

300 Series Vacuum-Lock Door Controller

Vacuum-Lock Doors (VLD) are employed on horizontal furnace process tubes where a positive door seal is critical, such as with H2 Anneal and Polysilicon deposition processes. The tube flange is typically configured with an annular channel between two o-rings. When the door is closed against the tube flange, vacuum is applied to the annulus, establishing a positive door to flange seal that can be verified by monitoring the vacuum level in the annulus.

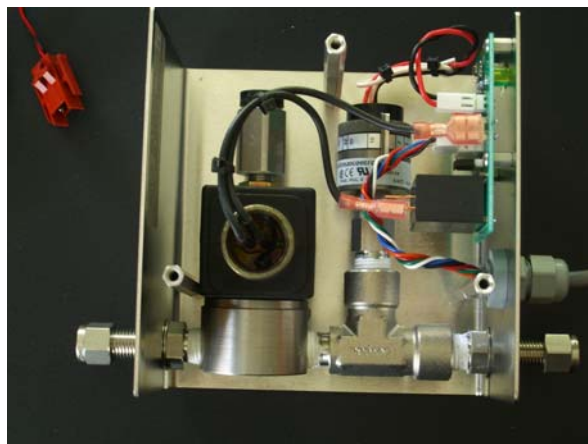
The *ISIS* 300 Series VLD Controller is a compact, cost effective unit designed to work with your horizontal furnace system to control and monitor the application of vacuum and vent to almost any VLD.

The 300 Series VLD Controller employs a three-way solenoid valve in a stainless steel plumbing assembly. Once the door is closed against the tube flange, the valve is energized, applying vacuum from a user-supplied source to the VLD flange. At the end of the process, the valve de-energizes, venting the VLD flange back to atmosphere and allowing the door to open. Valve actuation is remotely controlled via a signal from the Host system which can be a contact closure, a 24VDC High logic signal or a direct application of +24VDC power to the valve.

The 300 Series VLD Controller uses a vacuum switch to monitor the pressure in the VLD and provide a digital signal (contact closure) to indicate the presence of vacuum. The vacuum setpoint is user-adjustable. The Relay Version of the 300 Series VLD Controller also has on-board LED indication of valve and vacuum switch status.

The furnace controller is typically programmed with the following sequence:

- Boat In Complete signal received
- Open VLD Valve (contact closure or 24 VDC output)
- Wait for VLD Vacuum Setpoint (contact closure input)
- Process Start (monitor CC input)
- Process End
- Close VLD Valve (contact open or remove 24VDC output)
- Wait for VLD to Vent (contact open input)
- Initiate Boat Out



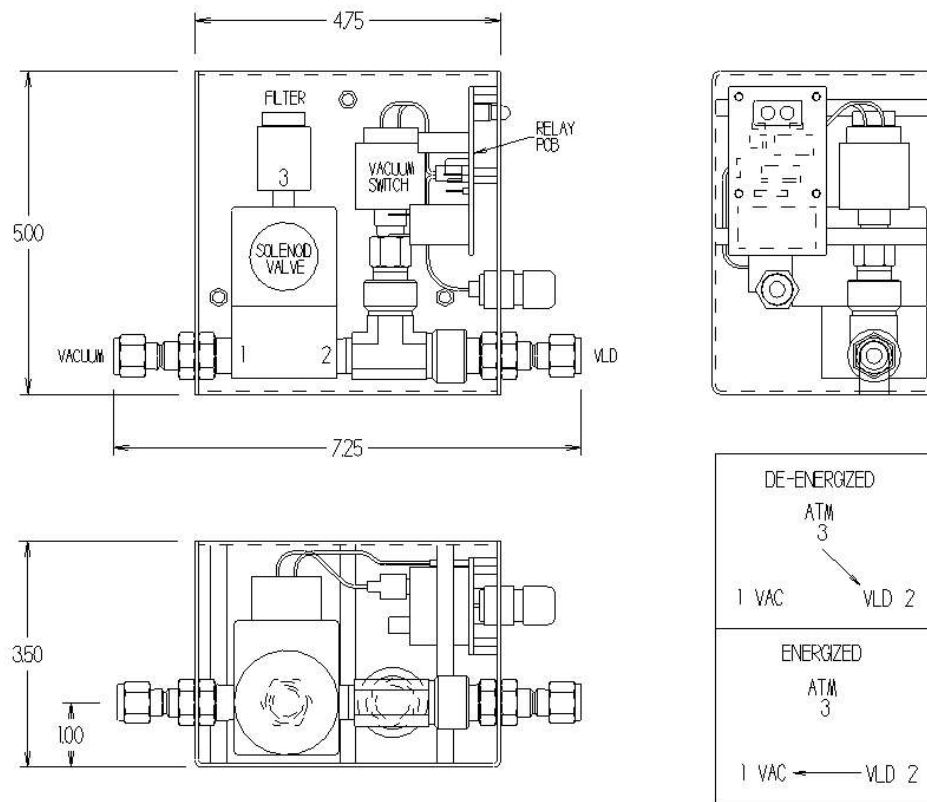
innovative Silicon Systems

1203 Foxworthy Avenue
San Jose, CA 95118-1212
Tel: 408-265-4842 Fax: 408-265-7108
www.isilicon.net

300 Series Vacuum-Lock Door Controller

System Specifications

Size:	7.25" (fitting-fitting) W x 5.0" H x 3.5" D
Mounting Orientation:	Any
Wetted Materials:	Stainless Steel
Power Requirement:	Direct-Acting Version: None Relay Version: 24VDC, 1.0A (120VAC, 0.3A with optional AC Wall Adapter)
Input Signal (from Host):	Direct Acting Version: +24VDC, 0.75A Relay Version: Contact Closure or +24VDC, 0.05A High Signal
Output Signal (to Host):	Contact Closure - contacts rated at 60W (2A Max) Closed = Vacuum Below Setpoint Open = Vacuum Above Setpoint
Vacuum Setpoint:	Adjustable, 1.6"-27" Hg Vacuum (685-40 torr) on decreasing pressure (Contacts open at 30 torr above setpoint on increasing pressure)
Setpoint Repeatability:	$\pm 1.2"$ Hg (± 30 torr)



innovative Silicon Systems

1203 Foxworthy Avenue
San Jose, CA 95118-1212
Tel: 408-265-4842 Fax: 408-265-7108
www.isilicon.net

03/15/07

300 Series Vacuum-Lock Door Controller

Ordering Information:

Part Number 8-66-03AB-XY VLD Controller, Vacuum Switch Model

Where:

A = Vacuum Connection Fitting

- 1 = 1/4" Tube Compression
- 2 = 3/8" Tube Compression
- 3 = 1/4" Male VCR

B = VLD Door Connection Fitting

- 1 = 1/4" Tube Compression
- 2 = 3/8" Tube Compression
- 3 = 1/4" Male VCR

X = Valve Actuation

- 0 = Direct Acting Version (Host Signal directly actuates solenoid)
- 1 = Relay Version (Host Signal actuates relay)

Y = Power Source Option

- 0 = No power source supplied; user supplies required 24VDC
- 1 = 24VDC, 1.0A power source included (120VAC wall adapter)

Pricing:

8-66-03AB-XY VLD Controller, Vacuum Switch Model \$1040.00

Options:

A = Vacuum Connection Fitting

- 1 = 1/4" Tube Compression
- 2 = 3/8" Tube Compression
- 3 = 1/4" Male VCR

NC
\$35.00
Add \$105.00

B = VLD Door Connection Fitting

- 1 = 1/4" Tube Compression
- 2 = 3/8" Tube Compression
- 3 = 1/4" Male VCR

NC
\$35.00
Add \$105.00

X = Valve Actuation

- 0 = Direct Acting Version
- 1 = Relay Version

NC
Add \$90.00

Y = Power Source Option

- 0 = No power source supplied
- 1 = +24VDC, 1.0A power source included

NC
Add \$45.00



innovative Silicon Systems

1203 Foxworthy Avenue
San Jose, CA 95118-1212
Tel: 408-265-4842 Fax: 408-265-7108
www.isilicon.net

03/15/07