



TANK TYPE	MOUNT	LOCATION
Diaphragm	Flange	Girth

This is a 17-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 mid-plane. Mounting is accomplished on a continuous flange parallel with and adjacent to the mid-plane.

**ATK Part Number 80401-1**  
**SIZE: 17.4-inch ID Sphere**  
**SIZE: 442MM**

**ISO 9001 & AS 9100 REGISTERED**

APPLICABLE DOCUMENTS	TANK CHARACTERISTICS	ACCEPTANCE TESTS
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Acceptance Test Procedure	50-000503
Qualification Test Procedure	See Note 5
Fracture Plan	54-000159
QA Program Plan	56-000084
Cleaning	CPP 3842

Operating Pressure, psig	319	Total Volume, ci	2,705
Proof Pressure, psig, Note 3	970	Prop Volume, ci	2,049
Cryo Proof, psig	NA	Max Design Wt, lbs	15.43
Burst Pressure, psig	1,057	Minimum Wall, inch	0.034

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

DIAPHRAGM INFORMATION	
Diaphragm P/N	80-285007-1
Diaphragm Mold P/N	T-2168
Diaphragm Gross Wt	1.44
Diaphragm Matl Type	AF-E-332
Diaphragm, Material	Note 2 90-000075
Diaphragm Processir	Note 2 90-000087
N-Ray Procedure	1002

TANK CHARACTERISTICS (Metrics)			
Operating Pressure, Bar	21.99	Total Volume, l	44.33
Proof Pressure, Bar, Note 3	66.88	Prop Volume, l	33.58
Cryo Proof, Bar	NA	Max Design Wt, kg	7.00
Burst Pressure, Bar	72.88	Minimum Wall, MM	0.864

- Notes:**
- 1: Tooling belongs to ATK
  - 2: Proprietary Document
  - 3: Fracture Mech Proof. System proof is 550 psig
  - 4: Vibration Fixture is T-2179
  - 5: Original design qualified under P/N 80285-1 and QTP No. 50-000230
  - 6: Tube Protectors are SK 1440 & SK 1441
  - 7: Fracture Critical

FORGINGS		
FORGINGS P/N	SUPPLIER	Die No
80-285061-1 (2)		
RING FORGING		
		RING SIZE, (Rough Machined)
80-285063-1, Flange	20.31 +.09 ODx18 -.09 IDx.81 +.06 Lg	
80-285065-1, Retainer	17.68 +.09 ODx16.44 -.09 IDx1.44 +.12 Lg	

QUALIFICATION TESTS
Qual by similarity on 80285-1

TUBE TYPE AND SIZE	
TRANSITION	SIZE
80-401008-1 (2)	

