



TANK TYPE	MOUNT	LOCATION	PMD DEVICE
DIAPHRAGM	Lugs	MID-PLANE	

The propellant tank is a 23" diameter x 28" long pressure vessel constructed of 6AL-4V titanium. Positive propellant expulsion is provided by a reversing AF-E-332 rubber diaphragm retained at the sphere mid-plane. Mounting is accomplished by (3) lugs parallel with and adjacent to the mid-plane. Connection is made to the propellant and pressurant compartments through tube stubs.

ATK Part Number 80505-1

SIZE: 23.13-inch ID x 28.46 inch Long

ISO 9001 & AS 9100 REGISTERED

SIZE: 587.5 mm x 722.9 mm

APPLICABLE DOCUMENTS		TANK CHARACTERISTICS		QUALIFICATION TESTS	
Acceptance Test Procedure	50-000689	Operating Pressure, psig	760	Total Volume, in ³	8,521
Qualification Test Procedure	50-000690	Proof Pressure, psig	980	Prop Volume, in ³	8,163
Qual Test Report	56-000247	Cryo Proof, psig	N/A	Prop Volume, lbs	294
Cleaning	CPP 4005	Burst Pressure, psig	1,188	Max Design Wt, lbs	35.25
		Actual Burst, psig	1,433	Minimum Wall, inch	0.043

DIAPHRAGM INFORMATION	
Diaphragm P/N	80-505007-1
Diaphragm Mold P/N	T-7067
Diaphragm Gross Wt	3 Lbs.
Diaphragm Matl Type	AF-E-332
Material Specification, Rubber	MT3-73
Diaphragm Processing	90-000094
N-Ray Procedure	1002

TANK CHARACTERISTICS (Metrics)			
Operating Pressure, bar	52.40	Total Volume, l	139.64
Proof Pressure, bar	67.57	Prop Volume, l	133.77
Cryo Proof, bar	NO	Prop Volume, kg	133.50
Burst Pressure, bar	81.91	Max Design Wt, kg	15.99
Actual Burst, bar	98.80	Minimum Wall, MM	1.09

QUALIFICATION TESTS
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:

- 1: Tooling belongs to ATK
- 2: Proprietary Document
- 3: Tube Protector SK 1505
- 4: Fracture Critical

HEMISPHERE FORGINGS	
HEMI P/N	QTY
80-323061-1	2

RING FORGINGS (Roughed Machined)	
80-323063-1, Retainer	23.44" +/- .06 OD x 22.0" +/- .06 ID x 1.7" +.25 Lg (595.4 mm +/- 1.52 OD x 558.5 mm +/- 1.52 ID x 43.2 mm + 6.4 Lg)
80-323063-7, Cylinder	24.0" +/- .06 OD x 22.44" +/- .06 ID x 5.31" +.25 Lg (609.6 mm +/- 1.52 OD x 569.98 mm +/- 1.52 ID x 134.87 mm + 6.4 Lg)
80-323065-1, Lug	23.87 +.13 OD x 22.25 +/- .06 ID x 4.0 +.25 Lg (606.29 mm + 3.3 OD x 565.15 mm +/- 1.52 ID x 101.6 mm + 6.4 Lg)

TUBE TYPE AND SIZE	
CRES 304L	SIZE
80-505002-1	0.500" OD x 0.035" Wall (12.7mm x 0.89 mm Wall)
80-505002-3	1.000" OD x 0.035" Wall (25.4 mm x 0.89 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

