



TANK TYPE Diaphragm	MOUNT Tabs	LOCATION Mid Plane
This is a 23-inch x 25 pressure vessel constructed of 6Al-4V titanium. Positive fuel expulsion is provided by a reversible ethylene-propylene terpolymer (AF-E-332) rubber diaphragm retained (welded in) near the tank mid-plane. Mounting is accomplished by four (4) lateral tabs parallel with and adjacent to the sphere mid-plane.		
ISO 9001 & AS 9100 REGISTERED		

ATK Part Number 80323-1

SIZE: 23.13-inch ID x 25.46-inch Long
SIZE: 587.5 mm x 646.7 mm

APPLICABLE DOCUMENTS	
Acceptance Test	50-000314
Qualification Test Procedure	50-000315
Fracture Analysis Plan	54-000076
Qualification Test Report	56-000129
Cleaning	CPP 3657

TANK CHARACTERISTICS			
Operating Pressure, psig	551	Total Volume, ci	7,261
Proof Pressure, psig	667	Prop Volume, lbs	250
Cryo Proof, psig	NA	Max Design Wt, lbs	31.50
Burst Pressure, psig	827	Minimum Wall, inch	0.040

ACCEPTANCE TESTS
Preliminary Examination of Product
Pre-Proof Volume Determination
Proof Pressure
Internal (Diaphragm) Leakage
External Leakage
Expulsion Efficiency
Penetrant Inspection
Radiographic Inspection
Weight Determination
Final Examination of Product
Cleanliness Verification

DIAPHRAGM INFORMATION	
Diaphragm P/N	80-323007-1
Diaphragm Mold Tool Number	T-3129
Diaphragm Gross Weight	
Diaphragm Material Type	AF-E-332
Diaphragm, Material, Note 2	90-000075
Diaphragm Processing, Note 2	90-000087
N-Ray Inspection	1002

TANK CHARACTERISTICS (Metrics)			
Operating Pressure, bar	37.99	Total Volume, l	118.99
Proof Pressure, bar	45.99	Prop Volume, kg	113.55
Cryo Proof, bar	NA	Max Design Wt, kg	14.31
Burst Pressure, bar	57.02	Minimum Wall, mm	1.016

HEMISPHERE FORGINGS			
FORGINGS P/N	QTY	SUPPLIER	Die No
80-323061-1	2	ARCTURUS	3475

QUALIFICATION TESTS
Acceptance Test
Vibration
Internal Leakage
External Leakage
Differential Pressure Test
Internal Leakage
Life Cycling
Penetrant Inspection
Radiographic Inspection
Internal Leakage
External Leakage
Vibration
Burst Pressure
Radiographic Inspection
Final Examination of Product

Notes:

- 1: Tooling belongs to ATK
- 2: Proprietary Document
- 3: Metric anchor nuts were furnished by the customer.
- 4: Tube protectors are SK 1031 & SK 1032
- 5: Fracture Critical

RING FORGINGS (Roughed Machined)		
80-323063-1, Retainer	23.44 +/-0.06 ODx22.0 +/-0.06 IDx1.7 +.25 Lg	
80-323063-3, Cylinder	24.0 +/-0.06 ODx22.44 +/-0.06 IDx3.56+.25 Lg	
80-323065-1, Lug	23.87 +.13 ODx22.25 +/-0.06 IDx4.0 +.25 Lg	

TUBE TYPE AND SIZE	
TITANIUM	SIZE
80-323001-1 (2)	.250" OD X .016" Wall (6.4 mm x .4064 mm Wall)

