

SATDRIVE

CUSTOMIZED PROPULSION SYSTEMS FOR SMALL SATELLITES

Standardized interfaces **Flexible form factor**

Using our standardized component, we will work with you to design, build, qualify, and deliver you a turn-key propulsion system specific to your form-factor and mission. Suitable for 30 to 500+ kg satellites.

A full-service partner

Fast quotes. Responsive and reliable feedback. Engineering support. Global export licenses. Launch site support. On-orbit commissioning. From procurement to operations, we strive to make your experience easy.

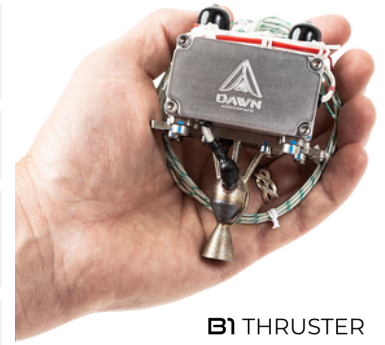
Rideshare friendly

Dawn's propulsion systems have flown on all but one SpaceX Transporter mission to date, Starlink rideshare, and Arianespace's Vega rideshare. [Learn more](#) about our safe failure modes and why launchers like what we're building.

Industry trusted

Customers include Blue Canyon Technologies, Pixxel, Sidus Space, OrbAstro & AstroForge, ALE Co., Ltd, UARX, and BRIN. Applications include OTVs, earth observation, communication, and deep space missions.

Physical	
Turn-key systems	All systems include thrusters, tanks, tubing, health monitoring, control electronics, and structures
Propellants	Nitrous oxide (N ₂ O) and propylene (C ₃ H ₆)
Pressurization	Self-pressurizing. Propellants are stored as liquified gases under their vapor pressure
Form factor	Standardized interfaces, flexible form factors. Adjust to volume, layout, and keep-out zone requirements
Thrusters	Select quantity and thrust class(es). All connect to the same tank and control systems. Operate together or independently
Tank options	Type 1: All metallic. 3D printed using Inconel or Titanium Type 3: Metallic liner with full, wound carbon-epoxy overwrap
Environmental	
Operational temperature	-5°C to 30°C (23°F to 86°F)
Survival temperature	-30°C to 40°C (-22°F to 104°F)
Regulatory	ITAR free and REACH compliant
Launcher compliance	SpaceX Payload (Oct 2022) user's guide . Please enquire for all other launchers
Performance	
Total impulse	5,000 to 500,000+ N.s, scalable in size and configuration
Thrust range	0.49 to 1.35 N (0.11 to 0.30 lbf) per B1 thruster 6.1 to 16.7 N (1.37 to 3.75 lbf) per B20 thruster
Isp, vac	240 to 280 s depending on system-level configuration
Interfaces	
Data	CAN bus or RS-422
Supply voltage	Digital: 5.0 to 5.20 VDC Actuators: 24.50 to 33.20 VDC
Services	
Propellant loading	At the launch site or integration facilities
Electronic development units	Represents power, data, and software interfaces for HIL



B1 THRUSTER

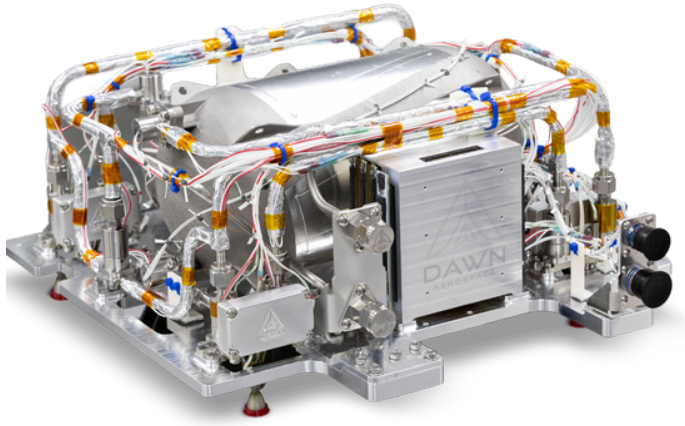


B20 THRUSTER

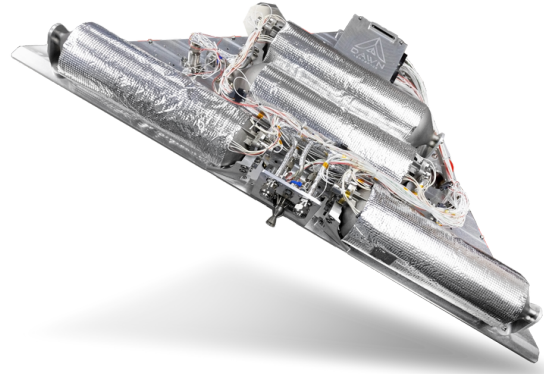


Specifications & STEP files
dawnaerospace.com/resources

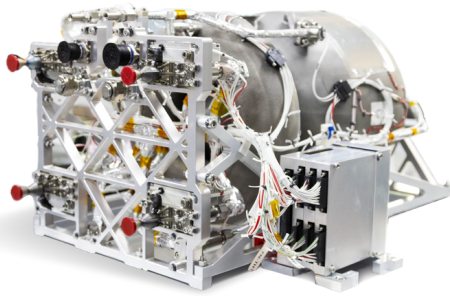
Examples



SD5 - 5kNs class
Total impulse: 5,000 N.s
4x B1 thrusters
1 Ox + 1 Fu inconel tanks
Mass (dry/wet): 5 / 7.5 kg



SD7 - 7kNs class
Total impulse: 7,600 N.s
1x B1 thrusters
3 Ox + 1 Fu inconel tanks
Mass (dry/wet): 7 / 11 kg



SD15 - 15kNs class
Total impulse: 14,500 N.s
4x B1 thrusters
1 Ox + 1 Fu inconel tanks
Mass (dry/wet): 11.3 / 17.7 kg

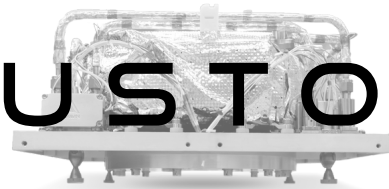


SD70 - 70kNs class
Total impulse: 70,000 N.s
5x B20 thrusters
4 Ox + 4 Fu titanium tanks
Mass (dry/wet): 20 / 50 kg

Do you have other requirements?
We will be glad to work on a customized
solution with you.

Request more information on
<https://www.dawnaerospace.com/contact>

CUSTOM



SATDRIVE



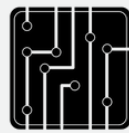
B20 thruster



B1 thruster



Tanks & tubing
systems



Control
electronics



6DOF
capable



Launch support
services