



VU-510

Solution for Vaporization and Supply of Ferroelectric CVD Materials

Features :

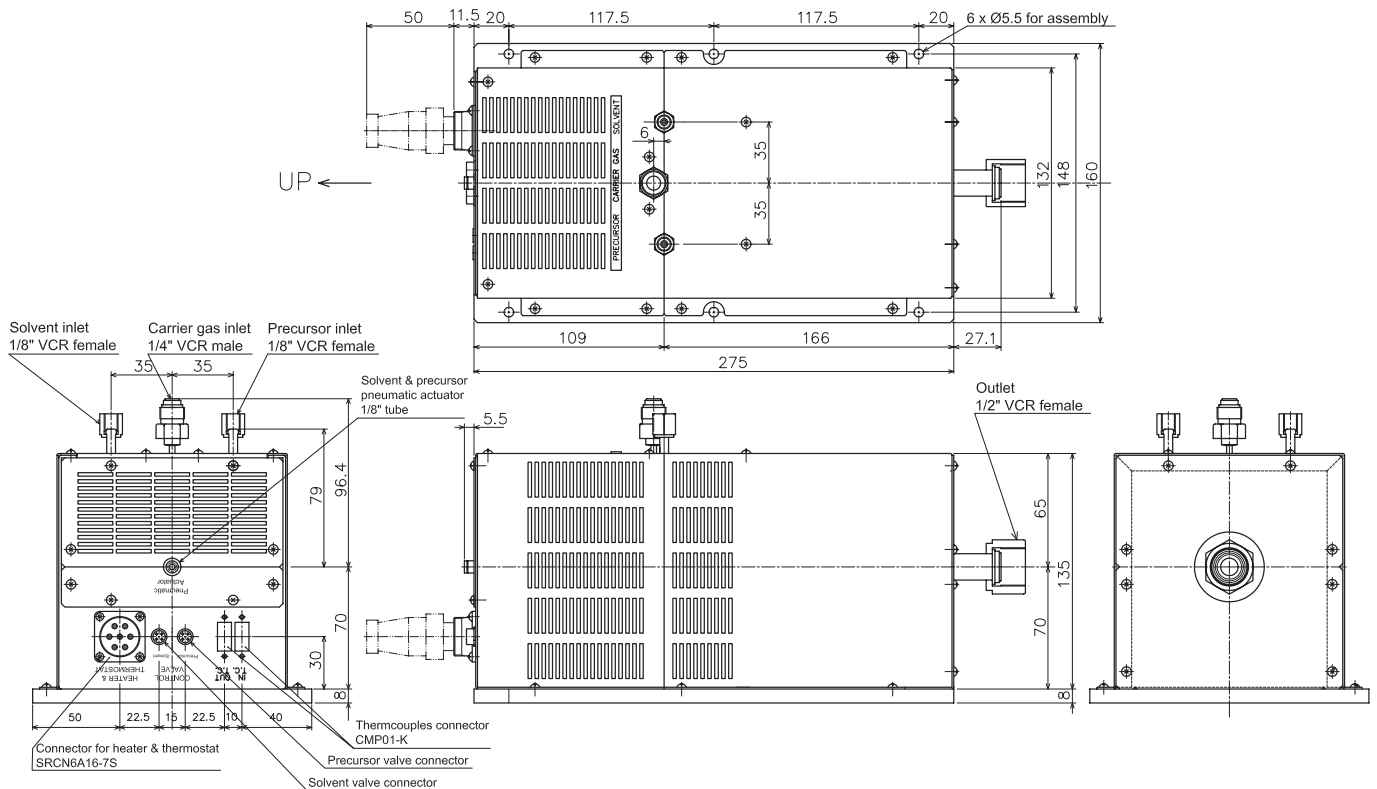
- VU-510 can control and vaporize various liquids efficiently through combination with the liquid mass flow meter LM-2100. [Patent Pending]
- Stable vaporization of CVD materials for formation of ferroelectric thin films of BST, PZT, etc.
- Flow control and vaporization of materials with high boiling points and low vapor pressures.
- VU-510 can be applied to solid materials dissolved in solvents such as butyl acetate, THF and more.
- Designed to avoid clogging problems due to fractional vaporization of solvents.
- VU-510 can be heated up to 300°C thanks to its all metal structure.
- Unique internal structure has improved vaporization ability.
- A large amount of vaporization performance data using real liquids.



Item	Details	Specifications
Valves	Control valve for precursor	Diaphragm solenoid valve, normally closed
	Control valve for solvent	
	Shut-off valve	Diaphragm pneumatic valve, normally closed
Heater	Outer block	120V / 100W, 4 units, Total 400W
	Inner block	120V / 100W, 2 units, Total 200W
Thermocouple	Outer & inner block	K type (CA)
Pneumatic actuator operating pressure		490 – 588 KPa G
Operating pressure	Inlet (gauge)	147 – 196 KPa G
	Outlet (abs.)	< 2 KPa
Withstand pressure	(gauge)	1 MPa G
Leak integrity	He	1.10 ⁻¹⁰ scc/sec
Thermostat	High temperature	Open @350°C
	Medium temperature	Open @200°C
Temperature regulation method		P.W.M. P.I.D. control, < 1 second per cycle
Maximum operating temperature	With PID controller	Room temperature to 300°C
Fittings	Carrier gas inlet	¼" VCR male
	Precursor inlet	⅛" VCR female
	Solvent inlet	⅛" VCR female
	Pneumatic actuators inlet	⅛" quick tube fitting (Air or N ₂ , Pressure: 440 – 690 KPaG)
	Vapor outlet	½" VCR female
Wetted materials	Vaporizer unit	SS316L, Au
	Valve unit	SS316L, Au, Polyimide
Mounting direction		Vertical and vapor outlet down
Environmental		+ 25°C ± 15°C
Outer case temperature		Less than 80°C with 300°C at vaporizer unit
Weight		8 Kg
Accessories	Interconnecting cable	2 cables for precursor and solvent control valve
	Connector	JAE SRCN6A-16-7S
	Connector	2 x RKC CMP01-K

- Please inform Qualiflow of the type and chemical property of the liquids you intend to use.
- If you can provide a particular liquid for Qualiflow, a flow rate calibration can be carried out for a fee.
- Some liquids might not be accepted to handle by Qualiflow.
- For information not included in this datasheet, please contact Qualiflow sales representative.

Dimensions



Applications

Precursor	Precursor vapor pressure (Torr @ °C)	Vaporizer temperature (°C)
Ba(thd) ₂ , PMDETA & Sr(thd) ₂ , PMDETA	0.1@240	290
Sr(DPM) ₂	2@300	280 - 300
Ti(O-C ₃ H ₇) ₂ (thd) ₂	220@250	250
Ti(O- <i>i</i> pu) ₂ (DPM) ₂	4@250	250
Ti(O- <i>t</i> Bu) ₂ (DPM) ₂	4@250	250
Ru(EtCp) ₂	9.6@150	150
Ru(EtCp) ₂	3.5@130	130
Ru(OD) ₃	1@200	200
Ta(OC ₂ H ₅) ₅	2.5@170	170