



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
Qualification Test Procedure	50-000690
Qual Test Report	56-000247
Cleaning	CPP 4005

Operating Pressure, psig	760	Total Volume, in ³	8,521
Proof Pressure, psig	980	Prop Volume, in ³	8,163
Cryo Proof, psig	N/A	Prop Volume, lbs	294
Burst Pressure, psig	1,188	Max Design Wt, lbs	35.25
Actual Burst, psig	1,433	Minimum Wall, inch	0.043

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

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

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

