



TANK TYPE	MOUNT	LOCATION
Diaphragm	Bosses	Polar

This is a 28-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 on polar bosses.

ISO 9001 & AS 9100 REGISTERED

ATK Part Number 80348-1

SIZE: 28-inch ID Sphere
SIZE: 711-mm

APPLICABLE DOCUMENTS		TANK CHARACTERISTICS		ACCEPTANCE TESTS		
Acceptance Test Procedure	50-000356	Operating Pressure, psig	435	Total Volume, ci	11,350	Preliminary Inspection of Product Pre-Proof Volume Proof Pressure Test Post-Proof Volume Pressure Drop and Expulsion Efficiency External Leakage Low Pressure Diaphragm Gas Leak Radiographic Inspection Final Inspection of Product Weight Cleanliness Preparation for Delivery
QBS	56-000128	Proof Pressure, psig	870	Prop Volume, ci	10,215	
Qualification Test Procedure	Note 3	Cryo Proof, psig	NA	Max Design Wt, lbs	43.0	
Qualification Test Report	Note 3	Design Burst Pressure, psig	1,088	Minimum Wall, inch	0.047	
Cleaning	CPP 3670	Actual Burst Pressure, psig	1,321			

DIAPHRAGM INFORMATION	
Diaphragm P/N	80-228007-1
Diaphragm Mold P/N	T-1669
Diaphragm Gross Wt	4.16 (1.88 Kg)
Diaphragm Matl Type	AF-E-332
Diaphragm, Material, Note 2	90-000075
Diaphragm Processing, Note 2	90-000087
N-Ray Inspection	1002

TANK CHARACTERISTICS (Metrics)			
Operating Pressure, Bar	29.99	Total Volume, l	186.0
Proof Pressure, Bar	59.98	Prop Volume, l	167.4
Cryo Proof, Bar	NA	Max Design Wt, Kg	19.5
Design Burst Pressure, Bar	75.01	Minimum Wall, MM	1.194
Actual Burst Pressure, Bar	91.15		

- Notes:**
- 1: Tooling belongs to ATK.
 - 2: Proprietary Document
 - 3: Qualified under P/N 80228-1
 - 4: Martin Marietta (Denver)
 - 5: Fracture Critical

FORGINGS P/N	SUPPLIER	Die
80-287061-1 (2)		
RING FORGING		RING SIZE, (Rough Machined)
80-228063-1, Retainer	28.35 +.12 OD x 26.81 -.12 ID x 1.59 +.09 Lg	

TUBE TYPE AND SIZE	
TITANIUM	SIZE
80-348001-1, Outlet	.750 OD x .060 Wall (19.05 x 1.52 MM)
80-348003-1, Inlet	.172 ID (4.36 MM)

QUALIFICATION TESTS
Examination of Product, Preliminary
Pre-Proof Pressure
Proof Pressure
Post Proof Volume
Pressure Drop/Expulsion Efficiency
External Leakage
Diaphragm Leakage
Examination of Product, Final
Cleanliness Verification

