

TANK TYPE DIAPHRAGM	MOUNT POLAR FLEX PLATES AND SIDE TRUNNION
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The propellant tank is a cylindrical pressure vessel with hemispherical heads constructed of 6AL-4V Titanium. Positive propellant expulsion is provided by a reversing AF-E-332 rubber diaphragm retained at the cylinder section. Tank mount is accomplished by a side trunnion and flex plates mounted on the tank bosses. Connection is made to the propellant and pressurant compartments through tube stubs.

Part Number 80557-1

SIZE: 34.25" ID x 43.5" LONG
SIZE: 870 mm ID x 1105 mm LONG

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS	TANK CHARACTERISTICS	QUALIFICATION TESTS
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Acceptance Test Procedure	50-000780
Qualification Test Procedure	50-000779
Qual Test Report	56-000276
Stress and Dynamics Report	54-000359
FMECA	54-000454
Cleaning	CPP 4057

Operating Pressure, psig	350	Total Volume, in ³	29,340
Proof Pressure, psig	525	Qualified Volume, in ³	28,000
Cryo Proof, psig	N/A	Max Design Wt, lb _m	69
Burst Pressure, psig	700	Minimum Wall, inch	0.04
Actual Burst, psig	779	Qual Tank Mass, lb _m	68.390

Preliminary Examination of Product
Pre-Proof Volume Determination
Proof Pressure, MDP Volume, Proof Pressure Volume
Post-Proof Volume Determination
Expulsion Efficiency
Radiographic Inspection *
Penetrant Inspection *
Internal Leakage
External Leakage
Proof Pressure Cycle
MDP Pressure Cycle
Internal Leakage
External Leakage
Acceleration
Random Vibration
Internal Leakage
External Leakage
Radiographic Inspection *
Penetrant Inspection *
Expulsion Cycle / Flow Rate Delta Pressure / Expulsion Efficiency
Radiographic Inspection *
Penetrant Inspection *
Burst Test

Notes:

* Performed Two Qual Tests Concurrently

Operating Pressure, bar	24.13	Total Volume, l	481
Proof Pressure, bar	36.20	Qualified Volume, l	458.84
Cryo Proof, bar	N/A	Max Design Wt, kg	31.30
Burst Pressure, bar	48.26	Minimum Wall, mm	1.02
Actual Burst, bar	53.71	Qual Tank Mass, kg	31.02

HEMI P/N	QTY	SUPPLIER	Die No
80-557061-1	2	ARCTURUS	

P/N	QTY	SIZE
80-557009-1	1	

Ti 3AL-2.5V	QTY	SIZE
80-557025-3	2	0.375" OD x 0.020" Wall 9.5 mm x 0.508 mm Wall



ACCEPTANCE TESTS

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

VACUUM RATED

YES
