

<b>TANK TYPE</b>	<b>MOUNT</b>	<b>LOCATION</b>
Pressurant	POLAR	CENTERLINE

This Helium Gas Tank is a thick walled pressure vessel made from two hemispherical closed die forgings with one circumferential girth weld. The 6AL-4V titanium tank has a nominal .183" membrane thickness. Mounting is provided by polar bosses located on the tank centerline axis.

**Part Number 80510-1**

**SIZE: 16.6" DIA x 18.570" LONG**

**SIZE: 421.6 mm DIA x 471.7 mm LONG**

**ISO 9001 & AS 9100 REGISTERED**

**APPLICABLE DOCUMENTS**

Acceptance Test Procedure	50-000705
Qual Test Procedure	50-000726
Qual Test Report	56-000258
Protoflight Test Procedure	
Stress and Dynamics Report	
FMECA	
Cleaning	

**TANK CHARACTERISTICS**

Operating Pressure, psig	4,870	Total Volume, in <sup>3</sup>	2,231
Proof Pressure, psig	6,100	Max Design Wt, lbs	26.2
Cryo Proof, psig	N/A	Minimum Wall, inch	0.183
Burst Pressure, psig	7,300	Qual Tank Mass, lbs	26.2
Actual Burst, psig	8,055		

**ACCEPTANCE TESTS**

- Preliminary Examination of Product
- Pre-Proof Measurement of Overall Length
- Proof Pressure Test
- External Leak Test (Nitrogen)
- Post-Proof Measurement of Overall Length
- Data Review

**TANK CHARACTERISTICS (Metrics)**

Operating Pressure, bar	335.8	Total Volume, l	36.6
Proof Pressure, bar	420.6	Max Design Wt, kg	11.9
Cryo Proof, bar	N/A	Minimum Wall, mm	4.648
Burst Pressure, bar	503.3	Qual Tank Mass, kg	11.9
Actual Burst, bar	555		

**QUALIFICATION TESTS**

- Preliminary Examination of Product
- Strain Gage Installation
- Pre-Proof Volumetric Capacity Test
- Proof Pressure Test and SOW
- Post-Proof Volumetric Capacity Test
- External Leak Test
- Radiographic & Penetrant Inspection
- Phased Array Ultrasonic Test
- MEOP Pressure Cycling Test
- Proof Pressure/MEOP Cycling Test
- Post-Cycle Testing NDE
- Burst Test
- Data Review

**HEMISPHERE FORGINGS**

HEMI P/N	QTY
80-510020-1	1
80-510040-1	1

