

## Low Cost but Enough Performance Thrusters are Now Available.

Patchedconics, LLC provides new products for 50kg and 1.5U class propulsion systems.

They become available now and Patchedconics will take cost and delivery inquiries now.

Details are provided at <http://www.patchedconics.com>

(Use left QR code)



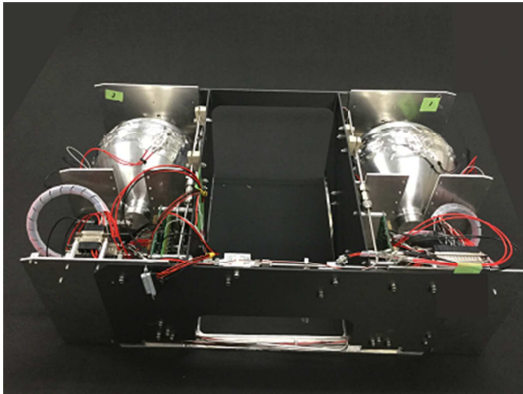
### [A] Performance/Specifications and Cost for 50kg class Small Satellites

#### **(1) Model-C50C: starting from 120K USD**

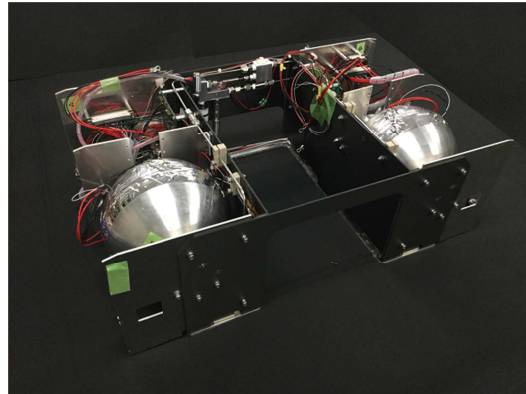
Size:	485mmx485mm or smaller. built on the plate/panel provided from customer. Height depends, governed by Total Impulse specified.
Wet Subsystem Mass:	12kg (TBC)
Total Impulse:	7,000 Ns
Propellant:	R600a
Isp:	80s
Thrust:	10mN each
Propellant Masss:	8.75kg
Delta-V for 50kg class sats:	150m/s (quick drop from 750km altitude.)
Operation Temperature:	(-5) 0 - 60degC
Voltage:	6.5-64V (TBC)
Power:	10W (TBC)

#### **(2) Model-C50W: starting from 150K USD**

Size:	485mmx485mm or smaller. built on the plate/panel provided from customer. Height depends, governed by Total Impulse specified.
Wet Subsystem Mass:	9kg (TBC)
Total Impulse:	7,000 Ns
Propellant:	R600a
Isp:	130s
Thrust:	6mN each
Propellant Masss:	5.4kg
Delta-V for 50kg class sats:	150m/s (quick drop from 750km altitude.)
Operation Temperature:	(-5) 0 - 60degC
Voltage:	6.5-64V (TBC)
Power:	10-12W (TBC)



Model-C (backside) verification for launch



Model-C (frontside) verification for launch

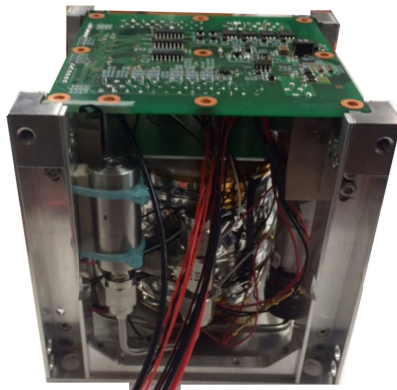
## **[B] Performance/Specifications and Cost for Cube class satellites**

### **(1) Model-C15C: starting from 100K USD**

Size:	1.5U or smaller.
	Thruster is built on the plate/panel provided from customer.
Wet Subsystem Mass:	1.5kg (TBC)
Total Impulse:	200 Ns
Propellant:	HFCx
Isp:	40s
Thrust:	10mN
Propellant Masss:	500g
Delta-V for 5kg class sats:	40m/s.
Operation Temperature:	(-5) 0 - 60degC
Voltage:	6.5-64V (TBC)
Power:	2.5W(TBC)

### **(2) Model-C15W: starting from 120K USD**

Size:	1.5U or smaller.
	Thruster is built on the plate/panel provided from customer.
Wet Subsystem Mass:	1.7kg (TBC)
Total Impulse:	650 Ns
Propellant:	R600a
Isp:	130s
Thrust:	2.5mN
Propellant Masss:	500g
Delta-V for 5kg class sats:	130m/s (quick drop from 700km altitude.)
Operation Temperature:	(-5) 0 - 60degC
Voltage:	6.5-64V (TBC)
Power:	7W(TBC)



Controller & Driver PCBs are included.

1U Mockup Tested. Extended to 1.5U.

**[C] What is included in Cost:**

Tanks, Tubes Routing, Thrusters Outlets accommodated and tailored.  
Nozzles adjusted for Thrust Requirements.  
Nominal Valves, Pressure Sensors, Temperature Sensors.  
Random Vibration Test.  
Vacuum Performance Test. (Chilled Test optional.)  
Gas Generator PCB with onboard software.  
Valves Drivers PCB.  
Operation Monitor Software for Ground Tests.  
One F2F Meeting.

**[D] What is NOT included and to be charged in Cost:**

Base Plate/Panel on which the system is built.  
Additional F2F Meetings.  
Launch Campaign Operation Cost including Filling Operation.  
Flight Operation Cost  
Operation Software for Flight  
Propellant for Flight  
Export/Import and Logistics, etc.

Visit JAXA Exhibition Booth  
at IAC 2018 Bremen.

Find Patchedconics, LLC  
and Place Name Cards there.

It is surrounded by NASA,  
UK, Boeing and EC booths.