TANK TYPE	MOUNT	LOCATION
Diaphragm	Pedestal	Apex

NORTHROP GRUMMAN

This is a 13-inch pressure vessel constructed of 6Al-4V titanium. The tank shell consists of a elliptical pressurant head and a hemispherical head. 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 on a pedestal mount located on the apex of the propellant hemisphere.

Part Number 80342-1

SIZE: 12.88 inch ID Oblate Spheroid
SIZE: 327- mm

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS

Acceptance Test Procedure	50-000353
Qualification Test Procedure	50-000354
Burst Test Report	56-000135
Qualification Test Report	56-000140
Re-Qual Test Report	56-000146
Fracture Analysis Plan	54-000211
Cleaning	CPP 3668

DIAPHRAGM INFORMATION

Diaphragm P/N		80-216007-1
Diaphragm Mold Tool No		T-1262
Diaphragm Gross Wt		1.0
Diaphragm Material Type		AF-E-332
Diaphragm, Material	Note 2	90-000075
Diaphragm Processing	Note 2	90-000087
N-Ray Inspection		1002

Notes:

1: Majority of this tooling is owned by Northrop Grumman
2: Proprietary Document
3: This tank is similar to 80216-1
4: Tube protectors are SK 1127 & SK 1128
5: DMSP is Defense Meteorological
6: TIROS is Television Infrared Observatory Satellite
7: General Electric Astro Space
8: Fracture Critical

TANK CHARACTERISTICS

Operating Pressure, psig	525	Total Volume, ci	920
Proof Pressure, psig	795	Prop Volume, ci	882
Cryo Proof, psig	NA	Max Design Wt, lbs	6.0
Burst Pressure, psig	1,065	Minimum Wall, inch	0.021
Actual Burst, psig	1,253		

TANK CHARACTERISTICS (Metrics)

Operating Pressure, Bar	36.20	Total Volume, l	15.08
Proof Pressure, Bar	54.81	Prop Volume, l	14.45
Cryo Proof, Bar	NA	Max Design Wt, Kg	2.72
Burst Pressure, Bar	73.43	Minimum Wall, MM	0.533
Actual Burst, Bar	86.39		

FORGINGS

FORGINGS P/N	SUPPLIER	Die
80-342061-1, Press		
80-216061-1, Prop		

RING FORGING	RING SIZE, (Rough Machined)
80-216003-11, Retainer	13.13 +.09 OD x 11.81 -.09 ID x 1.38 +.09 Lg

TUBE TYPE AND SIZE

TRANSITION	SIZE
80-342001-1, Inlet	.375 OD x .025 Wall
80-342002-1, Outlet	.500 OD x .025 Wall

TUBE TYPE AND SIZE (Metrics)

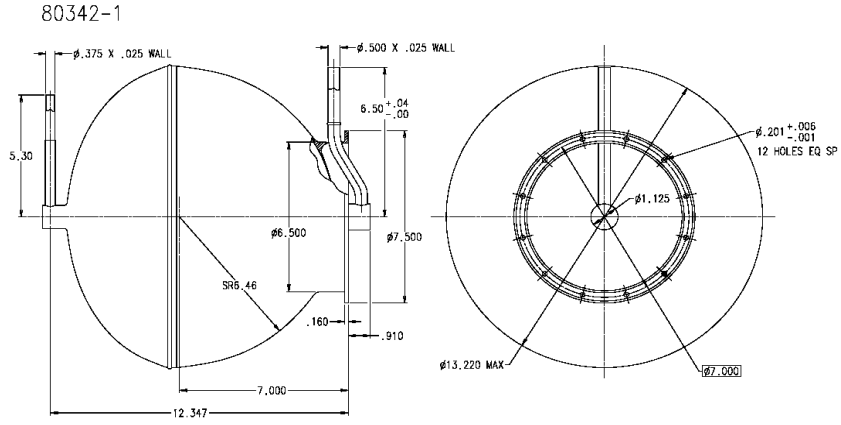
TRANSITION	SIZE
80-342001-1, Inlet	9.25 OD x .635 Wall
80-342002-1, Outlet	12.7 OD x .635 Wall

ACCEPTANCE TESTS

Preliminary Inspection and Examination of Product
Volumetric Capacity Test
Proof Pressure Test
Volumetric Expansion and Permanent Set Test
Internal Leakage
External Leakage
Random Vibration
Internal Leakage
External Leakage
Outside Surface Quality Inspection
Weld Quality Inspection
Weight Quality Inspection
Weight Test
Examination of Product
Cleanliness

QUALIFICATION TESTS

Preliminary Inspection
Volumetric Capacity Test
Proof Pressure Test
Volumetric Expansion and Permanent Set Test
Internal Leakage
External Leakage
Random Vibration
Internal Leakage
External Leakage
Vacuum Integrity
Volumetric Capacity
Internal Leakage
External Leakage
Random Vibration
Internal Leakage
External Leakage
Cycle Life
Proof Test
Volumetric Capacity Test
Internal Leakage
External Leakage
Outside Surface Quality Inspection
Weld Quality Inspection
Weight Test
Examination of Product
Burst Pressure



6033 East Bandini Boulevard
Commerce, California 90040

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