

# COBRA™ Gimbal

3 DOF, High Accuracy, High Reliability Carpal-Wrist Gimbal



The COBRA Gimbal is a low SWAP, high performance mechanism providing continuous precision pointing and end effector positioning over a full hemispherical workspace.

## Capabilities

- 3DOF actuation - az, el, and extension
- Provides continuous, singularity-free pointing without inducing cable twist/wrap while eliminating slip rings
- Holding torque allows position to be rigidly held with motors unpowered
- 3+ Year designed and tested system life
- Flight qualified to NASA GEVS (GSFC-STD-7000)
- Launch lock options available
- SWIFT®-based controller in development

COBRA-HPX



## Specifications

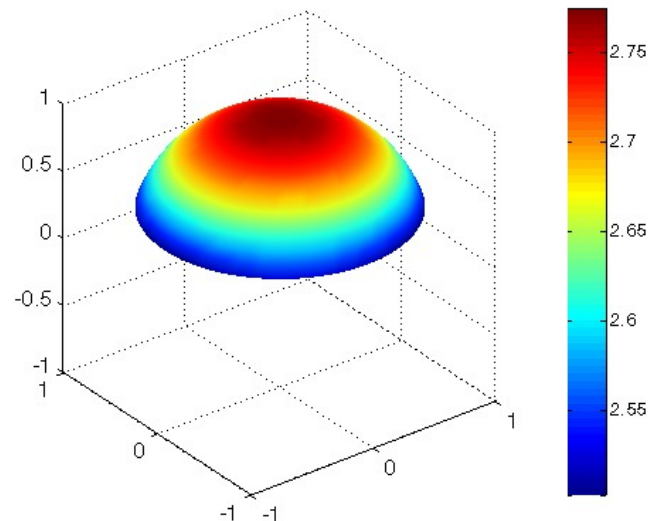
Model	COBRA-C	COBRA-HPX	COBRA-UHPX
Actuator	Open-Loop Stepper	Closed-Loop Stepper	Closed-Loop Brushless
Workspace	$> 2\pi$ sr	$> 2\pi$ sr	$> 2\pi$ sr
Pointing Resolution	$\leq 120$ arc-sec	$\leq 276$ arc-sec	$\leq 3$ arc-sec
Pointing Repeatability	$\leq \pm 20$ arc-min	$\leq \pm 234$ arc-sec	$\leq \pm 237$ arc-sec
Gimbal Mass	155 g	184 g (276 g) <sup>1</sup>	491 g
Stowed Footprint	$\varnothing$ 100 mm	$\varnothing$ 113 mm	$\varnothing$ 165 mm
Stowed Stack Height	26 mm	29.2 mm	40 mm
Operating Power	$< 2$ W	2.4 W	$< 10$ W - Load Dependent
OG Payload Capacity <sup>2</sup>	1200 g	1200 g	(500 g) <sup>3</sup>

<sup>1</sup> Includes launch lock system.

<sup>2</sup> Payload capacity depends on 1G & OG pointing requirements and launch lock capacity.

## Variations

- Actuator and sensor changes can increase payload capacity, resolution, and/or slew rates.
- Geometry changes can support increased workspace, reduced mass, and varied form factors.



COBRA-UHPX Pointing Resolution (arc-sec)