

TANK TYPE Diaphragm	MOUNT Bosses Lugs	LOCATION Polar Off Axis
-------------------------------	--------------------------------	--------------------------------------

This is a 36-inch x 47.5-inch elliptical tank constructed of 6AL-4V titanium. Fuel expulsion is provided by a ethylene-propylene terpolymer (AF-E-332) diaphragm retained (welded in) near the mid-plane of the tank. Mounting is accomplished on polar bosses and one off axis boss located on the inlet hemisphere.

Part Number 80315-1

SIZE: 36-inch ID x 47.5-inch Long
SIZE: 914-mm ID x 1206-mm Long

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS	
Plexi-Glas Simulator Qual Test Proc	50-000284
Acceptance Test Procedure	50-000285
Qualification Test Procedure	50-000286
Diaphragm Test Procedure	50-000323
Forging Qualification Report	55-000061
Weld Qualification Report	55-000062
Fracture Analysis Plan	54-000058
Design Analysis Report	54-000067
Plexi-Glas Simulator Qual Report	56-000103
Qualification Test Report	56-000119
Burst Test Report	56-000120
Cleaning	CPP 3633

TANK CHARACTERISTICS			
Operating Pressure, psig	400	Total Volume, ci	36,626
Proof Pressure, psig	600	Prop Volume, ci	28,000
Cryo Proof, psig	NA	Max Design Wt, lbs	98.0
Burst Pressure, psig	800	Minimum Wall, inch	0.048

ACCEPTANCE TESTS
Examination of Product
Pre-Proof Volumetric Capacity Test
Proof Pressure Test
Post-Proof Volumetric Capacity Test
External Pressure Test
Internal (Diaphragm) Leakage
External Leakage Test
Penetrant Inspection
Radiographic Inspection
Final Dimensional Inspection
Visual Inspection
Weight Test
Cleanliness Test

TANK CHARACTERISTICS (Metrics)			
Operating Pressure, Bar	27.58	Total Volume, l	600.2
Proof Pressure, Bar	41.37	Prop Volume, l	458.8
Cryo Proof, Bar	NA	Max Design Wt, Kg	44.45
Burst Pressure, Bar	55.16	Minimum Wall, MM	1.219

DIAPHRAGM INFORMATION	
Diaphragm P/N	80-315007-1
Diaphragm Mold P/N	T-2667
Diaphragm Gross Wt	N/A
Diaphragm Matl Type	AF-E-332
Diaphragm Processing	Note 2 90-000094
N-Ray Procedure	1002

FORGINGS P/N	SUPPLIER	Die No
80-315061-1 (2)		
RING FORGING	RING SIZE, (Rough Machined)	
80-315063-1, Lug	34.35 +/- .03 OD x 32.25 +/- .03 ID x 4.12 +.25 Lg	
80-315006-3, Retainer	36.31 +.09 OD x 34.93 -.09 ID x 1.75 +.09 Lg	

QUALIFICATION TESTS
Examination of Product
Pre-Proof Volumetric Capacity Test
Proof Pressure Test
Post-Proof Volumetric Capacity Test
Internal (Diaphragm) Leakage
External Leakage Test
Penetrant Inspection
Radiographic Inspection
Final Dimensional Inspection
Visual Inspection
Weight Test
Cleanliness Test
In-Process Qualification Tests
Acceptance Tests Verification
Qualification Tank Configuration
Diaphragm Integrity Test
Internal Leakage Test
Pressure Cycle Test
Internal Leakage
External Leakage Test
Proof Test
Heater Insulation Resistance Test
Static Acceleration Tests
External Pressure Test
Internal Leakage Test
External Leakage Test
Proof Test
Heater Insulation Resistance Test
Expulsion Cycle Test
Internal Leakage Test
Blowdown Expulsion Test
Heater Insulation Resistance Test
Final Proof Test
Final Drying

TUBE TYPE AND SIZE	
TRANSITION	SIZE
80-315001-1, Inlet	.250 OD x .016 Wall
80-315002-1, Outlet	.750 OD x .028 Wall

Notes:

- 1: Tooling belongs to TRW/Govt
- 2: Proprietary Document
- 3: Retainer ring may be obtained from the forging
- 4: Gamma Ray Observatory (GRO)
- 5: Fracture Critical

