

Ultra-High Vacuum Residual Gas Monitor **SEPION II**



This system is based on the concept of reducing gas released from the sensor in order to realize a background of nearly zero. The unit can be used in ultra-high and extremely high vacuum and can measure minute impurities in a process. The units are perfect for ultra-clean processes such as PVD for wiring in semiconductor manufacturing. Bessel Box type ion energy filter (optional) can eliminate ESD ions and soft X-rays from ion source, that can function well as a precise gas analyzer.

SEPION II

Features

- Uses a separate ion source
- Compact pumping system controller
- High sensitivity/low noise electron multiplier tube
- Multiple unit control through RS232C/485
- SECS/GEM HOST communications compatible (optional)
- Ion energy filter (optional)

Applications

- Residual gas analysis in PVD equipment
- Gas monitoring during PVD processes
- Residual gas analysis for ultra-high vacuum pumping equipment, etc.
- Various types of gas analysis for research and development
- Trace impurities in gas

Specifications

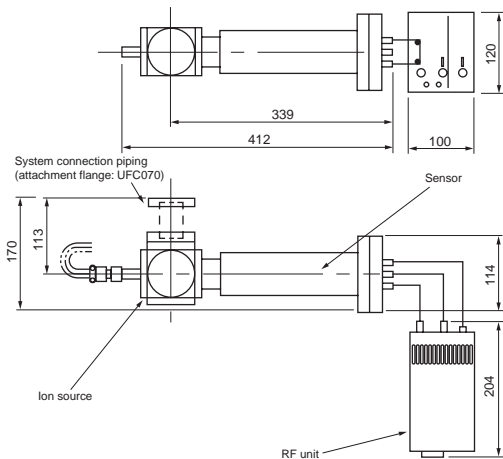
Item	Model	SE-102R	SE-102P
Mass number measurement range	amu	1-100	
Resolution		M/ΔM=1M (2 %P.H.)	
Sensitivity	A/Pa	1 x 10 ⁻²	
Minimum detectable partial pressure	Pa	5 x 10 ⁻¹²	
Minimum detectable concentration	ppm	—	0.1
Ion source		Separation type B-A ion source	
Filament		Ir/Y ₂ O ₃ x 2	
Emission current	mA	0.5	
Ionization voltage	eV	40	
DEGAS function		Electron bombardment desorption method	
Amplification range	A f.s.	1 x 10 ⁻⁵ -1 x 10 ⁻¹¹	
Detector		Secondary electron multiplier (Cu-Be)	
Bakable temperature		120 °C maximum	
Differential pumping system		—	TMP x 2 + diaphragm pump
PC interface		RS-232C/485	
External input and input		Analog input (0-10 V) x 2 Set point output (trouble, warning) x 2 External interlock	
Utilities		Power source voltage: AC100 V, 2 A	Power source voltage: AC100 V, 15 A
Software		Qulee QCS	
Options		Stand, baking heater, gas introduction valve, RS232C/485 converter, ionization gauge, Communication software (SECS/GEM), Data processing software (Origin-QCS), ion energy filter	

External Dimension Diagram

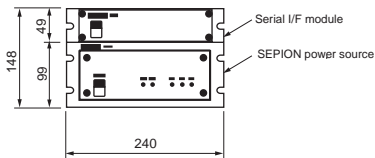
(unit : mm)

• SE-102R

Sensor unit

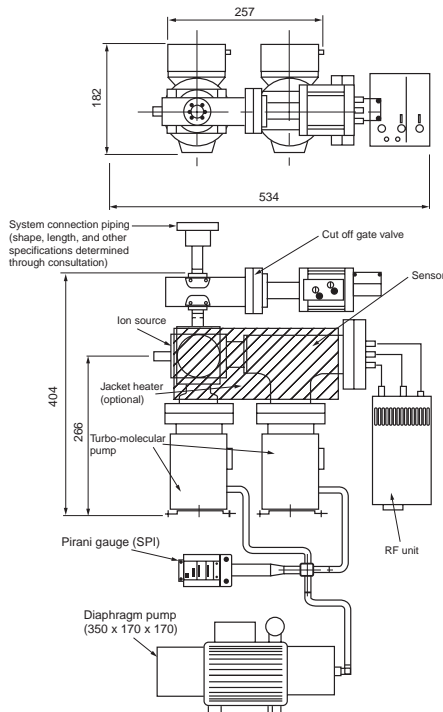


Control unit

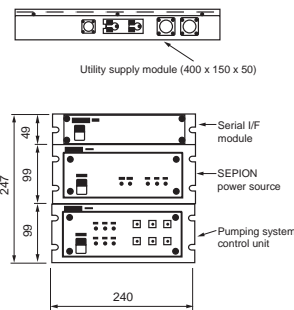


• SE-102P

Sensor unit pumping system

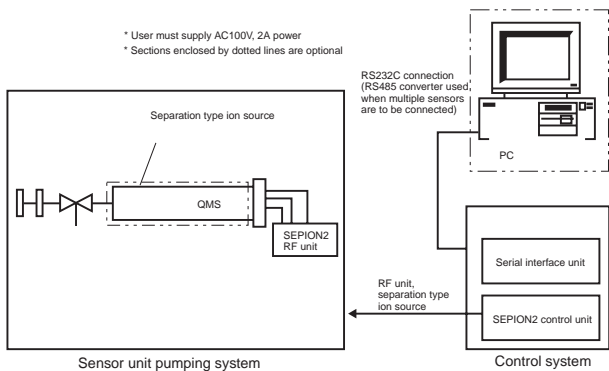


Control unit



System Diagram

• SE-102R



• SE-102P

