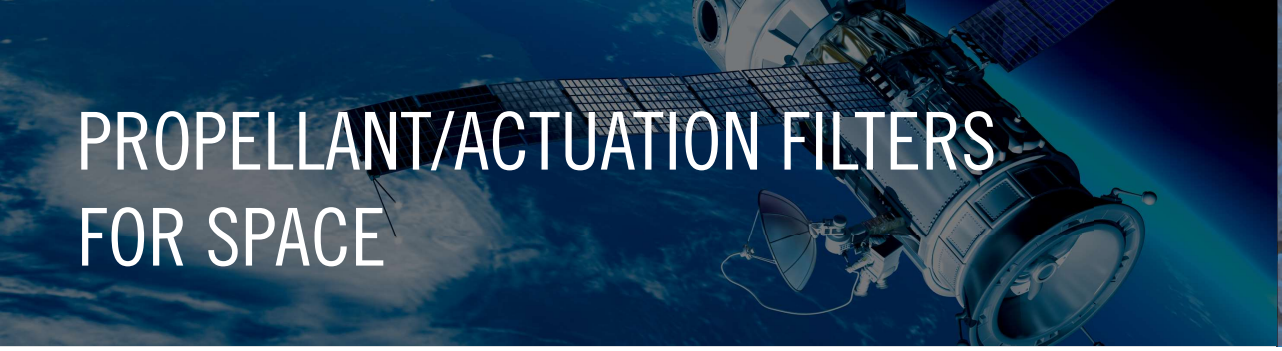


PROPELLANT/ACTUATION FILTERS FOR SPACE

mott
MISSION CRITICAL PRECISION

Proven lightweight filters configurable for critical propulsion and actuation of spacecraft systems

DESCRIPTION

Mott propellant and helium filters protect critical components from motion wear particulate and propellant trace contamination. They provide long on-board life, high-strength and durability in environments that endure high pressures, extreme temperatures and vibrations. The filters are corrosion resistant and offer reliable and predictable flow of all propellant sources including hydrazine, alcohol, liquid oxygen, kerosene, liquid hydrogen and all other propellants.

APPLICATIONS

» Satellite propellant thruster inlet filter
» Propellant storage and feed systems
» Environmental and life support systems
» Helium actuation filter

BENEFITS

» Tortuous filter media for submicron capture to ensure thruster longevity and accuracy
» Long standing reliability and durability over traditional mesh filtration solutions
» Proven inflight flow and pressure drop performance

MATERIALS OF CONSTRUCTION

» Hardware: Titanium 6Al4V (Gr.5), 316L SS
» Filter Media: Porous Titanium 6Al4V (Gr.5), Porous 316L SS
» Connections: Tube Stub
» Custom connections and materials for propellant compatibility also available

SPECIFICATIONS

Operating Pressures:	-14.7 to 10,000 psig (-1 to 689 barg)
Operating Temp:	-100° to 700°F (-73° to 371°C)
Particle Removal:	MIL-STD-1246 (10-25µ ABS Filtration)
Leak Testing:	≤ 1.0E-6 sccs GHe
Environmental Testing:	Goddard standard GSFC-STD-7000
Flow vs Pressure Drop:	0.5 lb/s to 7 lb/s at <15 psid
Wetted Cleanliness:	Per IEST-STD-CC1246E
MEOP:	1,000 psig*
Proof:	1,500 psig*
Burst:	2,500 psig*

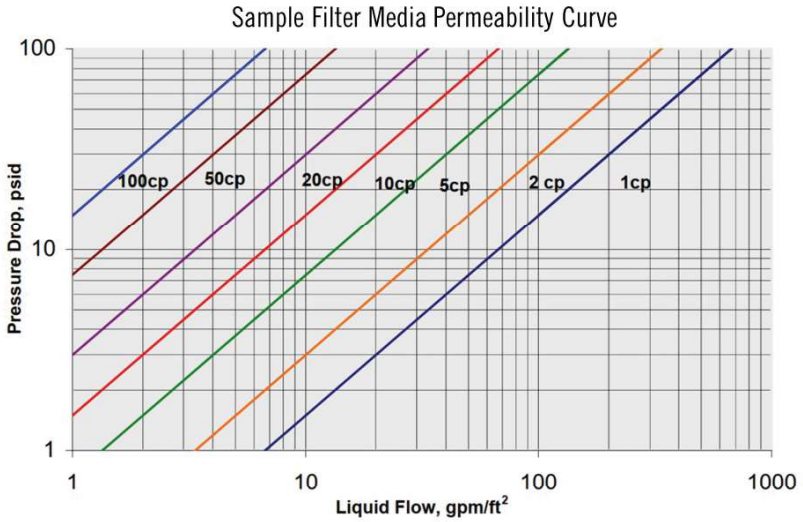
**Standard pressure capabilities. High pressure designs available dependent on application requirements.*

TESTING STANDARDS

Proof*	Mass*
Filtration Efficiency*	Flow vs Pressure Drop*
Bubble Point*	Helium Leak*
Shock and Vibration	Burst
Static Collapse	Surge

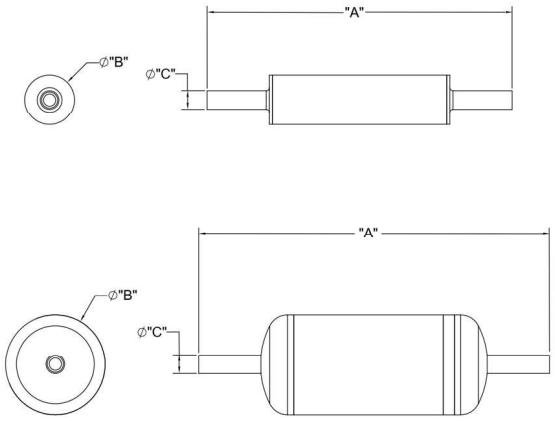
**standard tests performed*

FLOW DATA



Data is this graph generated with water.
Flow curves modeled for your custom design conditions.

TYPICAL DIMENSIONS



Application Size	Media Grade Range	Fitting Type	A Inches (mm)	B Inches (mm)	C Inches (mm)	Clean Flow Rating lbm/s (kg/s) PSI (bar)	Mass Ounce (Gram)
Micro: less than 10 kg	0.2 to 100	Tube Stub	Custom micro scale designs available upon request				
Small: 10 to 100 kg	0.2 to 100	Tube Stub	2 to 5.5 (50.8 to 139.7)	.75 (25.4)	0.375 (9.5)	Up to 1.0E-3 (4.5E-4) to 2.0E-2 (9.1E-3) @ < 1 (.07)	2 to 7 (56 to 198)
Med: 500 to 1000 kg	0.2 to 100	Tube Stub	6 to 7.5 (152.4 to 190.5)	1 (25.4)	0.375 (9.5)	Up to 2.0E-3 (9.1E-4) to 4.0E-2 (1.8E-2) @ < 1 (.07)	5 to 10 (141 to 284)
Large: greater than 1000 kg	0.2 to 100	Tube Stub	7 to 8.5 (177.8 to 215.9)	2 (50.8)	0.375 (9.5)	0.15 (.07) to 2.5 (1.13) @ < 5 (.34)	15 to 20 (425 to 567)

*Custom designs and connections available. Contact a Mott representative for more information.