



TANK TYPE	MOUNT	LOCATION
Diaphragm	Lugs, 3	Girth

This is a 22-inch spherical pressure vessel constructed of 6Al-4V titanium. Positive fuel expulsion is provided by a reversible ethylene-propylene terpolymer (AF-E-332) rubber diaphragm retained (welded in) at the sphere mid-plane. Mounting is accomplished by three (3) lugs parallel with and adjacent to the sphere mid-plane.

ATK Part Number 80298-1

SIZE: 22.14-inch ID Sphere
SIZE: 562-mm

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS

Acceptance Test Procedure	50-000255
Qualification Test Procedure	50-000259
Qualification Test Plan	50-000296
Fracture Control plan	54-000049
Qualification Test report	56-000099
Qualification Re-Test Report	56-000106
Cleaning	CPP 3593

TANK CHARACTERISTICS

Operating Pressure, psig	485	Total Volume, ci	5,555
Proof Pressure, psig	805	Prop Volume, ci	4,754
Cryo Proof, psig	NA	Max Design Wt, lbs	21.0
Burst Pressure, psig	950	Minimum Wall, inch	0.033

ACCEPTANCE TESTS

- Examination of Product
- Pre-Proof Volume Determination
- Proof Pressure Test
- Post-Proof Volume Determination
- Water Expulsion Test
- Internal (Diaphragm) Leakag
- External Leakage Test
- Final Examination of Product
- Weight Determination
- Cleanliness Verification
- Post Test Inspection

DIAPHRAGM INFORMATION

Diaphragm P/N	80-259007-1
Diaphragm Mold P/N	T-1261
Diaphragm Gross Wt	2.47 (1.12 Kg)
Diaphragm Matl Type	AF-E-332
Diaphragm, Material	Note 2 90-000075
Diaphragm Processing	Note 2 90-000087
N-Ray Procedure	1002

TANK CHARACTERISTICS (Metrics)

Operating Pressure, Bar	33.44	Total Volume, l	91.03
Proof Pressure, Bar	55.50	Prop Volume, l	77.91
Cryo Proof, Bar	NA	Max Design Wt, Kg	9.53
Burst Pressure, Bar	65.50	Minimum Wall, MM	0.838

FORGINGS

FORGINGS P/N	SUPPLIER	Die No
80-203061-1 (2)		
RING FORGING	RING SIZE, (Rough Machined)	
80-203009-11, Retainer	24.4 +.06 OD x 21.0 -.06 ID x 1.28 +.06 Lg	
80-298063-1, Lug	25.81 +.09 OD x 22.38 -.09 ID x .71 +.06 Lg	

QUALIFICATION TESTS

- Acceptance Test
- Acceleration Test
- Internal Leakage Test
- External Leakage Test
- Vibration Test
- Internal Leakage Test
- External Leakage Test
- Diaphragm Integrity Test
- Internal Leakage Test
- Pressure Life Cycle Test
- External Leakage Test
- Water Expulsion Test
- Internal Leakage Test
- External Leakage Test
- Burst Pressure Test
- Post-Test Disassembly & Examination Test

Notes:

- 1: Majority of tooling belongs to ATK
- 2: Proprietary Document
- 3: Ea lug ring makes 16 pcs of -7 or 8 pcs of -5
- 4: Ea tank has one -7 and two -5 lugs
- 5: Centaur, Titan Centaur
- 6: Lockheed Martin Astronautics Space Systems
(Formerly General Dynamics Space Systems)
- 7: Fracture Critical

TUBE TYPE AND SIZE

TRANSITION	SIZE
80-298001-1, Inlet	.375 OD x .020 Wall
80-298001-3, Outlet	.375 OD x .020 Wall
	9.525 x .5 mm

