



TANK TYPE Diaphragm	MOUNT Bosses	LOCATION Polar
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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.

ATK Part Number 80228-1

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

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS

Acceptance Test Procedure	50-000194
Qualification Test Procedure	50-000195
Forging Qualification Procedure	55-000054
Weld Qualification Procedure	55-000056
Forging Qualification Report	55-000057
Qualification Test Report	56-000070
Cleaning	CPP 9005

TANK CHARACTERISTICS

Operating Pressure, psig	355	Total Volume, ci	11,350
Proof Pressure, psig	970	Prop Volume, ci	8,060
Cryo Proof, psig	NA	Max Design Wt, lbs	44.0
Design Burst Pressure, psig	1,070	Minimum Wall, inch	0.047
Actual Burst Pressure, psig	1,321		

ACCEPTANCE TESTS

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

DIAPHRAGM INFORMATION

Diaphragm P/N	80-228007-1
Diaphragm Mold P/N	T-1669
Diaphragm Gross Wt	4.16
Diaphragm Matl Type	AF-E-332
Diaphragm, Material, Note 2	90-000075
Diaphragm Processing, Note 2	90-000087
N-Ray Procedure	

TANK CHARACTERISTICS (metrics)

Operating Pressure, Bar	24.48	Total Volume, l	186.00
Proof Pressure, Bar	66.88	Prop Volume, l	132.08
Cryo Proof, Bar	NA	Max Design Wt, Kg	20.0
Design Burst Pressure, Bar	73.77	Minimum Wall, MM	1.194
Actual Burst Pressure, Bar	91.15		

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

FORGINGS

FORGINGS P/N	SUPPLIER	Die
# 80-228061-1, (2)		
RING FORGING	RING SIZE, (Rough Machined)	
80-228063-1, Retainer	28.35 +.25 OD x 26.81 -.25 ID x 1.59 +.09 Lg	

Notes:

- 1: Tooling owned by ATK (Purchased from RI)
- 2: Proprietary Documents
- 3: The vibration fixture used during qualification testing no longer exist. It was lost by the test vendor.
- 4: Fracture Critical

