



TANK TYPE	MOUNT	LOCATION
Diaphragm	Bosses	Polar

This is a 28-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 at polar bosses.

**ATK Part Number 80297-1**

**SIZE: 28-inch ID Sphere**  
**SIZE: 711-mm**

**ISO 9001 & AS 9100 REGISTERED**

#### APPLICABLE DOCUMENTS

Acceptance Test Procedure	50-000250
Qualification Test Procedure	50-000251
Forging Qual Procedure	55-000054
Weld Qual Procedure	55-000056
Forging Qual Report	55-000057
Qualification Test Report	56-000096
Fracture Analysis Plan	60-000141
Fracture Control Plan	54-000048
Cleaning	CPP 3585

#### TANK CHARACTERISTICS

Operating Pressure, psig	380	Total Volume, ci	11,350
Proof Pressure, psig	632	Prop Volume, ci	8,648
Cryo Proof, psig	NA	Max Design Wt, lbs	43.0
Burst Pressure, psig		Minimum Wall, inch	0.047

#### ACCEPTANCE TESTS

Preliminary Examination of Product
Pre-Proof Volume Determination
Proof Pressure Test
Post Proof Volume Determination
Pressure Drop
Expulsion Efficiency
External Leakage Test
Internal Leakage Test
Radiographic Penetrant Inspection
Flourescent Penetrant Inspection
Final Examination of Product
Cleanliness

#### TANK CHARACTERISTICS (Metrics)

Operating Pressure, Bar	26.20	Total Volume, l	186.00
Proof Pressure, Bar	43.57	Prop Volume, l	141.72
Cryo Proof	NA	Max Design Wt, Kg	19.50
Burst Pressure, Bar	0.00	Minimum Wall, MM	1.194

#### DIAPHRAGM INFORMATION

Diaphragm P/N	80-228007-1
Diaphragm Mold P/N	T-1669
Diaphragm Gross Wt	4.16
Diaphragm Matl Type	AF-E-332
Diaphragm, Material	Note 2 90-000075
Diaphragm Processing	Note 2 90-000087
N-Ray Inspection	1002

#### FORGINGS

FORGINGS P/N	SUPPLIER	Die No
80-287061-1 (2)		
RING FORGING	RING SIZE. (Rough Machined)	
80-228063-1, Retainer	28.35 +.12 OD x 26.81 -.12 ID x 1.59 +.09 Lg	

#### TUBE TYPE AND SIZE

TRANSITION	SIZE
80-297001-1 (2)	.250 OD x .020 Wall

#### QUALIFICATION TESTS

Acceptance Test
Acceleration Test
Internal Leakage Test
External Leakage Test
Slosh Test
Internal Leakage Test
Proof Pressure Test
Cleanliness

#### Notes:

- 1: Tooling purchased by ATK
- 2: Proprietary Document
- 3: This tank is similar to P/N 80228-1
- 4: Earth Radiation Budget Satellite
- 5: Fracture Critical

