



TANK TYPE	MOUNT	LOCATION
Diaphragm	Lugs	Girth

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.

ATK Part Number 80337-1

ISO 9001 & AS 9100 REGISTERED

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

APPLICABLE DOCUMENTS	
Acceptance Test Procedure	50-000328
Failure Modes & Effects Analysis	54-000092
Cleaning	CPP 3655

TANK CHARACTERISTICS			
Operating Pressure, psig	435	Total Volume, ci	2,300
Proof Pressure, psig	870	Prop Volume, ci	1,725
Cryo Proof, psig	NA	Max Design Wt, lbs	14.00
Burst Pressure, psig, Note 3	870	Minimum Wall, inch	0.043

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

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
Diaphragm, Material	See Note 2 90-000075
Diaphragm Processing	See Note 2 90-000087
N-Ray Inspection	1002

TANK CHARACTERISTICS (Metrics)			
Operating Pressure, Bar	29.99	Total Volume, l	37.69
Proof Pressure, Bar	59.98	Prop Volume, Kg	782.5
Cryo Proof, Bar	NA	Max Design Wt, Kg	6.35
Burst Pressure, Bar	59.98	Minimum Wall, MM	1.092

QUALIFICATION TESTS
Qual by similarity on tank 80319-1.

Notes:

- 1: Tooling belongs to ATK, except for tube weld tools
- 2: Proprietary Document
- 3: System requirement. Actual burst pressure differs
- 4: This tank is similar to P/N 80319-1
- 5: Fracture Critical

FORGINGS		
FORGINGS P/N	SUPPLIER	Die
80011-63, Pressurant		
80-276061-1, Propellant		
RING FORGING		RING SIZE, (Rough Machined)
80-214065-1, Retainer	16.75 +.06 OD x 15.5 -.06 ID x 1.4 +/- .06 Lg	
80-271060-3, Lug	19.37 +.06 OD x 17.19 -.06 ID x .87 Lg	

TUBE TYPE AND SIZE	
TITANIUM	SIZE
80-337001-3, Outlet	.500 OD x .035 Wall
80-337002-1, Inlet	.250 OD x .035 Wall

