



| TANK TYPE | MOUNT | LOCATION |
|------------|-------|----------|
| PRESSURANT | POLAR | POLAR |

This composite overwrapped pressure vessel (COPV) Helium tank is 16.7" (424 mm) in diameter and 34" (863 mm) in length. The tank is constructed of a CP Titanium center cylinder welded to two CP Titanium end domes and overwrapped with T1000 carbon fiber. Mounting is provided by two polar bosses located on the tank centerline axis.

ATK Part Number 80475-201
Original Qual
SIZE: 16.7" DIA X 34" LONG
SIZE: 424 mm DIA X 863 mm LONG

ISO 9001 & AS 9100 REGISTERED

| APPLICABLE DOCUMENTS | TANK CHARACTERISTICS | QUALIFICATION TESTS |
|----------------------|----------------------|---------------------|
|----------------------|----------------------|---------------------|

| | |
|----------------------------|-----------|
| Acceptance Test Procedure | 50-000652 |
| Qual Test Procedure | 50-000653 |
| Qualification Test Report | 56-000225 |
| Stress and Dynamics Report | 54-000229 |
| FMECA | 54-000232 |
| Cleaning | CPP 3987 |

| | | | |
|--------------------------|--------|-------------------------------|-------|
| Operating Pressure, psig | 4,496 | Total Volume, in ³ | 5,309 |
| Proof Pressure, psig | 6,744 | Max Design Wt, lbs | 37.1 |
| Cryo Proof, psig | N/A | Minimum Wall, inch | 0.032 |
| Burst Pressure, psig | 8,996 | Qual Tank Mass (lb) | 47.40 |
| Actual Burst, psig | 13,117 | | |

- Preliminary Examination of Product
- Volumetric Measure @ MEOP
- Proof Pressure @ Ambient
- Volumetric Capacity @ Ambient
- Volumetric Capacity @ MEOP
- MEOP Pressure Cycle Life Test
- Proof Pressure Cycle Life Test
- Non-Destructive Exam
- External Leakage Test
- Sinusoidal & Random Vibration Test
- External Leakage Test
- Pressure Guage
- Thermal Cycle Test
- External Leakage Test
- Weld Quality Inspection
- Final Examination of Product
- Burst Pressure

PROGRAM INFORMATION

| | |
|---------------------------|--------------|
| Program | VEGA |
| Customer | Fiat Avio |
| Customer P/N | VG-14K10000C |
| Original Job No | 0401 |
| Customer Installed Device | None |
| Customer Controlled Des. | None |

TANK CHARACTERISTICS (Metrics)

| | | | |
|-------------------------|-----|--------------------|-------|
| Operating Pressure, bar | 310 | Total Volume, l | 87 |
| Proof Pressure, bar | 465 | Max Design Wt, kg | 16.83 |
| Cryo Proof, bar | N/A | Minimum Wall, MM | 0.813 |
| Burst Pressure, bar | 620 | Qual Tank Mass, kg | 21.5 |
| Actual Burst, bar | 904 | | |

HEMISPHERE FORGINGS

| HEMI P/N | QTY | SUPPLIER | Die No |
|-------------|-----|----------|--------|
| 80-436061-1 | 2 | ARCTURUS | 3852 |

ROLLED AND SEAM WELDED CYLINDER

| P/N | QTY | SIZE |
|-------------|-----|--------------------------|
| 80-475100-1 | 1 | 15.87 in ID X 19 in LONG |

TUBE TYPE AND SIZE

| Ti 3AL-2.5V | SIZE |
|-------------------|-----------------------------|
| 80-400002-1 | 0.375" OD x 0.050" Wall |
| NOTE: 1 port only | 9.525 OD mm x 1.270 mm Wall |

ACCEPTANCE TESTS

- Examination of Product, Preliminary
- Volumetric Measurement @ Ambient
- Proof Pressure Test @ Ambient
- Volumetric Capacity @ Ambient
- Volumetric Capacity @ MEOP
- Non-Destructive Examination
- External Leakage Test
- Weld Quality Inspection
- Examination of Product, Final
- Cleanliness Verification
- Data Review

