Modular Propulsion Systems
Innovative Propulsion Solutions for CubeSats and SmallSats

CubeSat Modular Propulsion Systems
- High reliability, high delta-V propulsion for CubeSats and SmallSats
- Orbit maintenance, station keeping, and reaction control
- High density non-toxic green propellant and traditional hydrazine

System Specifications

<table>
<thead>
<tr>
<th>Thrust Range</th>
<th>1U</th>
<th>2U</th>
<th>4U</th>
<th>6U</th>
<th>8U</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.25 – 1.0 N (per thruster)</td>
<td>MPS-130-1U</td>
<td>MPS-130-2U</td>
<td>MPS-135-4U</td>
<td>MPS-135-6U</td>
<td>MPS-135-8U</td>
</tr>
<tr>
<td>Green (AF-M315E) System Impulse* (N.s)</td>
<td>&gt;1,130</td>
<td>&gt;2,720</td>
<td>&gt;7,290</td>
<td>&gt;13,740</td>
<td>&gt;19,360</td>
</tr>
<tr>
<td>System Dry Mass (kg)</td>
<td>1.1</td>
<td>1.4</td>
<td>3.5</td>
<td>4.3</td>
<td>5.1</td>
</tr>
<tr>
<td>System Wet Mass (kg)</td>
<td>1.7</td>
<td>2.8</td>
<td>7.2</td>
<td>11.2</td>
<td>14.7</td>
</tr>
<tr>
<td>Hydrazine System Impulse* (N.s)</td>
<td>&gt;810</td>
<td>&gt;1,960</td>
<td>&gt;5,240</td>
<td>&gt;9,890</td>
<td>&gt;13,930</td>
</tr>
<tr>
<td>System Dry Mass (kg)</td>
<td>1.2</td>
<td>1.5</td>
<td>3.6</td>
<td>4.4</td>
<td>5.1</td>
</tr>
<tr>
<td>System Wet Mass (kg)</td>
<td>1.6</td>
<td>2.5</td>
<td>6.2</td>
<td>9.3</td>
<td>12.1</td>
</tr>
</tbody>
</table>

*System impulse based on steady state firing operation. Actual total impulse will vary based on operational duty cycles.

Performance Data

PDF Output specifications:
Output on an 11 inch by 17 inch page size
One sided

In the print menu make sure the following is set:
Page Scaling: None
Check the box for "Auto-Rotate and Center"
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**Propulsion System Designations:**

**Size of Propulsion System**

- 1U = ~10 x 10 x 10 cm volume
- 2U = ~10 x 10 x 20 cm volume
- 4U = ~22 x 20 x 10 cm volume
- 6U = ~22 x 20 x 16 cm volume
- 8U = ~22 x 20 x 22 cm volume

(U Designations for CubeSat systems only)

**Model Number Designator**

- 0 = Piston fed with condensable pressurant
- 5 = Pump fed with PMD tanks

**Propellant Type**

- 1 = Cold gas
- 2 = Hydrazine (most requested)
- 3 = ‘Green’ AF-M315E (most requested)
- 4 = Electric Propulsion

**System Size Class**

- 1 = CubeSat systems (most requested)
- 2 = SmallSat systems
- 3 = ESPA Ring systems

**System Class**

- MPS = Modular Propulsion System

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**Figure Models**

- MPS-130-1U
- MPS-120-1U
- MPS-130-2U
- MPS-120-2U
- MPS-135-4U
- MPS-125-4U
- MPS-135-6U
- MPS-125-6U
- MPS-135-8U
- MPS-125-8U

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