

<b>TANK TYPE</b> Simple Pmd	<b>MOUNT</b> Bosses	<b>LOCATION</b> Polar	<b>PMD DEVICE</b> Vane, Note 7
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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.

**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 Northrop Grumman
- 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)	ARCTURUS	3046

**TUBE TYPE AND SIZE**

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

**PROGRAM INFORMATION**

Program	Classified
Customer	Lulis
Customer P/N	N/A
Original Job Bo	7411
Customer Installed Device	No
Customer Controlled Design	Yes, PMD

