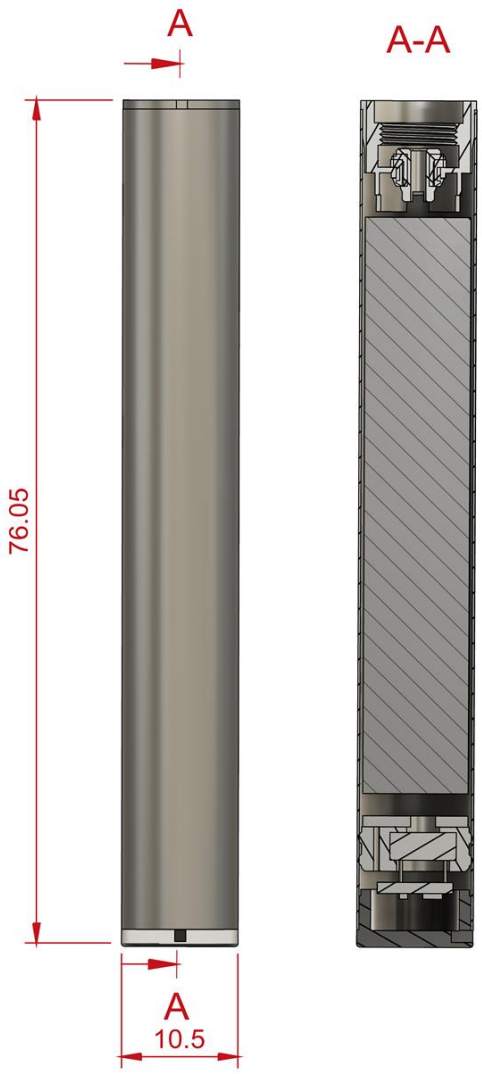
jupiter

Technical Data Sheet

Liquid 6 Rechargeable Power Supply

PNs: L62034-00XX (XX varies by finish)



Electrical Specifications	
Battery Cell Capacity	340 mAh
Max. Power Output	9.5 W
Max. Current Output	3 A
Resistance	0.9 – 3.0 Ω
Charging Current	500 ± 50 mA (2.5 W)
Activation Time	0 – 10 seconds

User Interface	
Cartridge Attachment	510 screwed connection
Activation	Breath Actuated
Notification	LED
Low Battery Notification	None
Charging Indication	LED lights during charging, LED flashes then turns off when fully charged

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Safety Features

Short-circuit Protection	When load is <0.5 Ω, device will not activate. Device resets when breath activation is stopped.
Overusage Protection	When an activation exceeds 10 seconds in duration, device is deactivated and the LED goes turns off. Device resets when breath activation ends.
Li-ion Battery Cells	Cells meet the requirements of the UN Manual of Tests and Criteria for Li-ion batteries; section 38.3. Jupiter power supplies are not required to be classified as Dangerous Goods when packaged properly for transport by sea, air, or ground due to their small capacity and containment within the device.
Cell Containment	Cells are enclosed in metal housings to protect the battery cell from contact with external elements that may cause damage to the cell under normal usage conditions and transportation. Cells are not accessible to the user without permanent damage to the unit.
Overcharge Protection	Charging control is on-board, not contained in a separate charging adapter. Simply connect the device to any active USB port with a standard micro-USB type B cable (provided). On-board control of both charging current and full charge cell voltage.

Compatibility

Jupiter's Liquid 6 Power Supply uses a "510" connection (screwed connection with M7 thread). It is compatible with most cartridges designed for use with breath actuated power supplies.

Although the term "510" is widely used in the vaping industry to designate a compatible connection, a published specification for a 510 threaded connection does not exist. Not all products that utilize a "510" connection are compatible with products from other manufacturers. While all of these products utilize an M7 threaded connection, the similarity does not extend beyond the thread pattern. The depth of the electrical contacts, the air inlet locations, and other features may vary from manufacturer to manufacturer.

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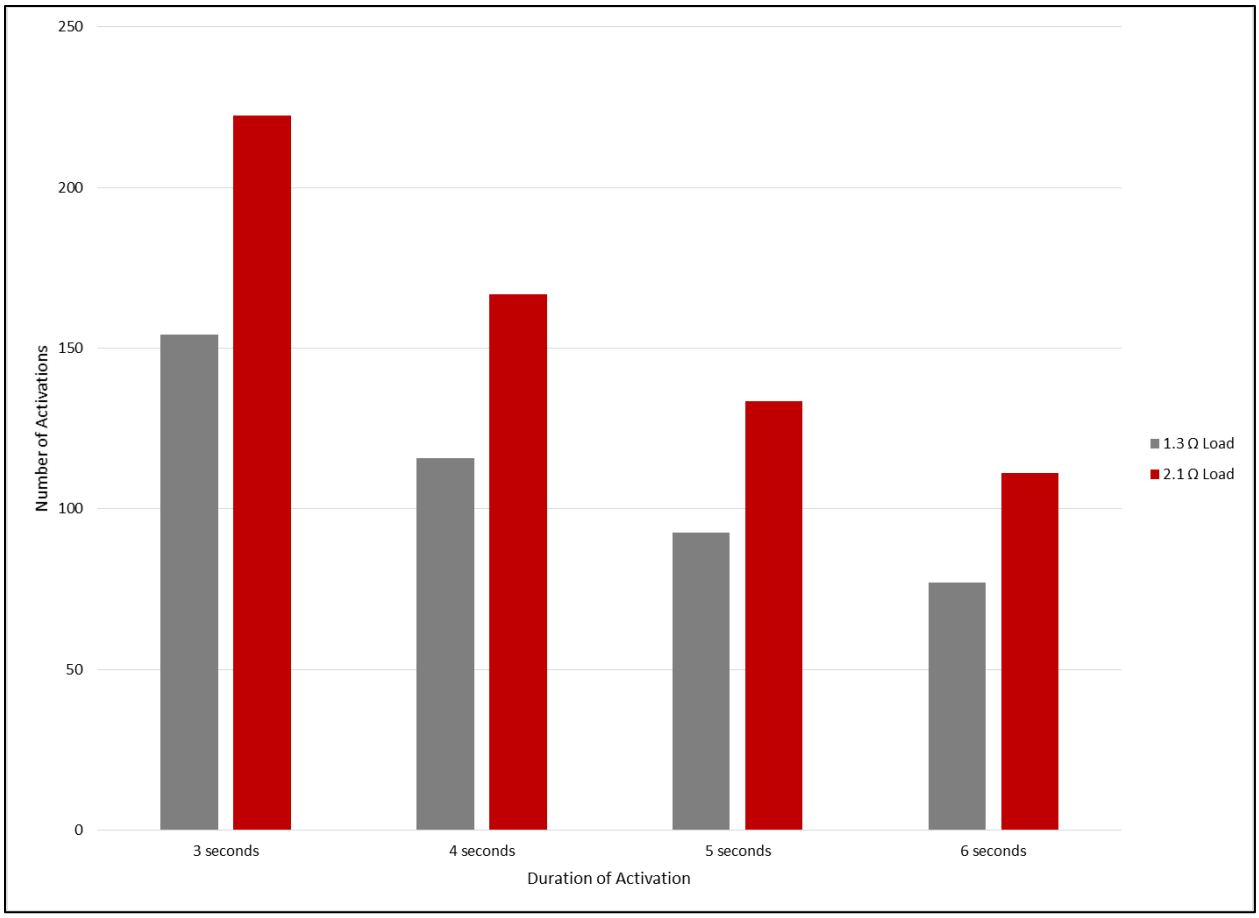
Device Lifetime

Device lifetime is defined in two ways; how many times can the device be recharged and how often will it need to be recharged. The first is referred to as the device's usable life, and the second is referred to as the device's cycle life.

Usable Life: Li-ion batteries have ~80% of their initial capacity after 300 charge cycles. A charge cycle is defined as fully charging the battery followed by complete discharge. Li-ion batteries do not suffer from the memory effect common in NiCd and NiMH batteries. There is no need to fully deplete the battery before recharging.

Cycle Life: The cycle life of a device can be defined as the number of times the device can be activated after it has been fully charged before it needs to be recharged. Since a longer activation consumes more energy than a shorter activation, the cycle life depends on how the device is used. The device can supply twice as many 3 second activations as 6 second activations. The chart below is an estimate of the cycle life of the Jupiter Liquid 9 power supply for different length activations for atomizer resistance values of 1.3 and 2.1 Ω.



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Device Performance

While all Li-ion batteries produce the same output voltage, all devices powered by Li-ion batteries are not the same. The actual working output of a Li-ion battery device is dependent upon

- the internal resistance of the battery cell,
- resistance of the control circuit,
- and resistance of the working load.

Power output is what matters. More power provides richer vapor with higher dosages from shorter draws. Since voltage is fixed by the cell chemistry and cannot be increased without the use of booster circuits, decreasing the working load is the best way to increase power without increasing the cost or size of the device.

The cell's internal resistance and the control circuit resistance become more critical with low resistance loads. As the resistance of the load decreases, higher current is required from the battery. The increased current demand from lower resistance atomizers requires both a high quality cell with low internal resistance and a low resistance control circuit to achieve the optimum output. Jupiter understands this and pays attention to these features.

Power output over one cycle of the battery cell is shown below at atomizer resistances of 1.3 and 2.1 Ω.