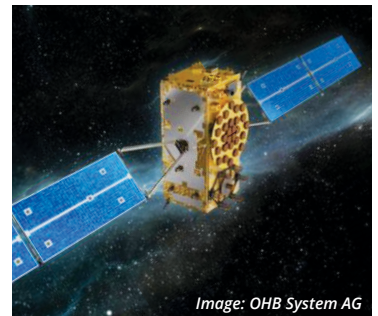
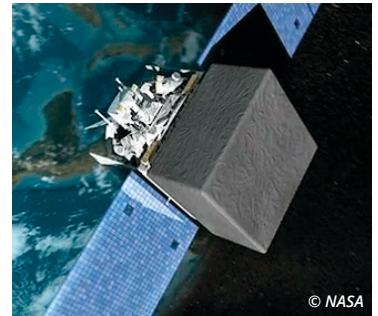


MONOPROPELLANT THRUSTERS

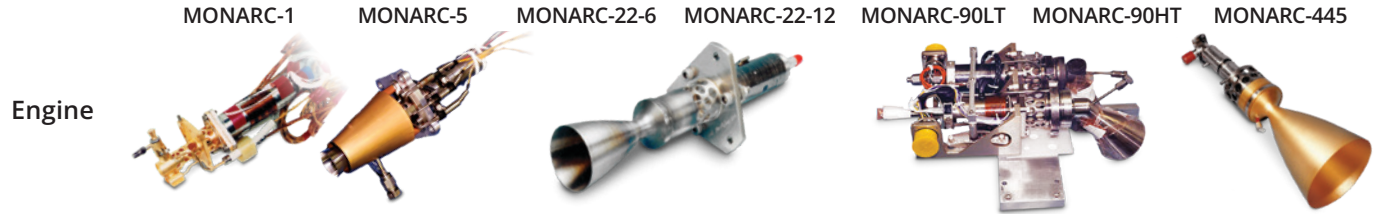


Moog offers a wide range of monopropellant thrusters suited for spacecraft and flight vehicle attitude control applications. These hydrazine thrusters have a long and successful heritage. Range of applications include; earth observation and communication, space exploration, and missile defense.



MONOPROPELLANT THRUSTERS

PERFORMANCE CHARACTERISTICS



	MONARC-1	MONARC-5	MONARC-22-6	MONARC-22-12	MONARC-90LT	MONARC-90HT	MONARC-445
Steady State Thrust	0.20 lbf (1N) @280 psia	1.4 lbf (5.0 N) @350 psia	5 lbf (22N) @250 psia	5 lbf (22N) @242 psia 6.2 lbf (22N) @250 psia	21 lbf (93 N) @ 235 psia	25 lbf (111 N) @ 225 psia	100 lbf (445N) @ 260 psia
Feed Pressure	70 – 400 psia (4.8 – 27.6 bar)	80 – 420 psia (5.5 – 29.0 bar)	70 – 400 psia (4.8 – 27.6 bar)	70 – 400 psia (4.8 – 27.6 bar)	80 – 400 psia (5.5 – 27.6 bar)	80 – 370 psia (5.5 – 25.5 bar)	70 – 400 psia (4.8 – 27.6 bar)
Nozzle Expansion	57:1	135:1	60:1	40:1	40:1	50:1	50:1
Valve Power	18 watts	18 watts	30 watts	30 watts	72 watts	72 watts	58 watts
Mass	0.83 lbm (0.38 kg)	1.08 lbm (0.49 kg)	1.58 lbm (0.72 kg)	1.51 lbm (0.69 kg)	2.47 lbm (1.12 kg)	2.47 lbm (1.12 kg)	3.5 lbm (1.6 kg)
Engine Length/Exit Diam	5.2 in (13.3 cm) / .2 in (0.5 cm)	9.4 in (41.8 cm) / 1 in (2.5 cm)	8 in (20.3 cm) / 1.5 in (3.8 cm)	9 in (22.9 cm) / 1.2 in (5.3 cm)	12 in (30 cm) / 3.3 in (8.4 cm)	12 in (30 cm) / 3.3 in (8.4 cm)	16 in (41 cm) / 5.8 in (14.8 cm)
Nominal Specific Impulse	235 sec	230 sec	228 sec	227 sec (LT) 232 sec (HT)	232 sec	232 sec	235 sec

MOOG

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