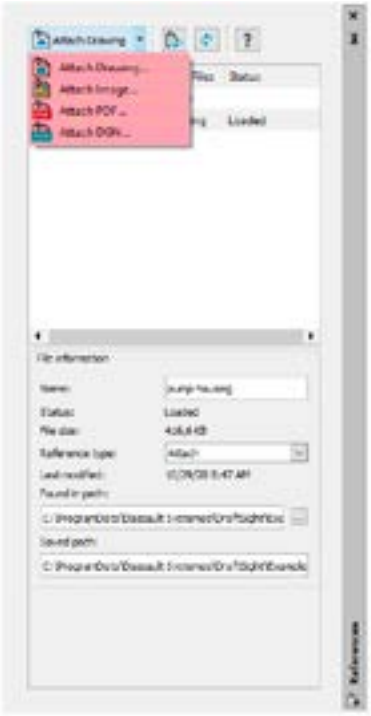
Using **Dynamic Blocks** can not only save you time but also reduce the size of your drawing file since you don't have to have a separate block for every design condition the block might require.

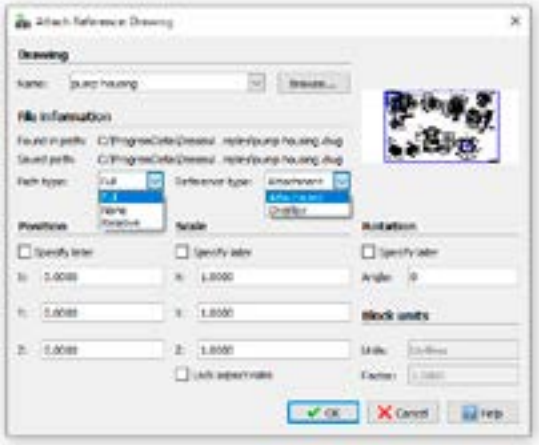
External Reference Files (XRefs)

If your workflow includes attaching external DWG files as a reference (XRefs), you can continue to use them, as DraftSight fully supports them, along with all the features you may be used to.

You can choose between **Overlay** and **Attach**, choose what kind of pathing to use, clip them, fully open them from the host drawing, or choose to edit in place. However, you interact with XRefs, you'll feel right at home in DraftSight.

You're not confined to just DWG files either, as you might expect, DraftSight also supports other file types, such as DGN and PDF, along with most common image formats such as JPG, TIF, etc.



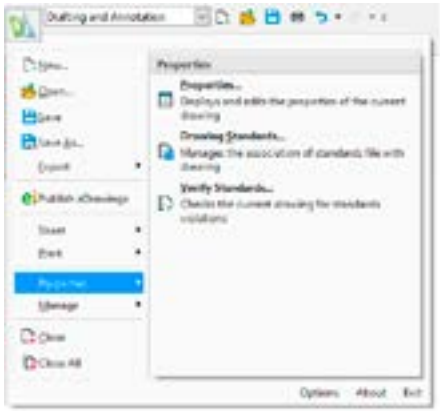


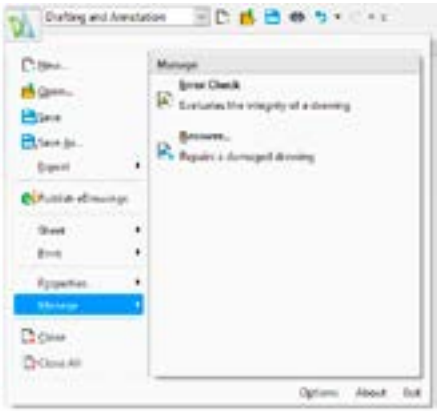
DWG File format

DraftSight uses and fully supports the DWG file format. Anything you're used to doing with a DWG, you can do in DraftSight.

So, go ahead and keep your DWG files lean and fast using the **Clean (Purge)** command to remove unused entities and styles. Maintain your DWG's integrity by using **Error Check (Audit)** on occasion.

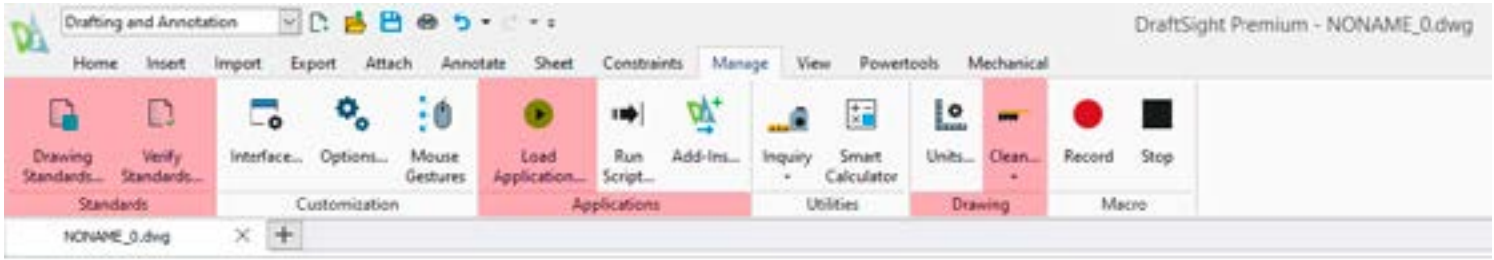
Feel free to save your DWG file to any previous format you desire – all the way back to R12! Use it to create a DWS file (Standards) or keep yourself organized by saving to a DWT file (Template).





You can **Import** and **Export** your DWG to many of the most popular file formats, including the industry standard, DXF – again, all the way back R12 if you need to.

And don't worry if your current CAD system is customized using AutoLISP®, Visual LISP®, or other API's as DraftSight will handle those for you too.



Maximize Resources and Improve Productivity

DraftSight has been on the market for over ten years under SOLIDWORKS, a world leader in design and engineering software, and has won the trust of millions of users worldwide. Companies' trust DraftSight 2D CAD with the productivity tools, functionality, and file compatibility needed to create, edit, view, and mark up any kind of DWG file quickly and efficiently. DraftSight provides comparable, if not greater capabilities than alternative CAD products with the flexibility of network licensing and support for organizations.

Additional Resources

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