Introduction to 2D Parametric Constraints

DASSAULT SYSTEMES

DraftSight™

2D Parametric Constraints

If you've ever needed to ensure your design intent by adding Parametrics to your drawing, you'll want to check out DraftSight Premium or DraftSight Enterprise Plus. Both packages include all the features in DraftSight Professional (or Enterprise), plus powerful 2D Parametric Constraints, which maintain your entities' geometric relationships while allowing you to focus on your design.

DraftSight Premium and Enterprise Plus are both integrated with other Dassault Systèmes and SOLIDWORKS solutions and services. This guide is intended to serve as an introduction to the parametric tools and concepts you'll need to help you to get started using 2D Parametric Constraints.
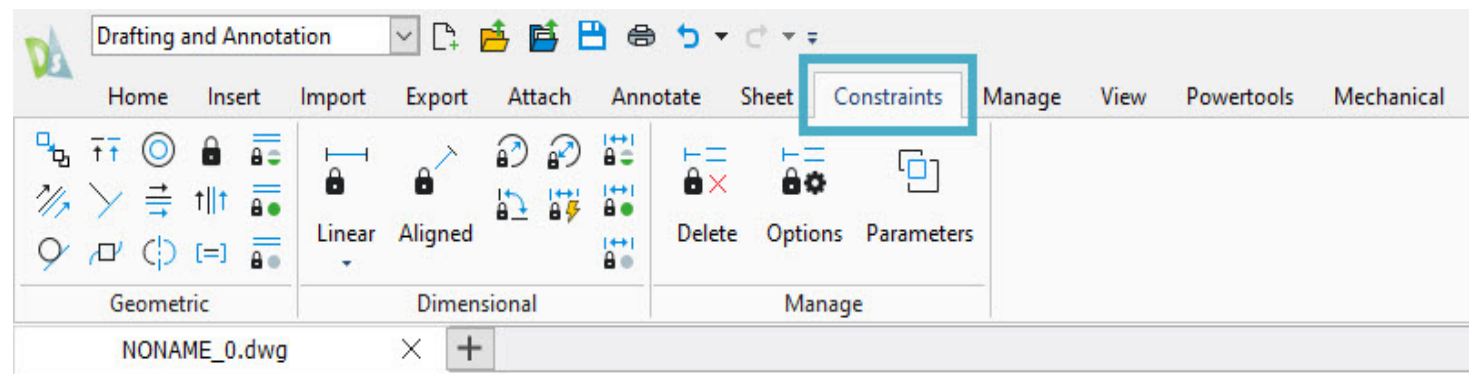
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Parametric Drafting

Parametric drafting is a feature where constraints are used to establish the distance, location, and orientation of 2D entities relative to each other. 2D constraints are only available in DraftSight Premium and Enterprise Plus.

You can apply either geometric or dimensional constraints to your 2D entities. Typically, geometric constraints are added first, followed by dimensional, if necessary. Constraints allow you to ensure your design intent by maintaining the geometric relationship between entities.

Access to geometric and dimensional constraints, along with their associated tools, can be found within the Constraints tab in the Ribbon.
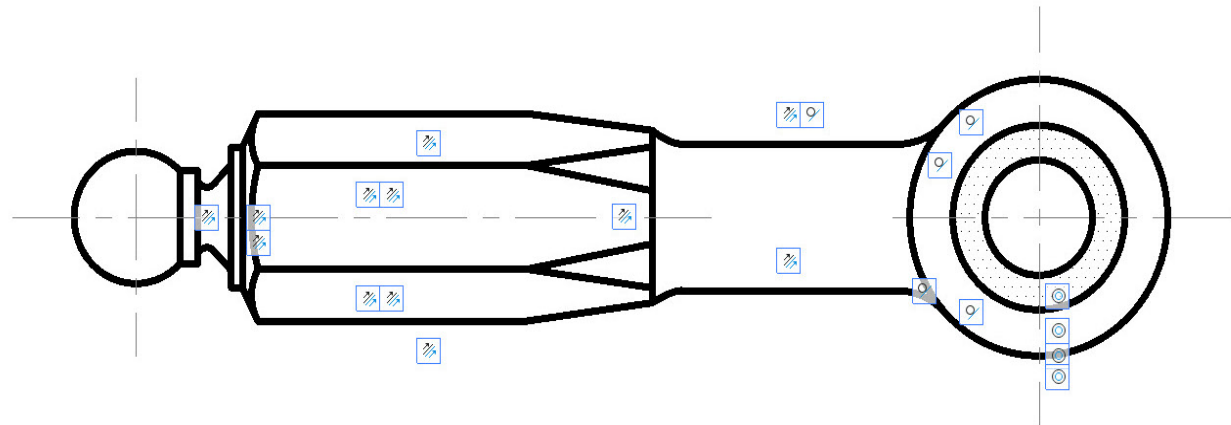
Geometric Constraints

Geometric constraints specify how entities are allowed to change size, shape, or their relation to other entities based upon their geometry.

For example, you can make sure two (or more) lines always remain parallel or perpendicular, or that circles and arcs are always concentric or tangent.

The geometric constraints in DraftSight are coincident, fix, collinear, concentric, parallel, equal, tangent, smooth, horizontal, vertical, symmetric, and perpendicular.

By applying geometric constraints, you can maintain the geometric relationships of your project's elements both during and after the design phase, thus ensuring your design intent is maintained.
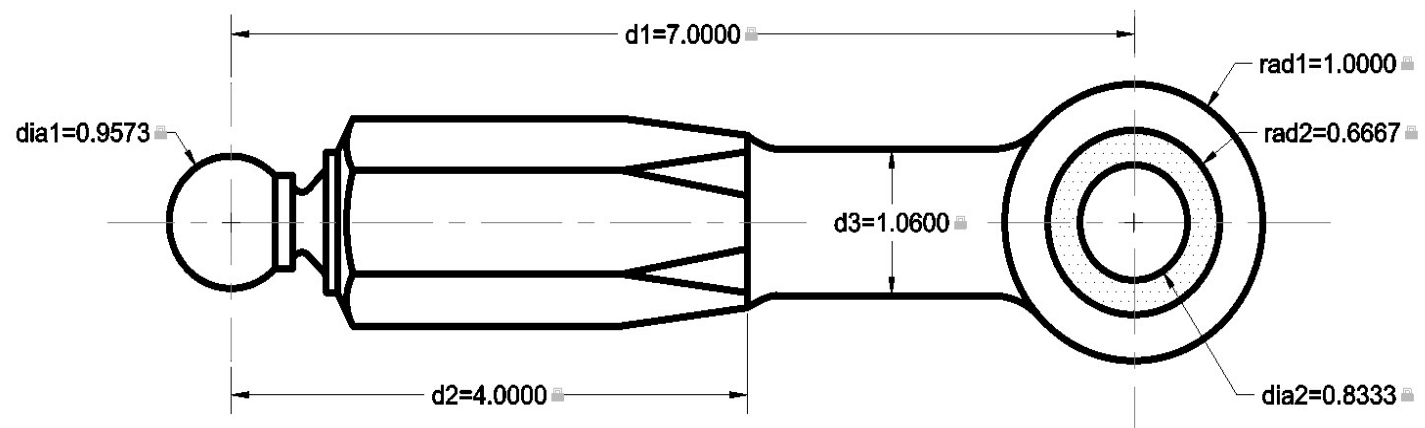
Dimensional Constraints

Dimensional constraints control the position, size, or angle of geometry relative to the drawing or to other entities. When the dimension is changed, the entity automatically adjusts to the dimension.

The best way to describe their function may be that of being the opposite of an associative dimension. When the dimensional constraint is changed, its associated geometry also changes, as opposed to changing the geometry first, and having the associated dimension change to reflect its new value.

You can apply linear, horizontal, vertical, aligned, radial, diameter or angular constraints.

Dimensional constraints can be either Dynamic or Annotative. A Dynamic dimensional constraint does not plot, and it maintains a consistent size when zooming within the drawing. An Annotative constraint acts more like a normal dimension, as it does plot, assumes the current dimension style, and resizes itself based on the current zoom value.
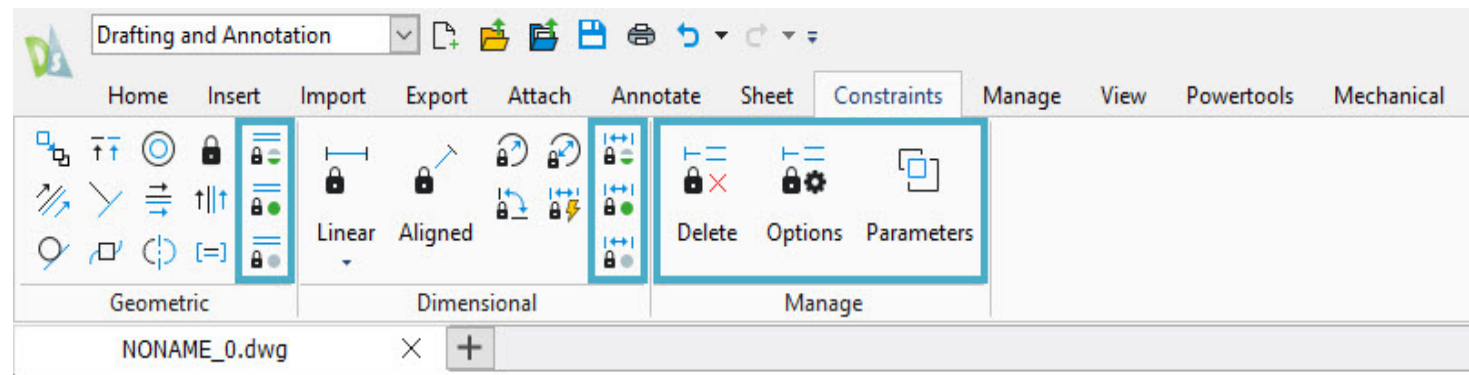
Additional Tools

There are additional tools found in both the Geometric and Dimensional Ribbon panels. For both types of constraints, there are tools that allow you to alter the visibility of the constraint icon. You can turn them all off, turn them all on, or toggle them on or off by selecting entities.

There is also a tool that will allow you to convert regular dimensions into Dimensional constraints.

Tools found in the Manage panel allow you to delete existing constraints, provide easy access to the available settings found in the Options dialog, and to the Parameters palette, where you can easily manage your dimensional constraints.

Experience the Benefits of 2D Parametric drafting in DraftSight.

DraftSight supports your 2D design workflows and helps you to ensure geometric relationships and design intent by utilizing the power of 2D parametric constraints. With DraftSight Premium and Enterprise Plus, you can experience a robust all-in-one 2D drafting and design environment including 2D parametric constraints.

Additional Resources

⊳ **Visit our website**
https://www.draftsight.com

⊳ **DraftSight Free Trial**
https://www.draftsight.com/freetrial

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