



TANK TYPE	MOUNT	LOCATION
Diaphragm	Pedestal	Apex

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 80455-1

SIZE: 16.5" ID x 19.99" Long
SIZE: 419 x 507.7-mm

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS		TANK CHARACTERISTICS			
Acceptance Test Procedure	50-000613	Operating Pressure, psig	320	Total Volume, ci	2,996
Qualification Test Procedure	50-000290	Proof Pressure, psig	500	Prop Volume, lbs	83
Qualification Test Report	56-000108	Cryo Proof, psig	NA	Max Design Wt, lbs	12.4
Fracture Analysis Plan	54-000151	Burst Pressure, psig	640	Minimum Wall, inch	0.020
Cleaning	CPP 3954	Actual Burst, psig	1030		

QUALIFICATION TESTS
Qual by 80308-1

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	34.47	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
Actual Burst, Bar	71.01		

ACCEPTANCE TESTS
Preliminary Examination of Product
Pre-Proof Volume Determination
Proof Pressure
Post-Proof Volume Determination
Expulsion Efficiency
Radiographic Inspection
Penetrant Inspection
Internal Leakage
External Leakage
Determination of Weight & Final Inspection
Cleanliness Verification
Final Examination

Notes:

- 1: Tooling owned by ATK
- 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: This tube is used on both sides of the tank
- 7: Burst Pressure shown above is design burst
- 8: Fracture Critical

FORGINGS		
FORGINGS P/N	SUPPLIER	Die No
80-288061-1, Propellant, Note 3		
80011-63, Pressurant		

VACUM RATED
YES

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	
TITANIUM	SIZE
80-455001-1	.250 OD x .035 Wall x 8.2 Long
80-455007-3	.250 OD x .035 Wall x 5.0 Long
80-392019-1, Extension (2)	.310 OD x .035 Wall x 2.41 Long

TUBE SIZE (mm)	
80-455001-1	6.35 x .088 x 127 mm
80-455007-3	6.35 x .088 x 127 mm
80-392019-1, Extension (2)	7.874 x .88 x 61.2 mm

