



TANK TYPE Diaphragm	MOUNT Lugs	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.

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
Diaphragm Processing	See Note 2
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

