

TANK TYPE DIAPHRAGM	MOUNT LUGS, 4	LOCATION GIRTH
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This is a 16.5-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 sphere mid-plane. Mounting is accomplished by four (4) lugs parallel with and adjacent to the sphere mid-plane.

Part Number 80275-1

SIZE: 16.5-inch ID Sphere
SIZE: 419-MM

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS	TANK CHARACTERISTICS	ACCEPTANCE TESTS
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Acceptance Test Procedure	50-000218
Qualification Test Procedure	50-000219
Qualification Test report	56-000079
Cleaning	CPP 9105

Operating Pressure, psig	435	Total Volume, ci	2,300
Proof Pressure, psig	653	Prop Volume, ci	
Cryo Proof, psig	NA	Max Design Wt, lbs	17.0
Burst Pressure, psig	1,740	Minimum Wall, inct	0.043
Actual Burst, psig	1,710	normalized	

Preliminary Examination of Product
Pre-Proof Volume
Proof Pressure
Post-Proof Volume
Internal (Diaphragm) Leakage High and Low Pressure
External Leakage
Vibration
Internal (Diaphragm) Leakage High and Low Pressure
External Leakage
Weld Inspection
Final Examination of Product
Weight Determination
Contamination Check

DIAPHRAGM INFORMATION	
Diaphragm P/N	80-271007-1
Diaphragm Mold P/N	SK 666
Diaphragm Gross Wt	0.88
Diaphragm Matl Type	AF-E-332
Material	Note 2 90-000075
Processing	Note 2 90-000087
N-Ray Inspection Procedure	1002

TANK CHARACTERISTICS (Metrics)			
Operating Pressure, Bar	29.99	Total Volume, l	37.69
Proof Pressure, Bar	45.02	Prop Volume, l	0.00
Cryo Proof	NA	Max Design Wt, Kg	7.71
Burst Pressure, Bar	119.97	Minimum Wall, MM	1.092
Actual Burst, psig	117.90	normalized	

- Notes:**
- 1: Tooling owned by Northrop Grumman
 - 2: Proprietary Document
 - 3: Was also used as a water tank on Shuttle
 - 4: 50-000261 performed by RI
 - 5: Vibration requires high strength bolts
 - 6: Rockwell International (Seal Beach)
 - 7: Fracture Critical
 - 8: Fracture mechanics proof pressure is 1080 psig (74.46 bar)

FORGINGS P/N	
80011-63, Pressurant	
80-276061-1, Propellant	
RING FORGING	
	RING SIZE, (Rough Machined)
80-214065-1, Retainer	16.75 OD x 15.5 ID x 1.46 Lg
80-271060-3, Lug	19.38 OD x 17.19 ID x .87 Lg

QUALIFICATION TESTS	
Preliminary Examination of Product	
Pre-Proof Volume Determination	
Fracture Mechanics Proof Pressure	
Post Proof Volume Determination	
Pre-Vibration Internal Leakage High & Low Pressure	
Pre-Vibration External Leakage	
Vibration	
Post-Vibration Internal Leakage High & Low Pressure	
Post-Vibration External Leakage	
Weld Inspection	
Final Examination of Product	
Weight Determination	
Contamination Check	

TUBE TYPE AND SIZE	
	SIZE
80-275001-1, Outlet	.500 OD x .035 Wall
80-275003-1, Inlet	.250 OD x .020 Wall

