



<b>TANK TYPE</b> SIMPLE PMD	<b>MOUNT</b> Tabs, 32	<b>LOCATION</b> Girth	<b>PMD DEVICE</b> VANE, TRAP & SPONGE
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This tank assembly is a pressure vessel with hemispherical ends & a cylindrical section of all welded construction. It is mounted by 32 circumferential tabs with nut plates located on one of the hemispheres near the cylindrical section weld joint. The tank contains an internally mounted propellant management device (PMD), with perforated sheet & woven screen, fabricated to maintain separation of propellant & gaseous pressurant, & to provide predictable gas-free liquid propellant expulsion from the tank under low or zero gravity conditions.

**ATK Part Number 80411-1**

**SIZE: 48.9" ID x 63.335" Long**

**SIZE: 1,242 x 1,608 mm**

**ISO 9001 & AS 9100 REGISTERED**

**APPLICABLE DOCUMENTS**

Acceptance Test Procedure	50-000538
Qualification Test Procedure	50-000539
Qualification Test Report	56-000183
Bubble Point Test Procedure	50-000543
Materials List	54-000168
Processes List	54-000169
Fracture Control Plan	54-000165
Cleaning	CPP 3866

**TANK CHARACTERISTICS**

Operating Pressure, psig	250	Total Volume, in <sup>3</sup>	87,575
Proof Pressure, psig	313	Prop Volume, in <sup>3</sup>	87,575
Cryo Proof, psig	N/A	Max Design Wt, lbs	99.20
Burst Pressure, psig	375	Minimum Wall, inch	0.031
Actual Burst, psig			

**ACCEPTANCE TESTS**

- Preliminary Inspection of Product
- Mass Measurement
- Pre-Proof Volumetric Capacity
- Ambient Proof Pressure and Visual Inspection
- Post-Proof Volumetric Capacity
- External Leakage Test
- Tank Assembly Bubble Point Test
- Sine and Random Vibration Test and Visual Inspection
- Sine Vibration Test and Visual Inspection
- Volumetric Capacity & Expulsion Test
- Tank Assembly Bubble Point Test
- External Leakage Test
- Radiographic Inspection
- Dye Penetrant Inspection
- Cleanliness Check & Visual Inspection
- Data Review
- Low Pressure Test

**TANK CHARACTERISTICS (Metrics)**

Operating Pressure, bar	17.24	Total Volume, l	1,435
Proof Pressure, bar	21.55	Prop Volume, l	1,435
Cryo Proof, bar	NO	Max Design Wt, kg	45.00
Burst Pressure, bar	25.85	Minimum Wall, MM	0.787
Actual Burst, bar	0.00		

**HEMISPHERE FORGINGS**

HEMI P/N	QTY	SUPPLIER	Die No
80-363061	2		

**RING FORGINGS**

RING P/N	QTY	RING SIZE, (Rough Machined)
80-363063	1	49.57 +/- .06 x 48.31 +/- .06 x 3.19 +/- .09
80-363065	1	49.75 +/- .09 x 48.40 +/- .09 x 16 +/- .06

**TUBE TYPE AND SIZE (in.)**

TRANS Ti to SS	SIZE
80-411001-3	0.375 OD x 0.020 Wall
80-411001-1	0.250 OD x 0.020 Wall

**TUBE SIZE (mm)**

80-411001-3	9.525 OD x 0.508 Wall
80-411001-1	6.35 OD x 0.508 Wall

**Notes:**

- 1: Tooling belongs to ATK
- 2: Tube Protectors SK 1488 & 1489
- 3: Vibration Fixture T-4646
- 4: Fracture Critical
- 5: PMD design is from PMD Technology.
- 6: Sine & Random Vib (Wet) 3 Axis

