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| TANK TYPE | MOUNT | LOCATION |
|---|---|---|
| Diaphragm | Bosses | Polar |
| | Lugs | 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.

**ISO 9001 & AS 9100 REGISTERED**

**ATK Part Number 80315-1**

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

## 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 |

## 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 |

**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

## 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 |

## 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 |

## FORGINGS

| FORGINGS P/N | SUPPLIER | Die No |
|---|---|---|
| 80-315061-1 (2) | Arcturus | 3471 |
| **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 |

## TUBE TYPE AND SIZE

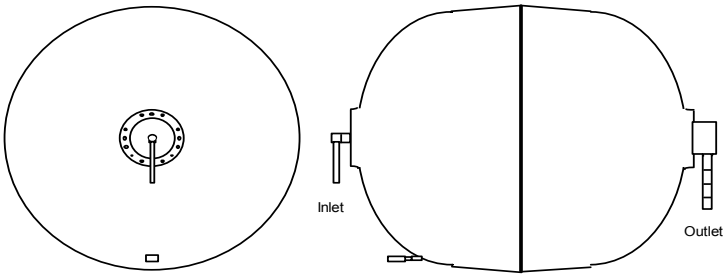
| TRANSITION | SIZE |
|---|---|
| 80-315001-1, Inlet | .250 OD x .016 Wall |
| 80-315002-1, Outlet | .750 OD x .028 Wall |

## 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

## QUALIFICATION TESTS

Examination of Product
Pre-Proof Volumetric Capacity Test
Proof Pressure Test
Post-Proof Volumetric Capacity Test
Intenral (Diaphragm) Leakage
External Leakage Test
Penetrant Inspection
Radiographric Inspection
Final Dimensional Inspection
Visual Inspection
Weight Test
Cleanliness Test
In-Process Qualification Tests
Acceptance Tests Verfication
Qualification Tank Configuration
Dipahragm Integrity Test
Internal Leakage Test
Pressure Cylce 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




6033 East Bandini Boulevard
Commerce, California 90040

Telephone (323) 722-0222
Facsimile (323) 721-6002

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