

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 80492-1

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 Test Procedure	50-000691	Operating Pressure, psig	4,500	Total Volume, in ³	4,105
Qual Test Procedure (80446-1)	50-000588	Proof Pressure, psig	5,625	Max Design Wt, lbs	23.50
Qual Test Report (80446-1)	56-000231	Cryo Proof, psig	N/A	Minimum Wall, inch	0.018
Stress Report (80446-1)	54-000202	Burst Pressure, psig	6,750		
Cleaning	CPP 3913	Actual Burst, psig	7,798	(80446-1)	

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

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	537.64		

QUALIFICATION TESTS
Examination of Product, Preliminary
Proof Pressure Cycle Life Test
MEOP Pressure Cycle Life Test
External Leakage Test
Dynamic Testing Approval
Pyro Shock Test
External Leakage Test
Random Vibration Test
External Leakage Test
Weld Quality Inspection
Examination of Product, Final
Burst Test

PROGRAM INFORMATION	
Program	Chandrayaan
Customer	ISRO
Customer P/N	N/A
Original Job No. (1)	0632
Customer Installed Device	No
Customer Controlled Design	No

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)		
Ti 3AL-2.5V		SIZE
80-400002-1		9.525 O.D. x 1.270 Wall
Note: 1 port only		

