



TANK TYPE Diaphragm	MOUNT Lugs	LOCATION Girth
-------------------------------	----------------------	--------------------------

This is a 17-inch spherical 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 sphere mid-plane. Mounting is accomplished by six (6) lugs parallel with and adjacent to the sphere mid-plane.

ATK Part Number 80359-1

SIZE: 17.4-inch ID Sphere
SIZE: 442-mm

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS	
Acceptance Test Procedure	50-000385
Qualification Test Procedure	50-000386
Fracture Analysis Plan	54-000113
Design Verification Report	54-000114
Configuration Item Data List	54-000115
Qualification Test Report	56-000143
Cleaning	CPP 3694

TANK CHARACTERISTICS			
Operating Pressure, psig	377	Total Volume, ci	2.705
Proof Pressure, psig	566	Prop Volume, ci	1.585
Cryo Proof, psig	NA	Max Design Wt, lbs	15.4
Burst Pressure, psig	754	Minimum Wall, inch	0.025

ACCEPTANCE TESTS
Preliminary Examination of Product
Pre-Proof Volume Determination
Proof Pressure
Post-Proof Volume Determination
Non-Destructive Inspections
Expulsion Efficiency
Internal Leakage
External Leakage
Vibration
External Leakage
Internal Leakage
Thermal Cycling
Internal Leakage
External Leakage
Non-Destructive Inspections
Weight and Ceter of Gravity Determination
Final Examination of Product
Cleanliness Verification

DIAPHRAGM INFORMATION	
Diaphragm P/N	80-285007-1
Diaphragm Mold P/N	T-2168
Diaphragm Gross Wt	1.44
Diaphragm Matl Type	AF-E-332
Diaphragm, Material, Note 2	90-000075
Diaphragm Processing, Note 2	90-000087
N-Ray Inspection	1002

TANK CHARACTERISTICS (Metrics)			
Operating Pressure, bar	25.99	Total Volume, l	45.07
Proof Pressure, bar	39.02	Prop Volume, l	26.41
Cryo Proof, bar	NA	Max Design Wt, kg	6.985
Burst Pressure, bar	51.99	Minimum Wall, MM	0.635

FORGINGS		
FORGINGS P/N	SUPPLIER	Die
80-285061-1 (2)		
RING FORGING		
RING SIZE, (Rough Machined)		
80-285065-1, Retainer	17.68 +.09 OD x 16.44 -.09 ID x 1.44 +.12 Lg	
80-285063-1, Lug	20.31 +.09 OD x 18 -.09 ID x .81 +.06 Lg	

- Notes:**
- 1: Tooling owned by ATK
 - 2: Proprietary Document
 - 3: This tank is similar to 80285
 - 4: Satellite Astronomia Raggi-X
 - 5: Fracture Critical

TUBE TYPE AND SIZE	
TITANIUM	SIZE
80-359001-3 (2)	.375 OD x .035 Wall
	9.526 x .889-mm

QUALIFICATION TESTS
Preliminary Examination of Product
Pre-Proof Volume Determination
Proof Pressure
Post Proof Volume Determination
Non-Destructive Inspection
Expulsion Efficiency
Internal Leakage
External Leakage
Vibration
External Leakage
Internal Leakage
Thermal Cycling
Internal Leakage
External Leakage
Non-Destructive Inspection
Weight and Ceter of Gravity Determination
Final Examination of Product
Cleanliness Verification
Acceptance Test Verification and Electrical Resistance Test

