

<b>TANK TYPE</b> Diaphragm	<b>MOUNT</b> Pedestal	<b>LOCATION</b> 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.

**Part Number 80513-1**

**SIZE: 16.5" ID x 19.99" Long**  
**SIZE: 419 x 507.7-MM**

**ISO 9001 & AS 9100 REGISTERED**

APPLICABLE DOCUMENTS	TANK CHARACTERISTICS	ACCEPTANCE TESTS
Qualification Test Procedure see Note 2	Operating Pressure, psig 320 Total Volume, ci 2,996	Preliminary Examination of Product
Acceptance Test Procedure 50-000471	Proof Pressure, psig 480 Prop Volume, lbs 83	Pre-Proof Volume Determination
Qualification Test Report see Note 2	Cryo Proof, psig NA Max Design Wt, lbs 12.4	Proof Pressure
Fracture Analysis Plan 54-000151	Burst Pressure, psig 640 Minimum Wall, inch 0.020	Post-Proof Volume Determination
Cleaning CPP 3810		Expulsion Efficiency
		Radiographic Inspection
		Penetrant Inspection
		Temperature Extremes Function Test
		Internal Leakage
		External Leakage
		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 Inspection Procedure	1002

**TANK CHARACTERISTICS (Metrics)**

Operating Pressure, Bar	22.06	Total Volume, l	49.10
Proof Pressure, Bar	33.09	Prop Volume, Kg	37.7
Cryo Proof, Bar	NA	Max Design Wt, Kg	5.63
Burst Pressure, Bar	44.13	Minimum Wall, MM	0.508

**FORGINGS**

FORGINGS P/N	SUPPLIER	Die No
80-288061-1, Propellant, Note 3		
80011-63, Pressurant		#
RING FORGING	RING SIZE, (Rough Machined)	
80-214065-1, Retainer	16.75 +.06 OD x 15.5 -.06 ID x 1.4 +/- .06 Long	
80-288063-1, Cylinder	17 +.09 OD x 15.87 -.09 ID x 3.31 +.12 Long	
80-276065-1, Base	9.5 +.09 OD x 7.03 -.09 ID x 1.38 +.09 Long	

**TUBE TYPE AND SIZE**

TRANSITION	SIZE
80-392001-1, Note 7	.250 OD x .035 Wall x 5.0 Long (6.35 x .088 x 127 mm)
TITANIUM	SIZE
80-392019-1, Extension	.310 OD x .035 Wall x 2.41 Long (7.874 x .88 x 61.2 mm)

- Notes:**
- 1: Tooling owned by Northrop Grumman
  - 2: This tank is similar to 80288-1 & 80308-1
  - 3: Alternate propellant forging is 80-276061-1
  - 4: Proprietary Document
  - 5: Tube protectors are SK 932 & SK 933
  - 6: JHU, AP LAB
  - 7: This tube is used on both sides of the tank
  - 8: Burst Pressure shown above is design burst
  - 9: Fracture Critical

**QUALIFICATION TESTS**

Qual by similarity on 80308-1.
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