



# Advanced CubeSat Ejector System (ACES) 6U CubeSat System

## Wallops Flight Facility

- Provides support from concept to launch
- Mission design laboratory to take your idea to the next level
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- Onsite integration and test facilities
- Launch service support on orbital and suborbital platforms
- World class telecommunication systems to bring your data back to you

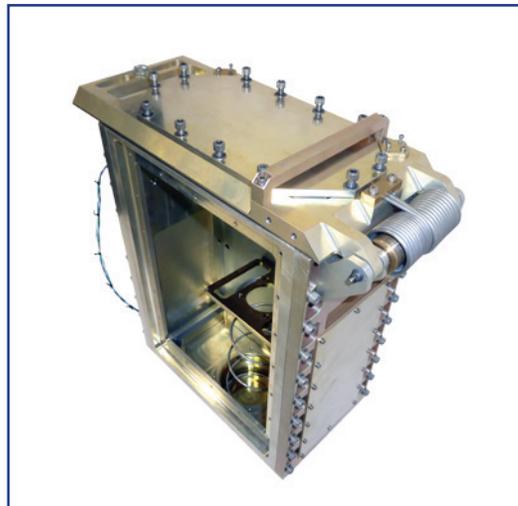


## 6U Satellite

- Up to 19% greater internal packaging volume than a standard 6U
- Greater external volume by allowing 3/8" protrusion from the external surface or 1/2" from the internal surface
- Customizable panels for mission to mission flexibility
- Two guide rail system frees up two corners for additional packaging or deployable options

## ACES 6U Deployer

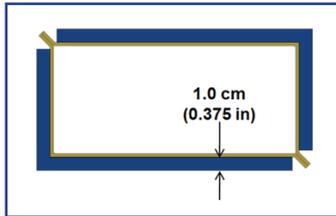
- Predictable, preloaded system that provides a secure axial and lateral constraint for the payload
- Does not rely of friction to hold the satellite
- Decouples the guide rails from the constraint system allowing for relaxed tolerances
- Spring pushes satellite halfway, allowing guide rails to minimize tip off effects
- Door does not contact satellite during ejection, yielding more predictable exit velocities
- Large satellite access panels



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**UNIQUE SOLUTION FOR 6U CUBESAT CONSTRAINT**

## 6U CubeSat Specifications

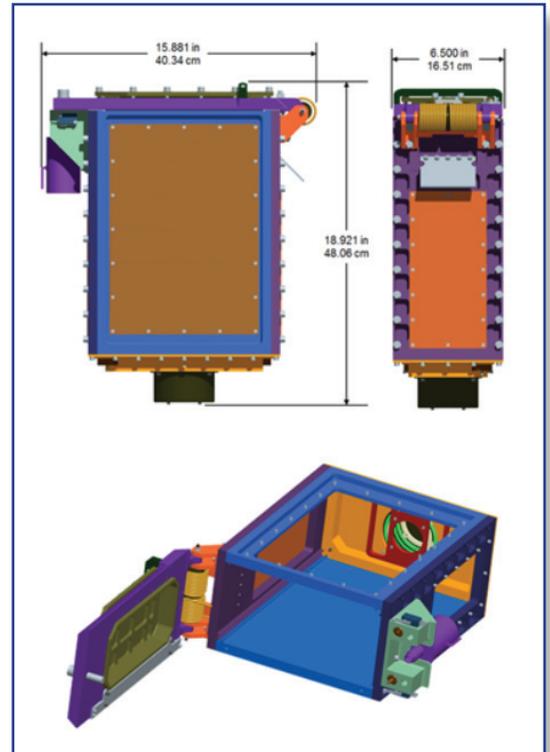


ITEM		6U CubeSat
Internal Volume	Depth (cm)	10.2
	Width (cm)	22.9
	Height (cm)	34.8
External Volume Allocation	Around (cm)	1.0
	Top (cm)	1.3
	Bottom (cm)	1.3

## 6U Deployer Specifications

ITEM		6U CubeSat Deployer	
Physical	Empty Mass (Kg)	10.0	
	Max Payload Mass (Kg)	12.0	
	Deployer Stowed, Outside Dimensions	Length (cm)	48.2
		Width (cm)	40.3
		Height (cm)	16.3
	Satellite Stowed	Length (cm)	38.6
		Width (cm)	25.6
		Height (cm)	12.7
	Life (reset cycle)	15 <sup>1</sup>	
	Time to Initiate (sec)	<0.080	
	Initiation Voltage (V)	10 @ 4A	
	Initiation Current (A)	2.75 to 8.75	
	Random Vibration Test (Grms)	14.1	
	Sine Burst Test (g)	23.75	
	Sine Sweep Test (g)	12.5 (20-100 Hz)	
	Design Safety Factors	2.0 Yield/2.6 Ultimate	
	Preloaded Load Path (-)	Yes	
	Non-friction 3-Axis Constraint (-)	Yes	
	Flight Heritage Release Mechanism (-)	Yes	
	Door Operation Range (deg)	0 - 270	
Exit Velocity (m/s)	1.25 <sup>2</sup>		
Technical Readiness	Qualification Vibration Test	Completed	
	Pre/Post Vibration RT Deployment Test	Completed	
	Flight Test Opportunity	In Progress	

Notes: <sup>1</sup>Reset cycles driven by replacing locking inserts  
<sup>2</sup>Exit velocity can be customized to meet user needs



For more information, please visit our web site:  
<http://www.nasa.gov/wallops>

### Scott Schaire

Small Satellite and Orbital Payloads Projects  
 34200 Fulton Street, Building F-6  
 Wallops Island, VA 23337  
 Phone: 757.824.1120  
 E-mail: Scott.H.Schaire@nasa.gov



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### Goddard Space Flight Center

8800 Greenbelt Road  
 Greenbelt, MD 20771

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