# Comparing Cobalt™ to Rhino

ASHLAR•VELLUM™
*Software that works the way you think.*

## Intended Use

Cobalt is created especially for product and industrial designers going to traditional manufacturing processes. It is specifically for design engineers requiring a high degree of stylization, efficient design variation, and precision engineering.

Rhino allows concept design of highly stylized products but provides limited capabilities for precision engineering drawings and no variational dimensional constraints. Generally, objects are redrawn in another program for production, requiring additional investment.

## Cobalt's Advantages in a Nutshell

Cobalt takes you from initial concept and visualization, through rapid prototyping, to precision engineering, into marketing presentations, and finally to precision output for CAM. It has the ability to create any shape imaginable and the power to precisely manufacture it. The natural workflow of Ashlar-Vellum's award winning interface gives you all the power to design without the software impeding the creative process. Not only does Cobalt provide an interactive hybrid of surface and solid modeling, on-demand dimensional constraints, drafting, rendering and animation, all in one package, but it does so on both Mac and Windows. Cobalt brings real productivity with the power to create what you want, in the manner you wish to work, through an interface that works the way you think.

## Why would anyone Buy Rhino?

Where Cobalt is a complete package for product design and manufacturing, Rhino is a specialty surfacing program purchased to add surfacing to other toolsets. While Rhino has a few more surfacing tools than Cobalt, it provides no associativity, no real solid modeling and limited 2D drafting, all major productivity requirements.

## Cobalt's Benefits

- Cobalt lets you turn your conceptual ideas into real products with the power of variational dimensional constraints. These facilitate efficient design changes and the fast creation of product families.

- Cobalt integrates the productivity of solid modeling with the complex shapes achieved by surface modeling. Its completely hybrid system allows seamless movement from one modeling type to the other. In Rhino everything must be modeled using surfacing tools, a highly labor-intensive process.

- Cobalt provides a history tree and associativity, facilitating design changes at any point. These are productivity tools demanded by professional designers. In Rhino, to edit features you must delete and redraw them.

- Cobalt offers on-demand parametrics for efficient creation of variations on a design idea.

- Cobalt supports faster rendering with precision control. Unlike Rhino with Flamingo, it also includes built-in animation for the creation of walk-throughs and fly-bys.

- Cobalt includes robust precision drafting capabilities, both from the model and standalone.

- Cobalt runs on both Mac and PC, providing cross-platform compatibility. Rhino is limited to the PC.

- Cobalt contains everything needed from concept and variational design development, visualization and marketing presentations, to precision output. Rhino provides surface modeling and offers rendering only with the addition of Flamingo.

## Comparison at the 40,000 Foot Level

This chart represents a broad-brush comparison of Cobalt to Rhino. Each column represents full complement of those features available across all 3D modeling and CAD products on the market. The filled dots represent the percentage of that category's features covered by that product. This is a subjective analysis not a scientific survey, but if you add the feature scores for each product and consider the additional productivity from associativity, you'll find the superior value of Cobalt.

| Feature | $$$ | Unified Design Environment | Integrated Solids | Integrated Surfaces | Integrated Wireframe Creation | 2D Drafting from 3D Model | 2D Drafting NOT from Model | Rendering/ Animation | Think thru Problem in 3D | Repurpose Geometry | Easy Learning Curve |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Cobalt v7 | $3995 complete | ●●●●● | ●●●●● | ●●●●○ | ●●●●● | ●●●●○ | ●●●●● | ●●●●○ | ●●●●● | ●●●●● | ●●●●● |
| Rhino w/ Flamingo | $1390 | ●●◖○○ | ●○○○○ | ●●●●● | ●●●●○ | ○○○○○ | ●●●○○ | ●●●●○ | ●●●○○ | ●●●○○ | ●●●○○ |

## The Concept to Manufacture Continuum

Another way to compare Cobalt and Rhino is to see how strong each one is at certain steps along the path from product concept, through visualization, clear to final manufacturing.

| Sketching | Concept Design & Visualization | Rapid Prototyping | Detail Design & Visualization | Marketing Presentations | Assemblies | Precision Drawings | Precision Output to Manufacture |

Cobalt $3995

Rhino + Flamingo $1390