



# B20 THRUSTER

The B20 thruster assembly includes:

- Additively manufactured thruster body, Inconel 718
- Valves redundancy
- Thermocouple and pressure sensor
- Control electronics
- Standard data and power interfaces

The B20 is operable under ambient conditions to enable fast turnaround ground testing.

## Advantages:

### Flight heritage

96 in space since 2021.  
Proven on 16 different spacecrafts.  
Used for large maneuvers (orbit raising).

### Green propellants

Nitrous oxide (N<sub>2</sub>O) and Propylene (C<sub>3</sub>H<sub>6</sub>).  
Self-pressurizing: no pumps or pressurants.  
REACH compliant.  
High performance for a low cost.

### Unlimited burn time

Thermally stable.  
Allows for large and repeated maneuvers.  
Perfect for rendezvous and docking.

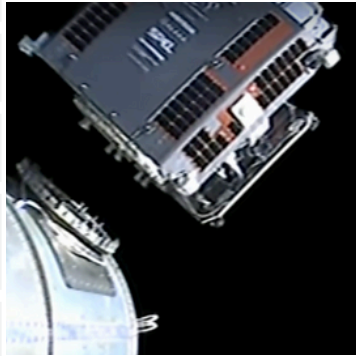
### Modular and scalable

From 1 to 16+ thrusters per system.  
Combine with B1 thrusters.  
Ideal for 6-DOF systems.

# Thruster Data Sheet



| Physical                                   |  |
|--|--|
| Thruster dimensions (incl. keep-out zones) | 190 × 87 × 82 mm<br>7.48 × 3.43 × 3.23 in  |
| Dry mass                                   | 695 g (1.53 lbs)   |
| Valves                                     | Normally-closed solenoid<br>Four per thruster (firing and isolation)                         |
| 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)   |
| Performance                                |  |
| Thrust, range                              | 6.46 to 18.11 N (1.45 to 4.07 lbf)   |
| Specific impulse                           | ≥ 271 s  |
| Minimum impulse bit                        | Bi-prop: 0.98 N.s (0.22 lbf.s)<br>Cold-gas: 10 mN.s (0.002 lbf.s)                            |
| Maximum impulse bit                        | Thermally stable: unlimited burn time.   |
| Ignition                                   | Spark-based igniter  |
| Pulse frequency                            | 4 Hz   |
| Restarts                                   | 10,000+ per thruster   |
| Control                                    | Operable together or independently.<br>Select your desired quantity. Pair with B1 thrusters. |
| Firing modes                               | Bi-prop or cold-gas. Switch at will.<br>Managed by not engaging the spark-igniter            |
| Cold-start capable                         | Yes. Highly repeatable   |
| Interfaces                                 |  |
| Mounting                                   | 3x M5 threaded holes   |
| Valve power                                | Hit: 14.67 W for 25 ms (per valve)<br>Hold: 0.76 W (per valve)                               |
| Igniter                                    | 4.56 W max for 120 ms  |



**Minimum order: 10 units**  
Please note that Dawn Aerospace will only supply standalone thrusters with a minimum order of 10 units.