

TANK TYPE	MOUNT	LOCATION
DIAPHRAGM	LUGS (3)	CYLINDER

The ATLAS V Hydrazine tank is a 23.25-in dia. X 33.85-in long pressure vessel constructed of annealed 6AL-4V Titanium and T-1000G graphite hoop wrap. The tank has 2 spun domes, with an integral 7.35 in long center cylinder section as part of the propellant dome. Positive propellant expulsion is provided by an AF-E-332 rubber diaphragm retained within the cylinder. Mounting is accomplished by 3 tabs bonded to the graphite wrapped cylinder and reinforced with a hoop wrap. Connection is made to the propellant and pressurant domes through tube stubs at each pole.

Part Number 80489-1

SIZE: 23.25 ID X 33.85 L
SIZE: 591 mm ID X 860 mm L

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS

Acceptance Test Procedure	50-000563
Qual Test Procedure	50-000564
static Load Test Procedure	50-000585
Fracture Analysis Plan	54-000179
Stress and Dynamics Report	54-000196
Qual Test Report	56-000192
Spinning qualification procedure	55-000093
Cleaning	CPP 3897

TANK CHARACTERISTICS

Operating Pressure, psig	550	Total Volume, in ³	10,431
Proof Pressure, psig	690	Prop Volume, lbs	337
Cryo Proof, psig	N/A	Max Design Wt, lbs	42.00
Burst Pressure, psig	825	Minimum Wall, inch	0.040
Actual Burst, psig	1,292		

ACCEPTANCE TESTS

Examination of Product
Pre-Proof Volume Determination
Proof Pressure
Post-Proof Volume Determination
Water Expulsion & Pressure Hold Test
Internal Leakage
External Leakage
Determination of Weight and Final Inspection
Cleanliness Verification
Final Examination

TANK CHARACTERISTICS (Metrics)

Operating Pressure, bar	37.92	Total Volume, l	171
Proof Pressure, bar	47.57	Prop Volume, kg	152.86
Cryo Proof, bar	N/A	Max Design Wt, kg	19.05
Burst Pressure, bar	56.88	Minimum Wall, MM	1.016
Actual Burst, bar	89.08		

DIAPHRAGM INFORMATION

Diaphragm P/N	80-427007-1
Diaphragm Mold P/N	T-6040
Diaphragm Gross Wt	3.5 lbs
Diaphragm Matl Type	AF-E-332
Material Specification	MT3-73
Material Specification	90-000075

TUBE TYPE AND SIZE (in.)

TRANS Ti to SS	SIZE
80-427003-1	0.375 OD x 0.028 Wall
80-427003-1	0.375 OD x 0.028 Wall

Notes:

1. For diaphragm retaining ring
2. Spincraft dome spinning procedures
3. Diaphragm Propellant Tank with modified tube.
4. Based on 80427-1

TUBE SIZE (mm)

80-427003-1	3.525 OD x 0.711 Wall
80-427003-1	3.525 OD x 0.711 Wall

DOMES SPINNINGS

DOMES P/N	QTY	SUPPLIER	Procedure No.
80-427020 Prop.	1	SPINCRAFT (3)	WI SP-03210
80-427040 Press.	1	SPINCRAFT (3)	WI SP-03206

PROGRAM INFORMATION

Program:	Hubble Robotic Vehicle De-Orbit
Customer:	Lockheed Martin

