



<b>TANK TYPE</b>	<b>MOUNT</b>	<b>LOCATION</b>
Propellant Composite	Bosses	Polar

The HS 601 Hp filament wound Xenon tank is a pressure vessel constructed of a conical liner with end domes, polar mounting bosses, & overwrapped with an epoxy resin impregnated fiber. The liner has a nominal 0.032" membrane thickness. Mounting is provided by polar bosses located on the tank centerline axis.

**ATK Part Number 80386-101**

**SIZE: 13.24-inch Dia x 29.625-inch long**

**SIZE: 336.3-mm Dia x 752.4-mm long**

**ISO 9001 & AS 9100 REGISTERED**

APPLICABLE DOCUMENTS	
Weld Qualification	50-000470
Acceptance Test Procedure	50-000474
Qualification Test (Q1) Procedure	50-000475
Leak Before Burst Test Procedure	50-000477
Qualification Test (Q2) Procedure	50-000478
Qualification Test Report	56-000163
Cleaning	CPP 3811

TANK CHARACTERISTICS			
Operating Pressure, psig	2,500	Total Volume, ci	1,960
Proof Pressure, psig	3,125	Prop Volume, lb	116
Cryo Proof, psig	N/A	Minimum Wall, inch	0.029
Burst Pressure, psig	3,750	Max Design Wt, lbs	14.0
Actual Burst, psig note 2	5,370	Qual Actual Wt, lbs	13.36

QUALIFICATION TESTS (Q1)
Preliminary Examination of Product
Volume, Proof, Volume
Tank Capacity
External Leakage Test
Evacuation Cycle
Pressure Cycle
External Leakage Test
Pressure Hold
External Leakage Test
Wet Sine & Random Vibration Testing
External Leakage Test
Final Examination of Product
Burst Pressure

**Notes:**

1. Tooling belongs to ATK.
2. Actual Burst Pressure of Q1
3. Tube protector is SK 1380
4. This is a leak-before-burst design per MIL-STD-1522A
5. Shell leakage (<1x10<sup>-6</sup> std cc/src He @MEOP)
6. Test Operating Temperature (33°F to 122°F)
7. Stress Analysis Report, SAR-96-002
8. Fracture Critical
9. Pressure environment: The tank shall be designed for ambient pressures of 15 psi to 10<sup>-12</sup> Torr

TANK CHARACTERISTICS (Metrics)			
Operating Pressure, Bar	172.37	Total Volume, l	32.12
Proof Pressure, Bar	215.46	Prop Volume, kg	52.62
Cryo Proof, Bar	N/A	Minimum Wall, MM	0.737
Burst Pressure, Bar	258.55	Max Design Wt, kg	6.35
Actual Burst, Bar	370.24	Qual Actual Wt, kg	6.06

**TANK MATERIAL**

Titanium Liner
Pancake Forging (Arcturus Die #473)
Titanium Barstock (8-1/8" Dia)
Formed Blind Dome

ACCEPTANCE TESTS
Preliminary Examination of Product
Volume, Proof, Volume
Tank Capacity
External Leakage
Weight Measurement
Final Examination of Product
Clean Verification

**TUBE TYPE AND SIZE**

3AL-2.5V Titanium	SIZE
80-374040-15	.375 OD x .020 Wall

**TUBE SIZE (Metrics)**

80-374040-15	9.525 OD x .508 MM Wall
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**VACUUM RATED**

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