

# Units	Complex Tests Performed Using Two (2) of the Ground Test Units							
	Vibration Tests Stand-alone tests of on-board systems							
	Integrated Tests Functional tests of the on-board equipment and power supply systems for the effect of pyro							
# Units	Unit Testing Purpose			Notes				
2	Static Strength			1 w/o heat shield, 1 with heat shield				
3	Heat shield on the nose cap and the Crew Compartment							
2	Equipment for direction findings Search and Evolution							
1	Separation systems							
1	Crew Training under weightlessness conditions with/without space suites							
38	Total Test Units							
Key	<span style="color: blue;">+</span> Includes Relaying <span style="color: red;">o</span> Emergency Landing							
Technical Parameters Under Test	Flight Object 1 (12/15/76)	Flight Object 2 (08/05/77)	Supply Spacecraft 1 7/17/77 to 8/16/77 929	Flight Object 3 (03/30/78) 009A/π2 997	Flight Object 4 (05/23/79) 102A/1 1100	Supply Spacecraft 2 4/25/81 to 5/24/81 103/3 1103	Supply Spacecraft 3 3/2/83 to 8/23/83 103/3 1103	No. of Launches Accomplished and Partially Performed
Structure	●	●	●	●	●	●	●	8 + 2
Thermal Protection System Including Restoration	●	●	●	●	●	●	●	7 + 2
Automatic Flight Control Systems	●	●	●	●	●	●	●	8 + 2
Control Systems	●	●	●	●	●	●	●	7 + 2
Landing System	●	●	●	●	●	●	●	8
Seats, Cosmonaut Control Panels								
Suit Ventilation and Cooling System					●	●	●	2 + 2
Radio navigation Communications				+	+	+	+	6
Taking Bearings	●	●	●	●	●	●	●	8
Algorithms of Orientation, Decent Prior to Activation of Chutes	●	●		●	●	●	●	
Flight Models								
Launch Vehicle Emergency		●						1
Not Stabilized						●		1
Restoring of Orientation					●			1
Ballistic Descent	●	●			●	●		2 + 1
Controlled Descent			●	●	●	●	●	5 + 1
Propulsion								
RCS System	●	●	●	●	●	●	●	8 + 2
Solid Motors	●	●	●	●	●	●	●	10
Flight Duration	1 Orbit	1 Orbit		30 Days	1 Orbit	1 Orbit	2 Orbit	50 Days
Retro Rocket Firing Altitude	241	225		211	221	219	225	221
Maximum Acceleration (Gs)	8.4	8.6	10.5	Des- truct	4.5	5.3		5.0
								5.0

Prior Almaz HSV testing demonstrated abort, reentry, reusability and 175 days on orbit life






European Space Agency's ATV Demonstrated elements of our planned GN&C subsystem, proximity and rendezvous operations and propulsion subsystem

