

<b>TANK TYPE</b> Diaphragm	<b>MOUNT</b> Tab Ring	<b>LOCATION</b> Lower-Plane
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This is a 26-inch diameter 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) at the mid-plane. Mounting is accomplished by a tab-ring mounted in the lower dome.

**Part Number 80514-1**

(80-514180-1)

**SIZE: 25.0" ID x 45.94" inch LONG**

**SIZE: 635 mm ID x 1167 mm LONG**

**ISO 9001 & AS 9100 REGISTERED**

**APPLICABLE DOCUMENTS**

Acceptance Test Procedure	50-000700
Qualification Test Procedure	50-000701
Cleaning	CPP 4019
Forging Qual Report	55-000113
Qualification Test Report	56-000249

**TANK CHARACTERISTICS**

Operating Pressure, psig	412	Total Volume, in <sup>3</sup>	19,250
Proof Pressure, psig	515	Prop Volume, in <sup>3</sup>	15,000
Cryo Proof, psig	N/A	Prop Volume, lbs	551.2
Burst Pressure, psig	618	Max Design Wt, lbs	62.0
Actual Burst, psig	875	Minimum Wall, inch	0.045

**QUALIFICATION TESTS**

- Preliminary Examination of Product
- Pre-Proof Volume Determination
- Proof Pressure
- Post-Proof Volume Determination
- Expulsion Efficiency, Flow/Delta P
- Proof Pressure Cycle Test
- MDP Pressure Cycle Test
- Internal Leakage
- External Leakage
- Radiographic Inspection \*
- Penetrant Inspection \*
- Static Acceleration Test
- Random Vibration test
- Internal Leakage
- External Leakage
- Radiographic Inspection \*
- Penetrant Inspection \*
- Final Inspection
- Burst Test

**DIAPHRAGM INFORMATION**

Diaphragm P/N	80-514007-1
Diaphragm Mold P/N	T-7261
Diaphragm Gross Wt	5.5 Lbs.
Diaphragm Matl Type	AF-E-332
Material Specification, Rubber	90-000075
Diaphragm Processing	90-000087
N-Ray Procedure	1002

**TANK CHARACTERISTICS (Metrics)**

Operating Pressure, bar	28.41	Total Volume, l	315.45
Proof Pressure, bar	35.51	Prop Volume, l	245.81
Cryo Proof, bar	NO	Prop Volume, kg	250.02
Burst Pressure, bar	42.61	Max Design Wt, kg	28.12
Actual Burst, bar	60.33	Minimum Wall, MM	1.14

**HEMISPHERE FORGINGS**

HEMI P/N	QTY	SUPPLIER	Die No
80-514061-1	2	ARCTURUS	3942

**RING FORGINGS (Roughed Machined)**

80-514063-1, Retainer	25.38 OD x 23.87 ID x 1.66 Lg
80-514065-1, Mounting Tab Ring	26.12 OD x 24.63 ID x 3.12 Lg

**Notes:**

**ACCEPTANCE TESTS**

- Preliminary Examination of Product
- Pre-Proof Volume Determination
- Proof Pressure
- Post-Proof Volume Determination
- Expulsion Efficiency
- External Leakage
- Internal Leakage
- Radiographic Inspection
- Penetrant Inspection
- Determination of Weight and Final Inspection
- Cleanliness Verification
- Final Examination

**VACUUM RATED**

This tank has a ΔP capability of 13.6 psi (0.94 bar)

