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TANK TYPE	MOUNT	LOCATION
COPV	BOSS	POLAR

This composite overwrapped pressure vessel (COPV) Helium tank is 16.6" ( 422 mm) in diameter and 26.1" (663 mm) in length. The tank is constructed of a CP Titanium center cylinder welded to two CP Titanium end domes and overwrapped with T1000 carbon fiber. Mounting is provided by two polar bosses located on the tank centerline axis.

**ATK Part Number 80446-1**

**SIZE: 16.6" DIA X 26.1" LONG**  
**SIZE: 422 mm DIA X 663 mm LONG**

**ISO 9001 & AS 9100 REGISTERED**

APPLICABLE DOCUMENTS		TANK CHARACTERISTICS		ACCEPTANCE TESTS	
Acceptance Test Procedure	50-000587	Operating Pressure, psig	4,500	Total Volume, in <sup>3</sup>	4,105
Qual Test Procedure	50-000588	Proof Pressure, psig	5,625	Max Design Wt, lbs	23.50
Qualification Test Report	56-000189	Cryo Proof, psig	N/A	Minimum Wall, inch	0.018
Stress Report	54-000202	Burst Pressure, psig	6,750		
Cleaning	CPP 3913	Actual Burst, psig	7,919		

**Notes:**

1. This tank is a derivative of tank P/N 80400
2. P/N 80446 end domes are 1-piece forgings, P/N 80400 end domes were 2-piece assemblies LBB Construction
4. J/N 0104 development. J/N 0103 production

**TANK CHARACTERISTICS (Metrics)**

Operating Pressure, bar	310.26	Total Volume, l	67
Proof Pressure, bar	387.82	Max Design Wt, kg	10.66
Cryo Proof, bar	N/A	Minimum Wall, MM	0.457
Burst Pressure, bar	465.39		
Actual Burst, bar	545.99		

- Examination of Product, Preliminary
- Volume Determination & Proof
- MEOP Pressure Test
- External Leakage
- Examination of Product, Final
- Cleanliness Review
- Data Review

**QUALIFICATION TESTS**

- Examination of Product, Preliminary
- Volume Determination and Proof
- MEOP Pressure Test
- Proof Pressure Cycle Life Test
- MEOP Pressure Cylce Life Test
- External Leakage Test
- Examination of Product, Final
- Burst Pressure & Rupture Test

**HEMISPHERE FORGINGS**

HEMI P/N	QTY
80-436061-1	2

**ROLLED AND SEAM WELDED CYLINDER**

P/N	QTY	SIZE
80-374100-1	1	15.42 in ID X 15.0 in LONG

**TUBE TYPE AND SIZE (in.)**

TI 3AL-2.5V	SIZE
80-400002-1	0.375 O.D. x 0.050 Wall
Note: 1 port only	

**TUBE SIZE (mm)**

80-400002-1	9.525 O.D. x 1.270 Wall
Note: 1 port only	

