

TANK TYPE	MOUNT	Location
Diaphragm	3 mounting tabs	Circumferential

P/N 80583 is a 23-inch spherical pressure vessel constructed of 6Al-4V titanium. A reversing ethylene-propylene terpolymer (AF-E-332) rubber diaphragm retained (welded in) near the sphere mid-plane provides positive fuel expulsion. Tank mount consists of three equally spaced circumferential mounting tabs. This tank is a derivative of P/N 80323, but with a stand-alone qualification tests.

Part Number 80583-1

SIZE: 23.1-inch ID Sphere
SIZE: 587 mm

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS		TANK CHARACTERISTICS	
Acceptance Test Procedure	50-000874	Operating Pressure	400 psi @ 122°F
Qualification Test Procedure	50-000875	Proof Pressure	500 psi @ 122°F
Forging Qual Procedure	55-000149	Burst Pressure	>600 psi @ 122°F
Forging Qual Report	55-000156	Actual Burst Pressure	923 psi
Qualification Test Report	56-000318	Normalized Burst Pres	710 psi
Fracture Analysis Plan	54-000478	Total Volume, in ³	6,348
Fracture Control Plan	60-000857	Qualified propellant mass, lb _m	182.9
Cleaning	CPP 4095	Max Design Mass, lb _m	18.3
		Actual Qual Tank mass, lb _m	17.45
		Minimum Wall, inch	0.027

ACCEPTANCE TESTS
Preliminary Examination of Product
Pre-Proof Volume Determination
Proof Pressure Test
Post Proof Volume Determination
Expulsion Efficiency
Internal Leakage Test
External Leakage Test
Radiographic Penetrant Inspection
Flourescent Penetrant Inspection
Final Examination of Product
Cleanliness

DIAPHRAGM INFORMATION	
Diaphragm P/N	80-583007-1
Diaphragm Mold P/N	T-9386
Diaphragm Gross Wt	2.15
Diaphragm Matl Type	AF-E-332
Diaphragm, Material	Note 2 90-000075
Diaphragm Process	Note 2 90-000087
N-Ray Inspection	MNRC-00-88-DOC-00

CHARACTERISTICS (Metrics)	
Operating Pressure	27.6 bar @ 50°C
Proof Pressure	34.48 bar @ 50°C
Burst Pressure	>41.37 bar @ 122°F
Actual Burst Pressure	63.64 bar
Normalized Burst Press	48.95 bar
Total Volume, l	104.1
Qualified propellant mass, kg	83.0
Max Design Wt, kg	8.3
Actual Qual Tank mass, kg	7.9
Minimum Wall, mm	0.686

FORGINGS	
FORGINGS P/N	
80-323061-1 (2)	
RING FORGING	
RING SIZE, (Rough Machined)	
80-323063-1, Retainer	23.44 +/- .06 OD x 22.00 +/- .06 ID x 1.75 +.25/-.00 Lg
80-323065-1, Lug Ring	23.87 +.13/-.00 OD x 22.25 +/- .06 ID x 4.00 +.25/-.00 Lg

- Notes:**
- 1: Tooling belongs to OA
 - 2: Proprietary Document
 - 3: Qualified for Parker Probe Plus
 - 4: Fracture Critical
 - 5: This tank is a derivative of our 23.1 inch family of tanks

TUBE TYPE AND SIZE	
Ti Tube Extension	SIZE
80-583001-5 (2)	.250 OD x .028 wall X 5.39 Long (6.35 mm x 0.711 mm wall)

QUALIFICATION TESTS
Examination of Products
Pre-proof Volume
Proof Pressure Test
Post-proof Volume
MEOP & Proof Pressure Cycles
X-Ray & Penetrant Inspection
Internal Leak
External Leak
Expulsion Efficiency
Expulsion Cycles
Internal Leak
External Leak
Sine Vibration Testing
Internal Leak
External Leak
Weld Quality Inspection
Final Examination
Burst Pressure



Table 2 X and Y Sine Vibration Test Levels

Frequency (Hz)	Qualification Level (g) or (inch)
5-28	0.03 DA
30-32	5.5 g
36 - 100	1.25 g

Tank responses limited to 8.5 g's in lateral