



TANK TYPE	MOUNT	LOCATION
Diaphragm	Lugs	Off Axis

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 (weld in) at the sphere mid-plane. Mounting is accomplished on polar bosses.

**ATK Part Number 80287-1**

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

**ISO 9001 & AS 9100 REGISTERED**

APPLICABLE DOCUMENTS	TANK CHARACTERISTICS	ACCEPTANCE TESTS
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Acceptance Test Procedure	50-000235
Forging Qualification Procedure	55-000054
Forging Qualification Report	55-000057
Cleaning	CPP 3562

Operating Pressure, psig	300	Total Volume, ci	11,350
Proof Pressure, psig	810	Prop Volume, ci	9,612
Cryo Proof, psig	NA	Max Design Wt, lbs	42.0
Burst Pressure, psig	1,200	Minimum Wall, inch	0.056

Preliminary Examination of Product
Pre-Proof Volume
Fracture Mechanics Proof Pressure
Post-Proof Volume Determination
Specimen Loading
Lug Loading Test
Expulsion Efficiency
Internal Helium Leakage Test - Low Pressure
Internal Helium Leakage Test - High Pressure
External Leakage
Final Examination of Product
Cleanliness

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 Procedure	1002

TANK CHARACTERISTICS (Metrics)			
Operating Pressure, Bar	20.68	Total Volume, l	186.00
Proof Pressure, Bar	55.85	Prop Volume, l	157.51
Cryo Proof	NA	Max Design Wt, Kg	19.05
Burst Pressure, Bar	82.74	Minimum Wall, MM	1.422

**Notes:**

- Majority of the tooling belongs to ATK
- Proprietary Document
- This tank is similar to P/N 80228-1
- Fracture Critical

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

QUALIFICATION TESTS
Qual by similarity on 80228-1

TUBE TYPE AND SIZE	
TITANIUM	SIZE
80-287001-1, Outlet	.250 OD x .020 Wall
80-287001-3, Inlet	.250 OD x .020 Wall

