



TANK TYPE	MOUNT	LOCATION
COPV	POLAR	POLAR

This composite overwrapped pressure vessel (COPV) Helium tank is 16.7" (424 mm) in diameter and 29.6" (752 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 80436-1

SIZE: 16.7" DIA X 29.6" LONG

SIZE: 424 mm DIA X 752 mm LONG

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS	
Acceptance Test Procedure	50-000577
Qual Test Procedure	50-000576
Qualification Test Report	56-000197
Stress Analysis	54-000189
Stress and Dynamics Report	54-000189
Cleaning	3912

TANK CHARACTERISTICS			
Operating Pressure, psig	4,800	Total Volume, in ³	4,967
Proof Pressure, psig	6,000	Max Design Wt, lbs	28.00
Cryo Proof, psig	N/A	Minimum Wall, inch	0.018
Burst Pressure, psig	7,200		
Actual Burst, psig	8,297		

QUALIFICATION TESTS
Examination of Product
Volume Determination and Proof & MEOP Pressure Test
MEOP Pressure Cycle Life Test
Proof Pressure Cycle Life Test
External Leak Test
Pressurized Pryotechnic Shock Test
External Leak Test
Vibration Test Sine Random
External Leak Test
Weld Quality Inspection
Examination of Product
Burst Pressure & Rupture Test

Notes:

- 1. Fracture Critical

TANK CHARACTERISTICS (Metrics)			
Operating Pressure, bar	330.94	Total Volume, l	81
Proof Pressure, bar	413.68	Max Design Wt, kg	12.70
Cryo Proof, bar	N/A	Minimum Wall, MM	0.457
Burst Pressure, bar	496.41		
Actual Burst, bar	572.05		

HEMISPHERE FORGINGS			
HEMI P/N	QTY	SUPPLIER	Die No
80-436061-1	2		

ACCEPTANCE TEST
Examination of Product Preliminary
Volumetric Measurement @ Ambient
Proof Pressure Test @ Ambient
Volumetric Measurement @ Ambient
Volumetric Capacity @ MEOP
External Leak Test
Weld Quality Inspection
Examination of Product Final
Final Clean

ROLLED AND SEAM WELDED CYLINDER		
P/N	QTY	SIZE
80-436100-1	1	15.87 in ID X 16.75 in LONG

TUBE TYPE AND SIZE (in.)	
Ti 3AL-2.5V	SIZE
80-400002-1	0.375 O.D. x 0.050 Wall

TUBE SIZE (mm)	
80-400002-1	9.525 O.D. x 1.270 Wall

VACUUM RATED
YES

