



- **Series redundant**
- **High performance**
- **Low leakage**
- **Lightweight**

Application:

The Satellite Propulsion Regulator (part number B40351-1) is used to pressurize the bipropellant tanks of communications satellite propulsion systems.

Features:

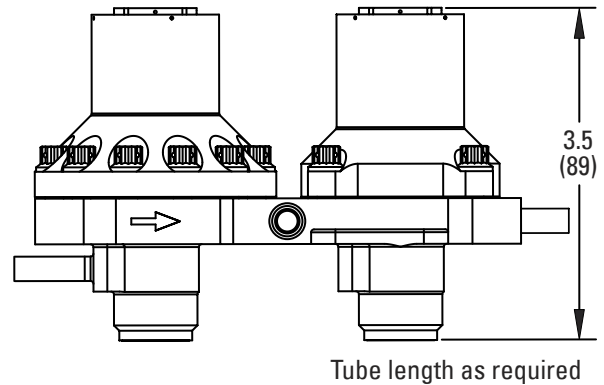
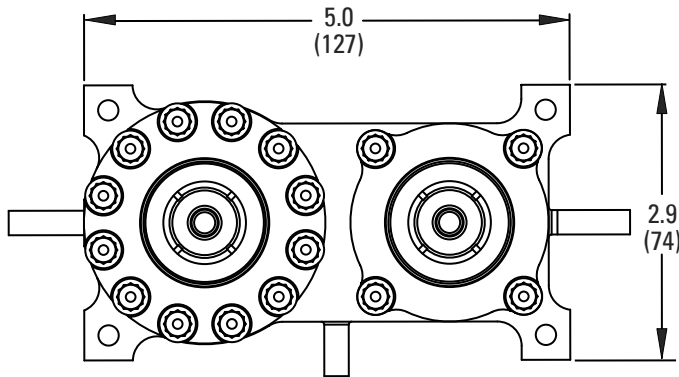
The regulator is arranged in a series redundant configuration to ensure continued system function should either of the redundant regulator pair fail open. This arrangement is dictated by the application for which high operational reliability is required.

This regulator is configured with metal to metal seats in both stages in order to tolerate upstream migration of N_2O_4 or N_2H_4 vapors. In the absence of such vapors, a metal to Vespel seat can be used in the upstream regulator to improve internal leakage performance.

Extremely good external leakage performance is achieved by employing welded closures throughout the gas flow path. The low weight of the regulator stems from the use of a lightweight composite helical/Belleville spring system and a machined titanium housing.

SPECIFICATIONS

Propulsion Regulator Part Number: B40351-1



All dimensions in inch (mm)

Specifications:

Medium	Helium
Inlet Pressure	400 to 4,000 psig (27.6 to 276 barg)
Outlet Pressure	232 psig (16.0 barg)
Lockup Pressure	247 psig (17.0 barg)
Proof Pressure	6,000 psig (414 barg)
Burst Pressure	12,000 psig (827 barg)
Flow	6.7 scfm
Internal Leakage	5.6×10^{-2} sccs
External Leakage	1×10^{-6} sccs
Weight	2.15 lb max (0.98 kg)

Operating Environment:

Temperature	-50 to 120 deg F (-45.6 to 48.9 deg C)
Humidity	0 to 95%
Vibration	12.1 grms each axis