



TANK TYPE Diaphragm	MOUNT Flange	LOCATION Girth
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This is a 40-inch oblate spheroid pressure vessel constructed of 6Al-4V titanium. Positive fuel expulsion is provided by a fully reversible ethylene-propylene terpolymer (AF-E-332) rubber diaphragm retained (welded) a the mid-plane. Mounting is accomplished on a continuous flange parallel with and adjacent to the mid-plane.

ATK Part Number 80463-1

SIZE: 40-inch Oblate Spheroid
SIZE: 1016 mm

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS	
Acceptance Test Procedure	50-000619
Qualification Test Procedure	see 80263-1
Qualification Test Report	see 80263-1
Fracture Analysis	54-000217
Cleaning	3960

TANK CHARACTERISTICS			
Operating Pressure, psig	338	Total Volume, ci	28,144
Proof Pressure, psig	525	Prop Mass, lbm	Various
Cryo Proof, psig	N/A	Max Design Wt, lbm	76.0
Design Burst, psig	676	Minimum Wall, inch	0.050
Actual Burst, psig	840		

QUALIFICATION TESTS	
Qual performed on 80263-1	
Preliminary Examination of Product	
Pre-Proof Volumetric Capacity Test	
Proof Pressure test	
Post-Proof Volumetric Capacity Test	
Internal Leakage Test	
External Leakage Test	
Penetrant Inspection	
Radiographic Inspection	
Weight Test	
Final Examination of Product	
Cleanliness Test	
Acceleration Test	
Internal Leakage Test	
Negative Pressure Test	
External Leakage Test	
Diaphragm Integrity Test	
Internal Leakage Test	
Pressure Cycle Test	
Blow Down Pressure Test	
Expulsion Test	
Internal Leakage Test	
Proof Pressure test	
Final Examination of Product	
Weight Test	
Cleanliness Test	

DIAPHRAGM INFORMATION	
Diaphragm P/N	80-263027-1
Diaphragm Mold P/N	T-1868
Diaphragm Gross Wt	7.6 (3.44 Kg)
Diaphragm Matl Type	AF-E-332
Material Spec, Rubber	MT3-73
Diaphragm Processing, Note 2	90-000094
N-Ray Inspection Procedure	1002

TANK CHARACTERISTICS (Metrics)			
Operating Pressure, Bar	23.30	Total Volume, l	461.2
Proof Pressure, Bar	36.20	Prop Volume, kg	454
Cryo Proof, Bar	N/A	Max Design Wt, Kg	34.5
Design Burst, Bar	46.61	Minimum Wall, mm	1.270
Actual Burst, Bar	57.92		

FORGINGS		
FORGINGS P/N	SUPPLIER	Die No
80-260061-1 (3)	ARCTURUS	3241

ROLL RING FORGING SIZE, (Rough Machined)		
80-263065-1	40.46 +.09 OD x 39.12 -.09 ID x 1.68 +.09 Lg	
80-263063-1	42.57 +.09 OD x 39.56 -.09 ID x 3.81 +.25 Lg	

TUBE TYPE AND SIZE (in.)	
Ti 3AL-2.5V	SIZE
80-263001-1 (2)	.250 OD x .016 wall

TUBE SIZE (mm)	
80-263001-1 (2)	6.35 x .406 mm

Notes:

- 1: Tooling owned by TRW
- 2: Proprietary Document
- 3: Fracture Critical
- 4: Different tubes, same mounting flange as 80263-1
- 5: Tube protectors are SK 1487

ACCEPTANCE TESTS	
Examination of Product	
Pre-Proof Volumetric Capacity Test	
Proof Pressure Test	
Post-Proof Volumetric Capacity Test	
Internal Leak Test	
External Leak Test	
Radiographic Inspection	
Dye Penetrant Inspection	
Final Exam of Product	
Cleanliness	
Data Review	

VACUUM RATE	
YES	

