



TANK TYPE	MOUNT	LOCATION	PMD DEVICE
Diaphragm	Tab	Press Hemi	AF-E-332 Rubber Diaphragm

The propellant tank is a family of 22" diameter x 39" length pressure vessel constructed of 6AL-4V titanium. An rubber diaphragm Propellant Management Device (PMD) provides gas-free expulsion of propellant. Mounting is provided via three (3) welded tabs located on the pressurant side dome and a customer-provided flex plate on the propellant side boss.

ATK Part Number 80534-1

SIZE: 22.14" ID x 39.11" Length
SIZE: 562 mm ID x 993 mm

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS	
Qualification Test Report	56-000280
Acceptance Test Procedure	50-000753
Qualification Test Procedure	50-000751
Cleaning	CPP 4049

TANK CHARACTERISTICS			
Operating Pressure, psig	325	Total Volume, in ³	10,700
Proof Pressure, psig	406	Prop Volume, in ³	5,022
Cryo Proof, psig	N/A	Prop Volume, lbs	226
Burst Pressure, psig	488	Max Design Wt, lbs	28.51
Actual Burst, psig	910	Minimum Wall, inch	0.040

QUALIFICATION TESTS
Preliminary Examination of Product
Pre-Proof Volumetric Capacity Test,
Proof Pressure Test
Post-Proof Volumetric Capacity Test
MEOP / Proof Pressure Cycling
Diaphragm Cycle Test
Internal (Diaphragm) Leak Test
External Leak Test
Expulsion Efficiency
Expulsion Cycle Test
Internal Vacuum
Vibration Testing
Static Load Test
Burst Pressure

TANK CHARACTERISTICS (Metrics)			
Operating Pressure, bar	22.41	Total Volume, l	175
Proof Pressure, bar	27.99	Prop Volume, l	82
Cryo Proof, bar	N/A	Prop Volume, kg N ₂ H ₄	84.03
Burst Pressure, bar	33.646	Max Design Wt, kg	12.93
Actual Burst, bar	62.742	Minimum Wall, MM	1.016

NOTES
 The 80547-1 tank is identical to the 80534-1 tank except that the diaphragm orientation is reversed.

HEMISPHERE FORGINGS			
HEMI P/N	QTY	SUPPLIER	Die No
80-313061-3	2	Arcturus	3045B

ACCEPTANCE TESTS
Preliminary Examination of Product
Pre-Proof Volumetric Capacity Test
Proof Pressure Test
Post-Proof Volumetric Capacity Test
NDE
Expulsion Efficiency
Internal Vacuum
Internal (Diaphragm) Leak Test
External Leak Test
Vibration Test
Internal (Diaphragm) Leak Test
External leak Test
NDE
Final Examination
Cleanliness

RING FORGINGS (Roughed Machined) (inches)	
Qty. 2, 80-534060-1, Cylinder Forging	23.12 OD x 21.37 ID x 16.32 Lg

RING FORGINGS (Roughed Machined) (mm)	
Qty. 2 80-534060-1, Cylinder Forging	587 OD x 543 ID x 415 Lg

TUBE TYPE AND SIZE (inches)		
Bi-Metallic - Titanium / CRES		SIZE
80-534001-1	Pressurant / Propellant	.250 OD x 0.028 Wall

TUBE TYPE AND SIZE (mm)		
Bi-Metallic - Titanium / CRES		SIZE
80-534001-1	Pressurant / Propellant	6.350 mm x 0.711 Wall



VACUUM RATED
Yes