



Varian 947, 948, 960

Technical Specifications

Platform	947								948/960					
High Vacuum Pump Type: Air-cooled, Maintenance-Free	V70 Turbo Pumping Speed N ₂ , 70 l/s				V70D MacroTorr Pumping Speed N ₂ , 60 l/s				V70 Turbo Pumping Speed N ₂ , 70 l/s			V70D MacroTorr Pumping Speed N ₂ , 60 l/s		
Rough Pump/Forepump	Wet (Oil-based)			Dry	Wet (Oil-based)			Dry	Wet (Oil-based)					
Rough Pump Type: Free Air Displacement	DS-202	DS-302	DS-402	TriScroll™	DS-202	DS-302	DS-402	TriScroll™	DS-202	DS-302	DS-402	DS-202	DS-302	DS-402
	195/170	310/250	450/375	300/250 600/500	195/170	310/250	450/375	300/250 600/500	195/170	310/250	450/375	195/170	310/250	450/375
Forepump Type: Free Air Displacement l/m, 60/50 Hz	DS-202	DS-202	DS-202	TriScroll™	DS-202	DS-202	DS-202	TriScroll™	DS-202	DS-202	DS-202	DS-202	DS-202	DS-202
	195/170			300/250	195/170			300/250	195/170					
Vacuum System Arrangement	Contra Flow™								Contra-Flow™ with Cold Trap					
Cold Trap Capacity	N/A								Liquid nitrogen hold for 14 hours after vacuum system cool down.					
Helium Sensitivity, atm cc/sec	2 x 10 ⁻¹⁰				2 x 10 ⁻⁹				2 x 10 ⁻¹⁰			2 x 10 ⁻⁹		
Response Time	Less than two seconds for helium, in accordance with AVS Standard 2.1.													
Amplifier Drift	Less than 2% of full scale of the most sensitive range, in accordance with AVS Standard 2.1.													
Noise level	Less than 2% of full scale, peak to peak, in accordance with AVS Standard 2.1.													
Calibration	Fully automatic tuning and calibration routine using the standard calibrated leak or optional external leak. A gross leak is manually calibrated.													
Leak Indication	A 50-segment bar graph indicator displays leak rates automatically, atm cc/sec: from 10 to 2 x 10 ⁻¹⁰ .													
	The manual mode can also be used for any decade scale. A leak can also trigger an audible alarm frequency that varies in proportion to the size of the leak.													
Spectrometer Tube	The preamplifier is computer optimized, temperature stabilized, and solid state. Programmed warm-up minimizes start-up time to 30 minutes. The tube is kept at a constant temperature at all times to maintain stability. The ion-source has dual filaments of long life, thoria-coated iridium.													

Platform	947								948/960					
High Vacuum Pump Type: Air-cooled, Maintenance-Free	V70 Turbo Pumping Speed N ₂ , 70 l/s				V70D MacroTorr Pumping Speed N ₂ , 60 l/s				V70 Turbo Pumping Speed N ₂ , 70 l/s			V70D MacroTorr Pumping Speed N ₂ , 60 l/s		
Automatic Valve Sequencing	Microprocessor-controlled valve operation provides automatic system cycling. The test and roughing valves are vacuum-activated, requiring no air supply. Automatic shutdown is achieved with a single switch function.													
Safety Interlocks	The valve system design completely protects the high-vacuum system under test against pressure surges and power interruptions.													
Cycle Time	Blanked port can be cycled to the fine leak test in four seconds. The auto sequencer feature provides clear accept/reject signals and allows programming of roughing, testing, and cycling duration.													
Test Port	1-1/8" (28 mm) ID quick coupling type, KF25 (ISO NW-25) adapter included.													
Remote I/O Capabilities	Parallel Interface (DB-25S & DC-37S) with opto-isolated (5 - 24 V) input, Serial RS-232 Interface (DB-25S), Remote Control Interface (DE-09S).													
Accessory (optional)	Remote Control and display unit with 25" cord, service pendant, atmospheric gross leak, external calibrated helium Leaks.													
Recommended Ambient Operating Conditions	Indoor use. Altitude: up to 2000 m, Temperature: 10 °C to 38 °C (50 °F to 100 °F). Maximum relative humidity (HR) 80% for temperatures up to 31 °C (87.8 °F) decreasing linearly to 50% HR at 40 °C. No hoarfrost, dew, percolating water, rain, solar irradiation, etc. Atmospheric air pressure: 75 kPa to 106 kPa. Pollution Degree II, Installation (Overvoltage) Category II in accordance with UL3101-1 Standard.													
Ambient Storage Conditions	Relative humidity: 0% to 95%, non-condensing, Temperature: -34 °C to 65 °C (-30 °F to 150 °F)													
Power Requirements	115 VAC, 20 A, 60/50 Hz or 230 VAC, 10 A, 60/50 Hz. NOTE: Input voltage setup cannot be modified by a customer.													
Conformance Standards	Meets applicable UL, CSA and CE Standards.													
Dimensions	22" W x 33" D x 45" H (559 cm x 818 cm x 1138 cm).													
Shipping Weight	Approximately 510 lb (232 kg).													