



<u>TANK TYPE</u> Diaphragm	<u>MOUNT</u> Pedestal	<u>LOCATION</u> Apex
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This is a cylindrical 6Al-4V titanium pressure vessel with a pedestal mount & two ports (pressurant and propellant). The tank contains a fully reversible ethylene propylene terpolymer (AF-E-332) rubber diaphragm retained (welded in) near the mid-plane.

**ATK Part Number 80593-1**  
  
**SIZE: 16.5" ID x 19.92" Long**  
**SIZE: 419 x 506 mm Long**

## ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS	TANK CHARACTERISTICS	ACCEPTANCE TESTS
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Qualification Test Procedure	see Note 2
Acceptance Test Procedure	50-000894
Qualification Test Report	see Note 2
Fracture Analysis Plan	see Note 2
Cleaning	CPP 3946

Operating Pressure, psig	320	Total Volume, ci	2,996
Proof Pressure, psig	500	Prop Volume, lbs	83
Cryo Proof, psig	NA	Max Design Wt, lbs	12.4
Burst Pressure, psig	640	Minimum Wall, inch	0.020

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

**DIAPHRAGM INFORMATION**

Diaphragm P/N	80-288007-1
Diaphragm Mold Tool No	T-2318
Diaphragm Gross Wt	1.42
Diaphragm Material Type	AF-E-332
Diaphragm Material	Note 4 90-000075
Diaphragm Processing	Note 4 90-000087
N-Ray Inspect Procedure	MNRC-0088-DOC-00

**TANK CHARACTERISTICS (Metrics)**

Operating Pressure, Barg	22.06	Total Volume, l	49.10
Proof Pressure, Barg	34.47	Prop Volume, Kg	37.7
Cryo Proof, Barg	NA	Max Design Wt, Kg	5.63
Burst Pressure, Barg	44.13	Minimum Wall, MM	0.508

**FORGINGS**

FORGINGS P/N	Die No
80-288061-1, Propellant, Note 3	
80011-63, Pressurant	
RING FORGING	RING SIZE. (Rough Machined)
80-214065-1, Retainer	16.75 OD x 15.5 ID x 1.4 Long
80-288063-1, Cylinder	17 OD x 15.87 ID x 3.31 Long
80-276065-1, Base	9.5 OD x 7.03 ID x 1.38 Long

- Notes:**
- 1: Tooling owned by OA
  - 2: This tank is similar to 80288-1, 80308-1 & 80392-1
  - 3: Alternate propellant forging is 80-276061-1
  - 4: Proprietary Document
  - 5: Tube protectors are SK-2280-1 & SK-2289-1
  - 6: Lockheed Martin Missiles & Space
  - 7: Burst Pressure shown above is design burst
  - 8: Fracture Critical

**TUBE TYPE AND SIZE**

TITANIUM	SIZE
80-593017-3	.250 OD x .035 Wall x 5.0 Long (6.35 x .088 x 127 mm)
TITANIUM	SIZE
80-593001-1, Formed	.250 OD x .035 Wall x 9.0 Long (6.35 x .088 x 228.6 mm)

**Qual by similarity on 80308-1.**

**80308-1 QUALIFICATION TESTS**

Preliminary Examination of Product
Pre-Proof Volume Determination
Proof-Pressure
Post-Proof Volume Determination
Internal Vacuum
Expulsion Efficiency
Radiographic Inspection
Penetrant Inspection
Vibration
Post Vibration Internal Helium Leak Test
Acceleration
Post Acceleration Internal Helium Leak Test
Spin Expulsion
Static Load
Temperature Altitude test
Thermal Cycle
Post Thermal Cycle Internal Helium Leak Test
Cleanliness Verification
Internal Leak
External Leak
Determination of Weight and Center of Mass
Final Examination
Burst Pressure
Final Inspection

