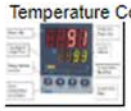
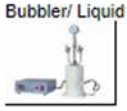
SPECIFICATIONS

Furnace Construction 	• Double shell casing with cooling fans • High purity alumina fibrous insulation for max. energy saving • Split cover enables faster cooling and easy operation • Hydrogen detector and solenoid valve are included for safety measures • The liquid evaporator is heatable with a precision temperature controller to produce a mixing of hydrogen and liquid vapor. • The hydrogen gas furnace must be placed under a fume hood which is not included.
Power	4 KW Max
Input Voltage	AC 208 - 240V single phase (30A air breaker is required)
Heating Elements	FeCr27Al7MO2
Heating Zone Length	• Two heating zones: 8" (200 mm) length of each zone, 16" (400 mm) total • Constant temperature zone: 150 mm within +/- 1°C when two zones are set at same temperature
Temperature Uniformity	+/- 1°C in heating Zone
Continuous Working Temperature	1100°C
Recommended Heating Rate	10°C /min
Processing Tube and Flanges	• High purity quartz tube: Φ80 (OD)×Φ74 (ID) ×1000 L, mm • Vacuum flange: SS304 flanges are included to achieve vacuum up to 10^ - 5 torr by turbopump.
Temperature Controllers  	• Two MET certified digital temperature controllers with 30 programmable segments for precise control of heating rate, cooling rate and dwell time. • Built in PID Auto-Tune function with overheating & broken thermocouple protection. • Over temperature protection and alarm allows for operation without attendant(s). • +/- 1 °C temperature accuracy. • RS485 port is installed in front of panel for PC connection • PC control module and software is included for computerized temperature control. Click here to review detailed information.
Float Flow Meter	• Two flowmeters 50-500ml/min are built on the gas inlets. • One flowmeter is for Hydrogen delivery while the other is mainly for CVD gas with liquid vapor • The extra flowmeter is available upon request at extra cost. • You may consider using our MFC gas delivery station 1 - 9 channel for more accurate gas control
Bubbler/ Liquid Evaporator 	• Such a liquid evaporator is suitable for liquid sources and chemical precursors delivery in CVD processes. • One stainless steel container is included with capacity of 600 ml (80OD x 200H, mm) • The container is inserted into a small cylindrical heater with thermal insulation • The container can be heated up to 250°C and controlled by a precision programmable temperature controller. • Two SS needle valves and one pressure gauge are built on the container (click picture below to see details)
Humidity Monitor (included)	• One precision humidity monitor is connected to the processing tube flange with KF25 adaptor • Measurement range : 0 - 100% RH with 1.5%FS accuracy, or -60° ~ +60° DP with +/-0.3° accuracy. • Tips: You may adjust the evaporator's (water inside) temperature and H2 gas flow rate to achieve desired humidity level.
Hydrogen Detector System  (included)	• Working Temperature Range: 40°F to +149°F (-40°C to +65°C) • Alarm Point: H2 Limited Explosive Line 10% (10% LEL). Once detecting H2 gas beyond the point, it will shut off the inlet valve to the H2 automatically.
Options for upgrading	• Please order Anti-Corrosive Capacitance Diaphragm Gauge for precision vacuum pressure display (Please click pic below left-1) • You may choose MTI multi-channel gas delivering system for precision gas flow control (Please click pic below left 2 to order) • If you run the furnace under vacuum condition instead of burning flammable, please consider to use Adixen Dry Vacuum Pump for Pumping Traces of Corrosive or Flammable Gases, Up to 10E-2 Torr - EQ-PV-ACP28G-LD (Warning: Please don't use conventional pump for the safest operation, click pic below left 3 for details) • When pressure control is required, you may consider using Automatic Pressure Controller with Dual Solenoid Valves and Gauge, 1E-4 - 1E3 Torr, 1/4 NPT(F) - EQ-KJF-2V for inlet and outlet ports. (Please click pic below right to order)    
Warranty	One-year limited warranty (Consumable parts such as processing tubes, o-rings, and heating elements are not covered by the warranty).
Compliance	• CE Certified • All electric components (>24V) of the furnace are UL / MET / CSA certified, not including other accessories like liquid evaporator and hydrogen detector • The furnace is ready to pass TUV(UL61010) or CSA certification at extra cost. **(please click marks below to learn details)** 
Furnace Dimensions	1400×600×1200mm
Product Net Weight	100Kg
Operation Instructions	
Warning  Click here to learn the installation of a gas regulator	• Tube furnaces with alumina tubes are designed for using under vacuum and low pressure < 0.12 atm (absolute pressure) • The flow rate for gasses should be limited to < 200 SCCM (or 200 ml/min) for reducing thermal shocks to the tube • ***Attention: A two-stage pressure regulator must be installed on the gas cylinder to limit the pressure to below 3 PSI for safe operation.*** Click here to learn the installation of a gas regulator. • Vacuum limit definition for all quartz tube furnaces: * Vacuum pressures may only be safely used up to 1000°C