



TANK TYPE	MOUNT	LOCATION
PRESSURANT	POLAR	POLAR

This composite overwrapped pressure vessel (COPV) Helium tank is 16.7" (424 mm) in diameter and 34" (863 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 80475-1
SIZE: 16.7" DIA X 34" LONG
SIZE: 424 mm DIA X 863 mm LONG

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS	TANK CHARACTERISTICS	ACCEPTANCE TESTS
Acceptance Test Procedure 50-000652	Operating Pressure, psig 4496 Total Volume, in ³ 5309.0	Examination of Product, Preliminary
Qual Test Procedure 50-000653	Proof Pressure, psig 6744 Max Design Wt, lbs 50.7	Volumetric Measurement @ Ambient
Qualification Test Report 56-000225	Cryo Proof, psig N/A Minimum Wall, inch 0.032	Proof Pressure Test @ Ambient
Stress and Dynamics Report 54-000229	Burst Pressure, psig 8996 Qual Tank Mass 47.4	Volumetric Capacity @ Ambient
FMECA 54-000232	Actual Burst, psig 13117	Volumetric Capacity @ MEOP
Cleaning CPP 3987		Non-Destructive Examination

TANK CHARACTERISTICS (Metrics)

Operating Pressure, bar	310	Total Volume, l	87
Proof Pressure, bar	465	Max Design Wt, kg	23.00
Cryo Proof, bar	N/A	Minimum Wall, MM	0.813
Burst Pressure, bar	620	Qual Tank Mass	1203.96
Actual Burst, bar	904		

External Leakage Test
 Weld Quality Inspection
 Examination of Product, Final
 Cleanliness Verification
 Data Review

HEMISPHERE FORGINGS

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

QUALIFICATION TESTS

Preliminary Examination of Product
 Volumetric Measure @ MEOP
 Proof Pressure @ Ambient
 Volumetric Capacity @ Ambient
 Volumetric Capacity @ MEOP
 MEOP Pressure Cycle Life Test
 Proof Pressure Cycle Life Test
 Non-Destructive Exam
 External Leakage Test
 Sinusoidal & Random Vibration Test
 External Leakage Test
 Pressure Guage
 Thermal Cycle Test
 External Leakage Test
 Weld Quality Inspection
 Final Examination of Product
 Burst Pressure

ROLLED AND SEAM WELDED CYLINDER

P/N	QTY	SIZE
80-475100-1	1	15.87 in ID X 19 in LONG

TUBE TYPE AND SIZE (in.)

Ti 3AL-2.5V	SIZE
80-400002-1	0.375OD x 0.050 Wall

NOTE: 1 port only

TUBE SIZE (mm)

80-400002-1	9.525 OD x 1.270 Wall
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NOTE: 1 port only

