

TANK TYPE	MOUNT	LOCATION
Diaphragm	Pedestal	Apex

This is a 13-inch spherical pressure vessel constructed of 6Al-4V titanium. Positive fuel expulsion is provided by a resersible ethylene propylene terpolymer (AF-E-332) rubber diaphragm retained (welded in) at the sphere mid-plane. Mounting is accomplished on a pedestal mount located on the apex of the propellant hemisphere.

Part Number 80216-1

SIZE: 12.88-inch ID Sphere

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS	TANK CHARACTERISTICS	ACCEPTANCE TESTS
Acceptance Test Procedure 50-000190	Operating Pressure, psig 396	Examination of Product
Quality Test Procedure 50-000191	Proof Pressure, psig 594	Pre-Proof Volume
Quality Test Report 56-000071	Cryo Proof, psig NA	Proof Pressure
Cleaning CPP 3457	Burst Pressure, psig 792	Vibration
	Total Volume, ci 1,080	Internal Helium Leak Test (Hight Pressure)
	Prop Volume, ci 760	Internal Helium Leak Test (Low Pressure)
	Max Design Wt, lbs 6.0	External Helium Leak Test
	Minimum Wall, inch 0.019	Final Examination of Product
		Cleanliness

DIAPHRAGM INFORMATION	
Diaphragm P/N	80-216007-1
Diaphragm Mold P/N	T-1262
Diaphragm Gross Wt	1.0
Diaphragm Matl Type	AF-E-332
Diaphragm, Material Note 2	90-000075
Diaphragm Processir Note 2	90-000087
N-Ray Inspection Procedure	1002

TANK CHARACTERISTICS (Metrics)			
Operating Pressure, barg	27.30	Total Volume, l	17.70
Proof Pressure, barg	40.95	Prop Volume, l	12.45
Cryo Proof, barg	NA	Max Design Wt, Kg	2.722
Burst Pressure, barg	54.61	Minimum Wall, MM	0.483

FORGINGS	
FORGINGS P/N	
80-216061-1	
80-216063-1	
RING FORGING	RING SIZE, (Rough Machined)
80-216003-1	13.13 OD x 11.81 ID x 1.38 Lg

TUBE TYPE AND SIZE	
TRANSITION	SIZE
80-216001-1 (2)	.250 OD x .020 Wall

QUALIFICATION TESTS
Examination of Product
Pre-Proof Volume
Proof Pressure
Post-Proof Pressure
Vibration
Internal Helium Leak Test (Hight Pressure)
Internal Helium Leak Test (Low Pressure)
External Helium Leak Test
Cycle Life & Expulsion Efficiency Test
Internal Helium Leak Test (Hight Pressure)
Internal Helium Leak Test (Low Pressure)
External Helium Leak Test
Cleanliness

- Notes:**
- 1: Tooling purchased from RI
 - 2: Proprietary Documents
 - 3: Very sketchy analysis was performed by RI, i.e. not rigorous
 - 4: Global Positioning Satellite (GPS)
 - 5: Rockwell International (Seal Beach)
 6. No burst test was performed on this tank

SKETCH NOT TO SCALE

