

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.

Part Number 80228-1

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

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS		TANK CHARACTERISTICS			
Acceptance Test Procedure	50-000194	Operating Pressure, psig	355	Total Volume, ci	11,350
Qualification Test Procedure	50-000195	Proof Pressure, psig	970	Prop Volume, ci	8,060
Forging Qualification Procedure	55-000054	Cryo Proof, psig	NA	Max Design Wt, lbs	43.0
Weld Qualification Procedure	55-000056	Design Burst, psig	1,070	Minimum Wall, inch	0.047
Forging Qualification Report	55-000057	Actual Burst, psig	1,170	normalized	
Qualification Test Report	56-000070				
Cleaning	CPP 9005				

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	1002

TANK CHARACTERISTICS (metrics)			
Operating Pressure, Barg	24.48	Total Volume, l	186.00
Proof Pressure, Barg	66.88	Prop Volume, l	132.08
Cryo Proof, Barg	NA	Max Design Wt, Kg	19.5
Design Burst, Barg	73.77	Minimum Wall, MM	1.194
Actual Burst, Barg	80.67	normalized	

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	

FORGINGS	
FORGINGS P/N	
80-228061-1, (2)	
RING FORGING	
RING SIZE, (Rough Machined)	
80-228063-1	28.35 OD x 26.81 ID x 1.59 Lg

- Notes:**
- 1: Tooling owned by OA (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

