

# **HTP THRUSTERS**

## Monopropellant and Bipropellant Configurations



#### **PRODUCT HIGHLIGHTS**

Benchmark offers thrusters as stand-alone components or packaged with our valves and driving electronics. We work with our customers and partners to maximize the benefits of our technology and expertise, and ensure your mission achieves the performance, cost, and lead time benefits that our thrusters offer.

Our thruster offerings feature gas resistojet, catalyst combustion High Test Peroxide (HTP) monopropellant, and catalyst combustion *dual-mode* HTP + Fuel bipropellant thrusters ranging from 100 mN through 22 N. shown: 22N Thruster

#### MISSION-OPTIMIZED TECHNOLOGY

Benchmark's focus on delivering turn-key integrated propulsion systems and mobility packages has led to volume production of several thruster configurations. Designed with readily available, low-cost catalyst materials, our thrusters deliver rigorously tested, mission- proven performance at excellent prices and lead times.



shown: 1N Thruster

Contact our sales team for additional thruster options

# **CONFIGURATION EXAMPLES** FELICETTE, LYNX, OCELOT



ADDITIONAL OPTIONS AVAILABLE

ТҮРЕ	FELICETTE 1N MONOPROPELLANT	<b>LYNX</b> 2N BIPROPELLANT	<b>OCELOT</b> 22N BIPROPELLANT
STEADY THRUST	0.37 – 1.20 N	2 – 2.5 N	18 – 22 N
STEADY ISP	161 s	295 s	302 s
TOTAL IMPULSE	>10,000 N·s	>20,000 N·s	>240,000 N·s
TOTAL PULSES	>10,000	>10,000	>10,000
MINIMUM IMPULSE BIT	35 mN∙s	50 mN·s	0.6 N·s
STEADY STATE FIRING	>10,000 s	>10,000 s	>10,000 s
FEED PRESSURE	3.2 – 12.8 bar	16.4 - 18.8 bar (Ox) 14.1 - 17.1 bar (Fu)	14.6 - 16.8 bar (Ox) 15.8 - 19.2 bar (Fu)
CHAMBER PRESSURE	2.4 – 6.2 bar	10.3 bar	9.0 bar
FLOW RATE	0.27 – 0.72 g/s	0.58 g/s (Ox) 0.10 g/s (Fu)	5.1 – 6.3 g/s (Ox) 1.0 – 1.2 g/s (Fu)
VALVES (OPTIONAL)	SINGLE SEAT 12 OR 24 V SOLENOID	SINGLE SEAT 12 OR 24 V SOLENOID	SINGLE SEAT 12 OR 24 V SOLENOID
VALVES (OPTIONAL)	16 W SPIKE (<50 ms) 0.25 W STEADY	OXIDIZER: 32 W SPIKE (<50 ms) 0.5 W STEADY FUEL: 16 W SPIKE (<50 ms) 0.25 W STEADY	OXIDIZER: 54 W SPIKE (<50ms) 2.1 W STEADY FUEL: 16 W SPIKE (<50ms) 0.25 W STEADY

### MORE MISSION. LESS COST.

Benchmark is a full lifecycle partner committed to supporting your mission from operational planning through asset decommission in LEO, GEO, and beyond. By combining our heritage propulsion products and advanced control systems with complementary products and services, Benchmark can deliver bundled in-space mobility solutions for 3U through ESPA and OTV spacecraft with significant cost, schedule, and capability benefits over alternative offerings.

#### BenchmarkSpaceSystems.com

Contact us today to explore your mission!

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