



TANK TYPE PMD PROPELLANT	MOUNT POLAR	LOCATION POLAR
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The Propellant Tank is a 5.00-inch maximum outside diameter cylindrical pressure vessel equipped with a vane propellant management device (PMD). The tank is constructed of 6AL-4V titanium with two stainless-to-titanium inertia welded transition tubes. Mounting is accomplished through four (4) .250-28 UNF-3B threads on the ported end as the fixed interface. The blind end is a slip interface using an MS14102-8 Bearing

ATK Part Number 80568-1

SIZE: 5.0" OD x 13.9" Boss to Boss
SIZE: 127 mm OD x 353.06 mm Long

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS

Acceptance Test Procedure	50-000830
Qual Test Procedure	80421 Qual
Qualification Test Report	
Stress and Dynamics Report	
FMECA	
Cleaning	CPP 4073

TANK CHARACTERISTICS

Operating Pressure, psig	348 psi @ 122°F	Total Volume, in ³	231.9
Proof Pressure, psig	522.08* psi @ 122°F	Max Design Wt, lb _m	3
Cryo Proof, psig	N/A	Minimum Wall, inch	0.029
Burst Pressure, psig	696 psi @ 122°F	Qual Tank Mass	
Actual Burst, psig	1,791	80421-1	

ACCEPTANCE TESTS

Preliminary Examination of Product
Pre-Proof Volume Determination
Proof pressure
Post-Proof Volume Determination
BubblePoint
External Leakage Test
Radiographic Inspection
Penetrant Inspection
Determination of Weight and Final Inspection
Cleaning Verification
Final Examination

TANK CHARACTERISTICS (Metrics)

Operating Pressure, bar	24 bar @ 50°C	Total Volume, l	4
Proof Pressure, bar	36 bar @ 50°C	Max Design Wt, kg	1.36
Cryo Proof, bar	N/A	Minimum Wall, MM	0.737
Burst Pressure, bar	48 bar @ 50°C	Qual Tank Mass	-
Actual Burst, bar	see P/N 80421		

HEMISPHERE FORGINGS

HEMI P/N	QTY
Ti Bar (6al-4v)	

QUALIFICATION TESTS

Qualified under P/N 80421
Preliminary Examination of Product
Pre-Proof Volume Determination
Proof Pressure Test
Post Proof Volume Determination
Proof Pressure Cycle Life
MEOP Pressure Cycle Life
Differential Pressure & Expulsion Efficiency
Volume Determination
Vibration Random
Internal Vacuum Compatibility
Bubble Point Test
External Leakage Test
Radiographic Inspection
Mass Measurement & Visual Inspection
Burst Test
Data Review

ROLLED AND SEAM WELDED CYLINDER

P/N	QTY	SIZE
80-421100-1	1	0.032" Thick X 4.910" ID X 28.0" LONG
		0.8128mm Thick X 124.714mm ID x 711.2mm LONG

TUBE TYPE AND SIZE

Transition Ti to SS	QTY	SIZE
80-568002-1	2	0.25" OD x 0.035" Wall x 4.25 LONG
INERTIA WELDED		6.35 OD mm x 32.258 mm Wall x 107.95mm LONG

For more information go to:

http://psi-pci.com/Technical_Paper_Library/SP2014_2978323.pdf

