

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.

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	
Acceptance Test Procedure	50-000587
Qual Test Procedure	50-000588
Qualification Test Report	56-000189
Stress Report	54-000202
Cleaning	CPP 3913

TANK CHARACTERISTICS			
Operating Pressure, psig	4,500	Total Volume, in ³	4,105
Proof Pressure, psig	5,625	Max Design Wt, lbs	23.50
Cryo Proof, psig	N/A	Minimum Wall, inch	0.018
Burst Pressure, psig	6,750		
Actual Burst, psig	7,919		

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

Notes:

- This tank is a derivative of tank P/N 80400
- P/N 80446 end domes are 1-piece forgings, P/N 80400 end domes were 2-piece assemblies LBB Construction
- 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		

QUALIFICATION TESTS
Examination of Product, Preliminary
Volume Determination and Proof
MEOP Pressure Test
Proof Pressure Cycle Life Test
MEOP Pressure Cycle 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	

