



TANK TYPE	MOUNT	LOCATION	PMD DEVICE
Simple Pmd	Bosses	Polar	Vane, Note 7

This Propellant tank is a lightweight spherical titanium bi-propellant fuel tank It contains a titanium vane-type Propellant Management Device mounted at the polar ports. The tank is supported by four (4) tapped bosses at the propellant port and by a spring support at the pressurant boss.

ATK Part Number 80213-1

SIZE: 13.33-inch ID Sphere

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS

Acceptance Test Procedure	50-000169
Qual Test Procedure	50-000171
Design Plan	54-000027
Reliability Program Plan	54-000028
Qual Test Report	56-000060
Cleaning	CPP 3421

TANK CHARACTERISTICS

Operating Pressure, psig	310	Total Volume, ci	1.232
Proof Pressure, psig	550	Prop Volume, ci	N/A
Cryo Proof, psig	No	Max Design Wt, lbs	3.4
Burst Pressure, psig	650	Minimum Wall, inch	0.018

ACCEPTANCE TESTS

Examination of Product, Preliminary
 External Pressure
 Volume
 Proof Pressure
 Leakage
 Examination of Product, Final
 Cleanliness

TANK CHARACTERISTICS (Metrics)

Operating Pressure, bar	21.37	Total Volume, l	20.53
Proof Pressure, bar	37.92	Prop Volume, l	N/A
Cryo Proof, bar	N/A	Max Design Wt, kg	1.52
Burst Pressure, bar	44.82	Minimum Wall, MM	0.457

QUALIFICATION TESTS

Examination of Product, Preliminary
 External Pressure
 Volume
 Leakage
 Examination of Product, Final
 Cleanliness
 Compatibility Test
 Random Vibration Test
 Post Random Vibration Leakage Test
 Sinusoidal Vibration Test
 Post Sinusoidal Vibration Leakage Test
 Burst Pressure Test
 Cleanliness

Notes:

- 1: Tooling owned by ATK
- 2: This tank is annealed
- 3: Customer performed the qualification environmental tests
- 4: The PMD design is customer proprietary
- 5: Fracture Analysis Plan for 80213 used on ITALSAT is 54-000131
- 6: Stress & Fracture mechanics Analysis 80213-5 used on ITALSAT is 239
- 7: Simple Vanes (Four Vanes)
- 8: Proprietary Document

FORGINGS

FORGINGS P/N	SUPPLIER	Die No
80-213061-1 (2)		

TUBE TYPE AND SIZE

TRANSITION	SIZE
80-213035-1, Inlet	.250 OD x .028 Wall
80-213035-3, Outlet	.250 OD x .028 Wall

