

TANK TYPE DIAPHRAGM	MOUNT POLAR	LOCATION POLAR
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The Propellant Tank is a light-weight, cylindrical 6Al-4V Titanium Pressure Vessel, fixed at the propellant port and bearing mounted at the pressurant port. The tank contains an ethylene propylene terpolymer (AF-E-332) rubber diaphragm retained near the girth weld of the propellant hemisphere.

Part Number 80543-1

SIZE: 16.5" ID x 19.92" LONG

SIZE: 419 mm ID x 506 mm LONG

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS

Acceptance Test Procedure	50-000771
Qual Test Procedure	50-000772
Qualification Test Report	56-000291
Stress & Dynamics Report	382
FMECA	
Cleaning	CPP 4056

TANK CHARACTERISTICS

Operating Pressure, psig	650 @ 164 °F	Total Volume, in ³	2996
Proof Pressure, psig	975 @ 164 °F	Max Design Wt, lbs	18.2
Cryo Proof, psig	N/A	Minimum Wall, inch	0.037
Burst Pressure, psig	1300 @ 164 °F	Qual Tank Mass, lbs	17.72
Actual Burst, psig	1,586		

ACCEPTANCE TESTS

- Preliminary Examination of Product
- Pre-Proof Volume Determination
- Proof Pressure Test
- Post-Proof Volume Determination
- Internal Vacuum Test
- Expulsion Efficiency
- Internal Leakage
- External Leakage
- Radiographic inspection
- Penetrant Inspection
- Determination of Weight and Final Inspection

TANK CHARACTERISTICS (Metrics)

Operating Pressure, bar	44.8 bar @ 73 °C	Total Volume, l	49.1
Proof Pressure, bar	67.2 bar @ 73 °C	Max Design Wt, kg	8.26
Cryo Proof, bar	N/A	Minimum Wall, mm	0.94
Burst Pressure, bar	89.6 bar @ 73 °C	Qual Tank Mass, kg	8.00
Actual Burst, bar	109		

HEMISPHERE FORGINGS

HEMI P/N	QTY
80-543061-1	2

RING FORGINGS

P/N	QTY	SIZE
80-543065-1	1	15.50" ID x 16.75" OD x 3.30" Long
		425.5 mm OD x 83.8 mm Long
80-543063-1	1	15.87" ID x 17.18" OD x 4.12" Long
		436.4 mm OD x 104.6 mm Long

TUBE TYPE AND SIZE

6AL-4V Ti BAR	QTY	SIZE
80-543001-1	1	0.750" OD x 0.035" Wall
		19.1 mm OD x 0.9 mm Wall
80-543001-3	1	0.500" OD x 0.035" Wall
		12.7 mm OD x 0.9 mm Wall

QUALIFICATION TESTS

- Continue from ATP
- Pressure Cycle Test
- Internal Leakage
- External Leakage
- PED Reversal Test
- PED Depletion Test
- Internal Leakage
- External Leakage
- Vibration Test
- Re-Entry Acceleration Test
- Internal Leakage
- External Leakage
- Thermal Cycle
- Internal Leakage
- External Leakage
- Expulsion Efficiency
- Radiographic Inspection
- Penetrant Inspection
- Burst Rupture

