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TANK TYPE	MOUNT	LOCATION	PMD DEVICE
Complex PMD	Bosses	Polar	Note 6

This is a 31-inch spherical pressure vessel constructed of 6AL-4V titanium. A vane & trap type propellant management device (PMD) is provided to expel fuel under low or zero gravity conditions. Mounting is accomplished by polar bosses.

ATK Part Number 80339-1

SIZE: 31.06 inch ID Sphere
SIZE: 789- mm

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS

ATP, Screen & Screen Assys	1203-503
Bubble Point Test Procedure	50-000344
Acceptance Test Procedure	50-000345
Qualification Test Procedure	50-000346
Fracture Analysis Plan	54-000095
Qualification Test Report	56-000123
Cleaning Procedure, PMD	CPP 3546
Cleaning Procedure, Tank	CPP 3666

Notes:

1: Tooling belongs to ATK
2: Weld Qual Ring Forging is SK1039
3: Supplier Proprietary *
4: Tube protectors are SK 1043 & SK 1044 & SK 1081
5: Multi-Vane with complex trap
6: Fracture Critical

TANK CHARACTERISTICS

Operating Pressure, psig	300	Total Volume, ci	15,598
Proof Pressure, psig	385	Prop Volume, lbs	549
Cryo Proof, psig	No	Max Design Wt, lbs	30.10
Burst Pressure, psig	460	Minimum Wall, inch	0.022

TANK CHARACTERISTICS (Metrics)

Operating Pressure, Bar	20.68	Total Volume, l	255.61
Proof Pressure, Bar	26.54	Prop Volume, Kg	249.02
Cryo Proof, Bar	No	Max Design Wt, Kg	13.65
Burst Pressure, Bar	31.72	Minimum Wall, MM	0.559

FORGINGS

FORGINGS P/N	SUPPLIER	Die No
80-339061-1		
80-339063-1		

TUBE TYPE AND SIZE

TITANIUM	SIZE
80-339004-1, Inlet	.375 OD x .015 Wall
80-339005-5, Outlet	.500 OD x .020 Wall
80-339040-7, Fill/Drain	.500 OD x .020 Wall

TUBE TYPE AND SIZE (Metrics)

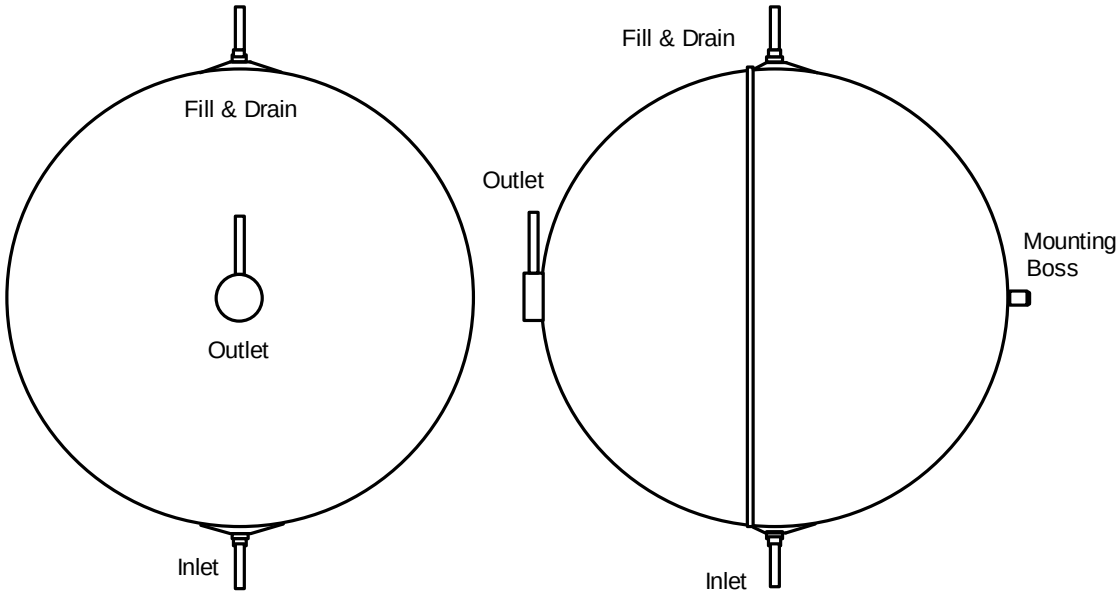
TITANIUM	SIZE
80-339004-1, Inlet	9.525 OD x .381 Wall
80-339005-5, Outlet	12.7 OD x .5 Wall
80-339040-7, Fill/Drain	12.7 OD x .5 Wall

ACCEPTANCE TESTS

Preliminary Inspection of Product
Volumetric Capacity Test
Proof Pressure Test
Volumetric & Expansion Permanent Set Test
Acoustic Noise Test
External Leak
Weld Quality Inspection
Lines and Fitting Weld Quality Inspection
Bubble Point Test
Design and Construction
Preparation for Delivery

QUALIFICATION TESTS

Preliminary Inspection of Product
Volumetric Capacity Test
Proof Pressure Test
Volumetric Expansion and Permanent Set Test
Acoustic Test
External Leakage
Weld Quality Inspection
Lines and Fittings Weld Quality Inspection
Bubble Point Test
External Leakage
Slosh Test
Vibration Test
Bubble Point Test
External Leakage
Expulsion Test
Burst Pressure Test
Final Inspection of Product
Bubble Point Test
Data Review



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