

TANK TYPE Diaphragm	MOUNT Lugs	LOCATION Off Axis
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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 (weld in) at the sphere mid-plane. Mounting is accomplished on polar bosses.

Part Number 80287-1

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

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS		TANK CHARACTERISTICS			
Acceptance Test Procedure	50-000235	Operating Pressure, psig	300	Total Volume, ci	11,350
Forging Qualification Procedure	55-000054	Proof Pressure, psig	810	Prop Volume, ci	9,612
Forging Qualification Report	55-000057	Cryo Proof, psig	NA	Max Design Wt, lbs	42.0
Cleaning	CPP 3562	Burst Pressure, psig	1,200	Minimum Wall, inch	0.056

ACCEPTANCE TESTS
Preliminary Examination of Product
Pre-Proof Volume
Fracture Mechanics Proof Pressure
Post-Proof Volume Determination
Specimen Loading
Lug Loading Test
Expulsion Efficiency
Internal Helium Leakage Test - Low Pressure
Internal Helium Leakage Test - High Pressure
External Leakage
Final Examination of Product
Cleanliness

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 Inspection Procedure	1002

TANK CHARACTERISTICS (Metrics)			
Operating Pressure, Bar	20.68	Total Volume, l	186.00
Proof Pressure, Bar	55.85	Prop Volume, l	157.51
Cryo Proof	NA	Max Design Wt, Kg	19.05
Burst Pressure, Bar	82.74	Minimum Wall, MM	1.422

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

Qual by similarity on 80228-1

- Notes:**
- 1: Majority of the tooling belongs to NG
 - 2: Proprietary Document
 - 3: This tank is similar to P/N 80228-1
 - 4: Fracture Critical
 - 5: FM proof pressure is 810 psig.
 - 6: System proof pressure is 450 psig.

TUBE TYPE AND SIZE	
TITANIUM	SIZE
80-287001-1, Outlet	.250 OD x .020 Wall
80-287001-3, Inlet	.250 OD x .020 Wall

QUALIFICATION TESTS
Acceptance Tests
Pressure Hold
Low Temperature Test
Internal Volume
External Leakage
Internal Leakage
Radiographic Inspection
Penetrant Inspection
Expulsion Cycle Life Test
Internal Leakage
Pressure Cycle Life Test
External Leakage
Internal Leakage
Transient Vibration Test
Random Vibration Test
External Leakage
External Leakage
Radiographic Inspection
Penetrant Inspection
Design Shock
External Leakage
Acceleration Test
External Leakage
Depletion Pressure Test
Internal Leakage
Slosh Test
Expulsion Efficiency
Internal Leakage
Radiographic Inspection
Penetrant Inspection
External Pressure Test
Burst Rupture Test

