

LCLS Vacuum Hardware

Vacuum System Hardware

Interlocking and Monitoring Hardware

- Allen-Bradley ControlLogix 5000 Series
 - [ControlLogix Family](#)
 - [1756 ControlLogix I/O](#)
 - [1794/1797 Flex I/O](#)
 - [Wiring Systems](#)
 - [ControlLogix Selection Guide \(PDF\)](#)
 - [ControlLogix Digital I/O Modules User Manual \(PDF\)](#)
 - [ControlLogix Analog I/O Modules User Manual \(PDF\)](#)
 - [ControlLogix Chassis Series B Installation Instructions \(PDF\)](#)
 - [Digital/Analog PLC Wiring Systems \(PDF\)](#)
 - [ControlLogix Controllers User Manual \(PDF\)](#)
 - [Logix5000 Controllers Design Considerations Reference Manual \(PDF\)](#)
 - [ControlNet Coax Media Planning and Installation Guide](#)
 - [ControlNet Modules in Logix5000 Control Systems](#)
 - [ControlNet Media System Component List](#)
 - [Logix5000 Controllers Common Procedures Programming Manual \(PDF\)](#)
 - [Logix5000 Controllers General Instructions Reference Manual \(PDF\)](#)
 - [Logix5000 Controllers System Reference \(PDF\)](#)

Gate Valves

- VAT Series 48 (where RF shield is required)
- VAT Series 47 (where RF shield is not required)
- SLAC 233-808, VAT Valve Local Controller (J-Box)
 - [SD-233-808-00 Schematic \(PDF\)](#)
- SLAC 380-210, Allen-Bradley PLC Two Valve Valve Controller
 - [SD-380-210-00 Schematic \(PDF\)](#)

Gauges

- MKS 422 Cold Cathode Gauge
 - [MKS Gauges for High Energy Physics \(PDF\)](#)
- MKS 317 Enhanced Convection Pirani
 - [MKS Gauges for High Energy Physics \(PDF\)](#)
- Helix / Granville-Phillips Bayard-Alpert Gauges
 - [Gauge Info \(pdf\)](#)

Gauge Controller

- MKS 937B (Newest)
 - [937B Gauge Controller Manual](#)
 - [937B Firmware Upgrade](#)
 - [937B Datasheet](#)
- MKS / HPS 937A
 - [937A Gauge Controller](#)
 - [937A Gauge Controller Manual](#)
 - [937A Gauge Controller Serial Communications](#)
 - [937A Datasheet \(pdf\)](#)
 - [MKS Gauges for High Energy Physics \(PDF\)](#)
- MKS / HPS 937 (Oldest model)
 - [937 Gauge Controller Manual](#)
- MKS 943 Single Cold Cathode Gauge Controller
(used as station gauges and main manifold locations)
 - [943 Cold Cathode Controller Manual \(pdf\)](#)
 - [943 Datasheet](#)
- Helix / Granville-Phillips 307
 - [307 Bayard-Alpert Gauges](#)
 - [307 Datasheet \(pdf\)](#)
 - [307 Instruction Manual \(pdf\)](#)

Ion Pumps

- Noble Diode type pumps are recommended. Pumps must have StarCell connector.

- Varian Ion Pumps
 - [Varian Ion Pumps](#)
 - [Ion Pump Catalog \(PDF\)](#)

Ion Pump Controller

- Gamma Digital Multiple Pump Controller
 - [Digitel MPC](#)

Turbo Pump Controller

- Varian Turbo Pump Controller
 - [TPS-Compact](#)
 - [V81 Controller](#)
 - [V301 Controller](#)
- Leybold/Oerlikon
 - [Vacuum Fundamentals](#)
 - [Mag Pump Digital Specs](#)
 - [Mag Pump Digital Profibus Manual](#)

Roughing and Backing Pumps

- [Kashyama MU300](#)
- [Kashyama MU100](#)
- [Kashyama Wiring Diagram](#)
- [Kashyama Serial Protocol](#)

Residual Gas Analyzer

- MKS Microvision2 RGA
 - [Using Virtual RGA Systems SP104017.100](#)
 - [Microvision2 Hardware Manual - SP101015 102](#)
 - [Process Eye Professional v5 Recipe Wizard Manual SP104009.10 0](#)
 - [MV2_EV2 Getting Started Guide - SP106003 100](#)
 - [Process Eye Pro V5 7 User Manual - SP104021 102](#)
 - [ASCII Protocol User Manual SP1040016.102](#)
 - [Cpp Examples](#)