

TANK TYPE	MOUNT	LOCATION	PMD DEVICE
SIMPLE PMD	Tab, 32	Girth	VANE, TRAP & SPONGE

This tank assembly is a pressure vessel with hemispherical ends & a cylindrical section of all welded construction. It is mounted by 32 circumferential tabs with nut plates located on one of the hemispheres near the cylindrical section weld joint. The tank contains an internally mounted propellant management device (PMD), with perforated sheet & woven screen, fabricated to maintain separation of propellant & gaseous pressurant, & to provide predictable gas-free liquid propellant expulsion from the tank under low or zero gravity conditions.

Part Number 80411-1

SIZE: 48.9" ID x 63.335" Long
SIZE: 1,242 x 1,608 mm

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS		TANK CHARACTERISTICS				ACCEPTANCE TESTS																																																																																																																														
Acceptance Test Procedure	50-000538	Operating Pressure, psig	250	Total Volume, in ³	87,575	Preliminary Inspection of Product																																																																																																																														
Qualification Test Procedure	50-000539	Proof Pressure, psig	313	Prop Volume, in ³	87,575	Mass Measurement																																																																																																																														
Qualification Test Report	56-000183	Cryo Proof, psig	N/A	Max Design Wt, lbs	99.20	Pre-Proof Volumetric Capacity																																																																																																																														
Bubble Point Test Procedure	50-000543	Burst Pressure, psig	375	Minimum Wall, inch	0.031	Ambient Proof Pressure and Visual Inspection																																																																																																																														
Materials List	54-000168	Actual Burst, psig				Post-Proof Volumetric Capacity																																																																																																																														
Processes List	54-000169	TANK CHARACTERISTICS (Metrics)				External Leakage Test																																																																																																																														
Fracture Control Plan	54-000165					Operating Pressure, bar	17.24	Total Volume, l	1,435	Tank Assembly Bubble Point Test																																																																																																																										
Cleaning	CPP 3866	Proof Pressure, bar	21.55	Prop Volume, l	1,435	Sine and Random Vibration Test and Visual Inspection																																																																																																																														
Notes: 1: Tooling belongs to Northrop Grumman 2: Tube Protectors SK 1488 & 1489 3: Vibration Fixture T-4646 4: Fracture Critical 5: PMD design is from PMD Technology. 6: Sine & Random Vib (Wet) 3 Axis		Cryo Proof, bar	NO	Max Design Wt, kg	45.00	Sine Vibration Test and Visual Inspection																																																																																																																														
		Burst Pressure, bar	25.85	Minimum Wall, MM	0.787	Volumetric Capacity & Expulsion Test																																																																																																																														
		Actual Burst, bar	0.00	HEMISPHERE FORGINGS				Tank Assembly Bubble Point Test																																																																																																																												
		HEMI P/N						QTY	SUPPLIER	Die No	External Leakage T1																																																																																																																									
		80-363061		2				Radiographic Inspcr																																																																																																																												
		RING FORGINGS		RING P/N				QTY	RING SIZE, (Rough Machined)																																																																																																																											
80-363063				1	49.57 +/- .06 x 48.31 +/- .06 x 3.19 +/- .09																																																																																																																															
80-363065				1	49.75 +/- .09 x 48.40 +/- .09 x 16 +/- .06																																																																																																																															
TUBE TYPE AND SIZE (in.)		TRANS Ti to SS				SIZE																																																																																																																														
		80-411001-3				0.375 OD x 0.020 Wall																																																																																																																														
		80-411001-1				0.250 OD x 0.020 Wall																																																																																																																														
TUBE SIZE (mm)		80-411001-3		9.525 OD x 0.508 Wall																																																																																																																																
		80-411001-1		0.635 OD x 0.508 Wall																																																																																																																																
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