

EasyCrystal™

Vertical Bridgman Crystal Growth Furnace System



Standard Configurations

- **CVDWinPrC™** based process control software for Real Time Process Control, Data Logging Display, Recipe Generation and Editing
- 15mm Crystal Diameter >100mm in Length
- Crystal Rotation
- Melting Furnace:
 - 3 Zone Resistance Furnace for Temperatures up to 1200°C
 - Temperature control loops are PID controlled and user changeable
- Growth Furnace:
 - 3 Zone Resistance Furnace for Temperatures up to 1200°C
 - Temperature control loops are PID controlled and user changeable
- Vacuum System
- Linear Motion System
- Proprietary Real-Time Cascade Process Temperature Control
- Quartz Growth Chamber
- Mass Flow Controlled UHP Gas Lines
- Comprehensive Software and Hardware Safety Interlocks
- One (1) Year Warranty



First Nano's **EasyCrystal™** Vertical Growth (Bridgman) Furnace System is an advanced process tool for the growth of crystals. The system is optimized for controlled process development and user safety.

EasyCrystal™ furnace system can be customized for your process. The overall system is designed for ease of maintenance, repair and use in a research mode. The cabinet contains the heating, power control, electrical and gas handling systems.

EasyCrystal™ is operated through our CVDWinPrC™ process control software that automatically logs data and graphically shows the time dependent values of user selected parameters. CVDWinPrC™ also allows users to load preprogrammed recipes, modify, check /create new recipes and view real time or saved execution data.

EasyCrystal™ is designed to meet today's more stringent safety standards. The system has application customized safety protocols imbedded into relay logic, PLC and CVDWinPrC™ software for maximum operator and equipment safety.

EasyCrystal™ consists of two (2) independently controlled furnace subsystems in a vertical configuration. These subsystems are called "Melting" and "Growth" Furnaces. The Melting Furnace (located at the top of the Furnace Assembly) is capable of operation from ambient to 1200°C and adjustable in 1°C increments while the Growth Furnace (located at the bottom of the assembly) is capable of operation from ambient to 1200°C and adjustable in 1°C increments.

The Furnace Assembly is attached to a linear slide that allows it to be raised and lowered manually to facilitate loading and unloading of the Ampoule and to provide the required automatic precision movement for high quality Crystal Growth.

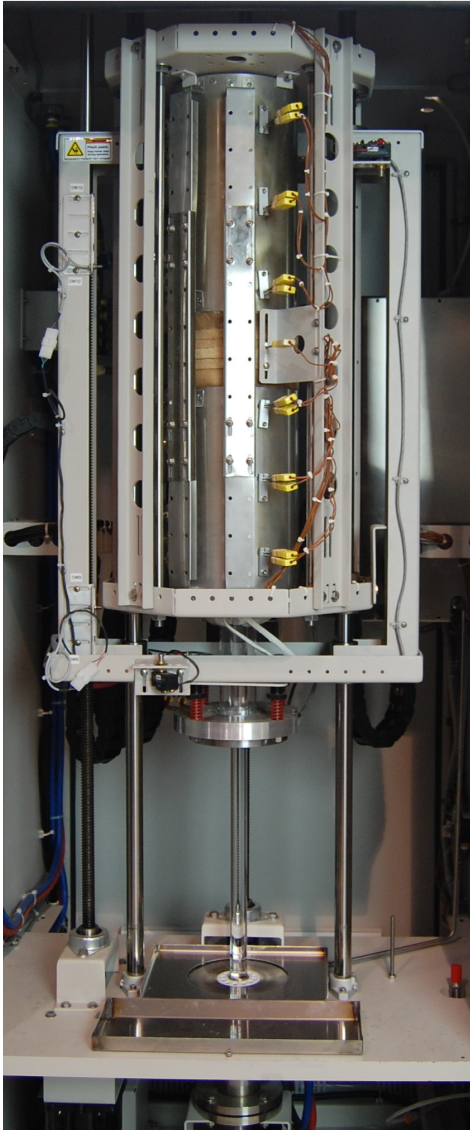
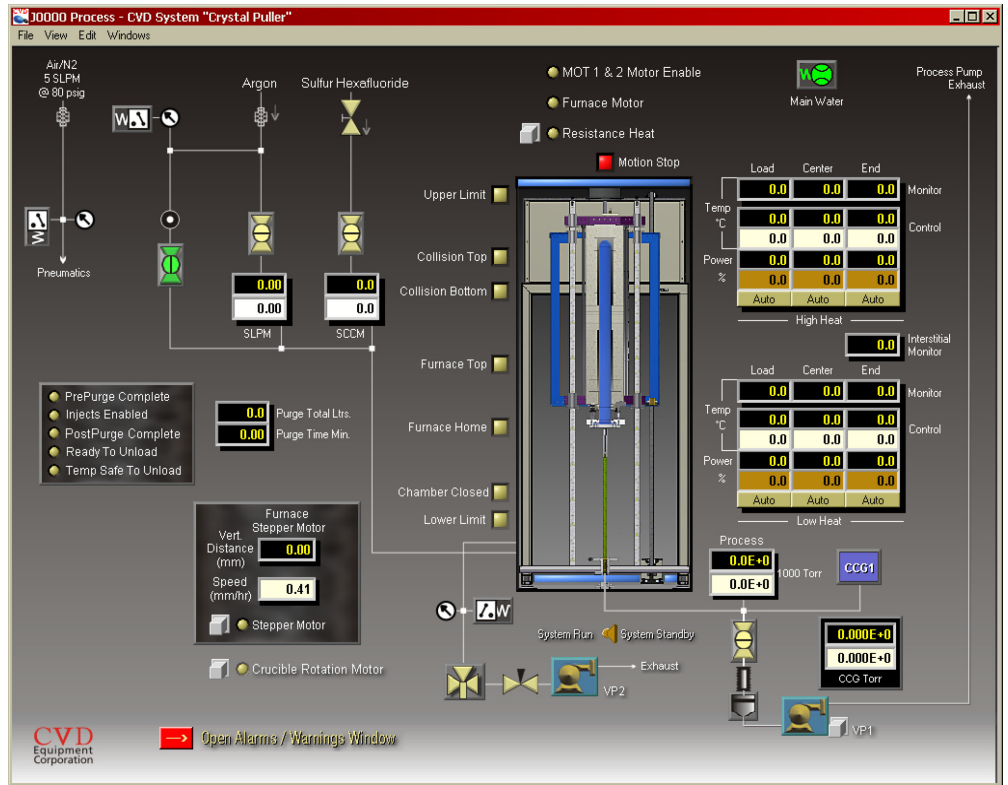
EasyCrystal™'s Linear Drive subsystem move the Furnace Assembly through the process zones between a start position and stop position at a programmable velocity profile with minimal vibration. A high slew-rate mode is available to permit quick setup and removal of the Crystal Growth Ampoule.

Options

- Customer Specified Crystal Diameter
- Customer Specified Crystal Length
- EasyPanel™ Gas Panels for Argon, Nitrogen, Helium, Oxygen

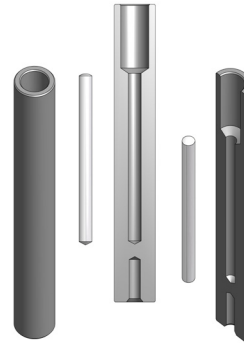
Applications

- Cd_{1-x}Zn_xTe, CdSe, CdTe, Mg, ZnS, ZnSe, ZnSe:Cr, ZnTe, Zn_{1-x}Mg_xSe, Zn_{1-x}Mg_xSe:Cr and Others



Melting & Growth Furnaces

Crystal with Growth Crucible



Call us at (631) 981-7081 to discuss a product solution for your project. We can also be reached at sales@firstnano.com or visit our website at <http://www.firstnano.com>

FACILITY REQUIREMENTS

Electrical	208 V.A.C	60 Hz	3 Phase	5Wire
Dimension	62" L	33" W	91" H	1550 LBS
Exhaust	300 SCFM			
Cooling Water	2 GPM	60 PSIG		
Pneumatic Supply	Clean Dry Air / Nitrogen			
Process Gases	Argon/Nitrogen : 5 SLPM @ 20 PSIG			

* Note: Electrical varies with country; facility requirements vary with system options. Consult Factory for details.