

JV Series Isolation Valves

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Nor-Cal Products, Inc.
P. O. Box 518
1967 So. Oregon
Yreka, CA 96097 USA

Tel: **800-824-4166**
or 530-842-4457
Main Fax: 530-842-9130
Sales Fax: 530-841-9189
www.n-c.com





JV Series Isolation Valves

General Information

Since 1962, Nor-Cal Products has been improving our valve designs and expanding our product line in order to offer valves for almost every vacuum application. JV series valves are designed to meet the demanding high-cycle requirements of semiconductor equipment manufacturers, yet offer the researcher a cost effective solution for UHV system roughing.

The JV Series Features:

- High cycle life
- Small footprint
- Wide range of options
- Right-angle and In-line bodies in low-cost Aluminum or Stainless Steel with NW16, 25, 40 and 50 flanges.
- All vacuum flanges are recessed to protect the sealing surface.
- Electromagnetic actuators for portable or table-top systems that do not have compressed air available.
- Pneumatic actuation with optional air solenoid kit
- Manual actuator with course throttling, which allows partial opening by specified and repeatable intervals

Electromagnetically operated

- Service interval >2,000,000 cycles
- Extremely low power consumption: 8W holding power, 300W max. activating power
- Available as Normally Open or Normally Closed version for greater flexibility
- Integrated memory function on power interruption
- Clip-on coil changeable without disassembling the valve



Pneumatically operated

- Service Interval >10,000,000 cycles for NW16 and NW25 and >5,000,000 cycles for NW40 and NW50 sizes
- Seamless, formed bellows
- Maintenance-free and self-positioning valve seat
- Lip seals instead of o-rings in actuator extend lifetime

Manually operated

- Service Interval >100,000 cycles
- Three or five opening positions
- Seamless, formed bellows
- Maintenance-free and self positioning valve seat



Optional Valve Position Indicators for Pneumatic & Electromagnetic Valves Only (24VDC reed switch with LED indicator)

MODEL NUMBER	DESCRIPTION
JV-99-R1	Position Sensor, JV Series, without Connector
JV-99-R2	Position Sensor, JV Series, with Connector
JV-99-R-CRD	Extension Cable for Sensor

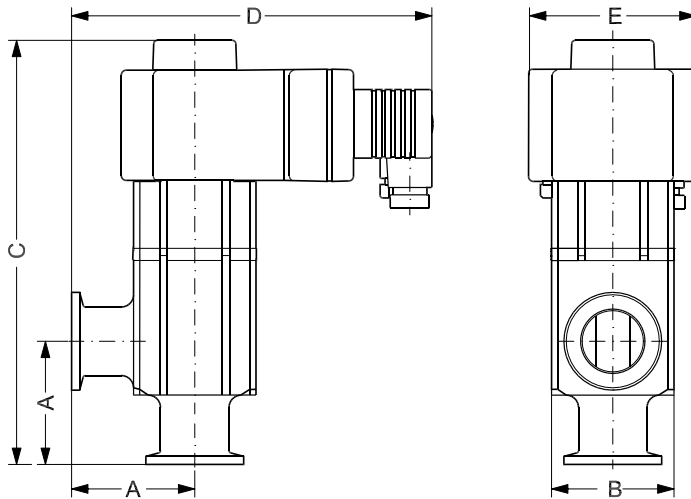
JV Series Isolation Valves

Electromagnetic Viton Sealed Angle Valves



Specific Technical Data

FLANGE SIZES:	NW 16	NW 25	NW 40	NW 50
Operating pressure	10-9 Torr to 5 bar(abs)	10-9 Torr to 5 bar(abs)	10-9 Torr to 3 bar(abs)	10-9 Torr to 3 bar(abs)
Differential pressure				
Closing direction	1 bar	4 bar	2 bar	1.2 bar
Opening direction	0.3 bar	0.3 bar	0.15 bar	0.1 bar
Time to open	100 ms	100 ms	200 ms	200 ms
Time to close	200 ms	200 ms	200 ms	200 ms
Molecular conductance angle valve	5.5 l/s	14.5 l/s	49.5 l/s	70 l/s



GENERAL TECHNICAL DATA:

Service interval: >2,000,000 cycles

Leak rate internal / external: <1*10⁻⁹mbar l/sec, He

Max. ambient temperature: 60°C (with 100% duty rate of coil)

Min. ambient temperature: 0°C

Media temperature: Gases 0°C-150°C as long as surface temperature on metal valve body is <80°C

Max. baking temperature for assembled valve: 80°C

Material:

Aluminum body: 6082
Stainless steel body: 316L

O-rings: Viton [Other O-ring compounds available]

Actuator:

Voltage: 115VAC or 230VAC [50/60Hz, -15%, +10%]
Power: consumption 300W [inrush 15 milliseconds] 8W [holding]

Max. cycle frequency: 30 / minute

Control signal: Available in NO or NC

Active: 9-30VDC, 15mA
Inactive: 0-4VDC

Approvals: CE

Options: Valve position indicators

Aluminum

MODEL NUMBER	PORT OD	DESCRIPTION	A INCH [MM]	B INCH [MM]	C INCH [MM]	D INCH [MM]	E INCH [MM]
JVAE*-0752-NWB	3/4	NW-16B	1.57 [40]	1.57 [40]	5.52 [140]	5.43 [138]	2.68 [68]
JVAE*-1002-NWB	1	NW-25B	1.97 [50]	1.97 [50]	6.81 [173]	5.83 [148]	2.68 [68]
JVAE*-1502-NWB	1 1/2	NW-40B	2.56 [65]	2.56 [65]	7.95 [202]	6.42 [163]	2.68 [68]
JVAE*-2002-NWB	2	NW-50B	2.76 [70]	3.15 [80]	8.35 [212]	6.61 [168]	2.68 [68]

Replace "*" with number from table below.

Stainless Steel

MODEL NUMBER	PORT OD	DESCRIPTION	A INCH [MM]	B INCH [MM]	C INCH [MM]	D INCH [MM]	E INCH [MM]
JVSE*-0752-NWB	3/4	NW-16B	1.57 [40]	1.57 [40]	5.52 [140]	5.43 [138]	2.68 [68]
JVSE*-1002-NWB	1	NW-25B	1.97 [50]	1.97 [50]	6.81 [173]	5.83 [148]	2.68 [68]
JVSE*-1502-NWB	1 1/2	NW-40B	2.56 [65]	2.56 [65]	7.95 [202]	6.42 [163]	2.68 [68]
JVSE*-2002-NWB	2	NW-50B	2.76 [70]	3.15 [80]	8.35 [212]	6.61 [168]	2.68 [68]

Replace "*" with number from table below.

- | | |
|---------------------------------|---------------------------------|
| 1 Actuator, 115VAC, Direct, NC | 4 Actuator, 230VAC, Direct, NC |
| 2 Actuator, 115VAC, CT24VDC, NC | 5 Actuator, 230VAC, CT24VDC, NC |
| 3 Actuator, 115VAC, CT24VDC, NO | 6 Actuator, 230VAC, CT24VDC, NO |



JV Series Isolation Valves

Electromagnetic Viton Sealed In-Line Valves

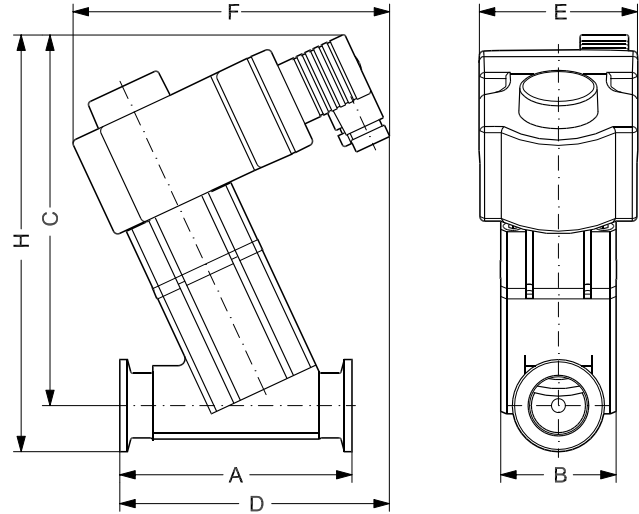


GENERAL TECHNICAL DATA:

Service interval: >2,000,000 cycles
Leak rate internal / external: <1*10 ⁻⁹ mbar l/sec, He
Max. ambient temperature: 60°C (with 100% duty rate of coil)
Min. ambient temperature: 0°C
Media temperature: Gases 0°C-150°C as long as surface temperature on metal valve body is <80°C
Max. baking temperature for assembled valve: 80°C
Material: Aluminum body: 6082 Stainless steel body: 316L
O-rings: Viton [Other O-ring compounds available]
Actuator: Voltage: 115VAC or 230VAC [50/60Hz, -15%, +10%] Power: consumption 300W [inrush 15 milliseconds] 8W [holding]
Max. cycle frequency: 30 / minute
Control signal: Available in NO or NC Active: 9-30VDC, 15mA Inactive: 0-4VDC
Approvals: CE
Options: Valve position indicators

Specific Technical Data

FLANGE SIZES:	NW 16	NW 25	NW 40	NW 50
Operating pressure	10-9 Torr to 5 bar(abs)	10-9 Torr to 5 bar(abs)	10-9 Torr to 3 bar(abs)	10-9 Torr to 3 bar(abs)
Differential pressure				
Closing direction	1 bar	4 bar	2 bar	1.2 bar
Opening direction	0.3 bar	0.3 bar	0.15 bar	0.1 bar
Time to open	100 ms	100 ms	200 ms	200 ms
Time to close	200 ms	200 ms	200 ms	200 ms
Molecular conductance angle valve	3.4 l/s	7.2 l/s	20.2 l/s	25.7 l/s



Aluminum

MODEL NUMBER	PORT OD	DESCRIPTION	A INCH [MM]	B INCH [MM]	C INCH [MM]	D INCH [MM]	E INCH [MM]	F INCH [MM]	H INCH [MM]
JVAIE*-0752-NWB	3/4	NW-16B	3.15 [80]	1.57 [40]	5.12 [130]	4.53 [115]	2.68 [68]	5.43 [138]	5.67 [144]
JVAIE*-1002-NWB	1	NW-25B	3.94 [100]	1.97 [50]	6.34 [161]	4.61 [117]	2.68 [68]	5.43 [138]	7.13 [181]
JVAIE*-1502-NWB	1 1/2	NW-40B	5.12 [130]	2.56 [65]	7.20 [183]	5.08 [129]	2.68 [68]	5.43 [138]	8.31 [211]
JVAIE*-2002-NWB	2	NW-50B	5.51 [140]	3.15 [80]	7.76 [197]	4.80 [122]	2.68 [68]	5.43 [138]	9.25 [235]

Replace "*" with number from table below.

Stainless Steel

MODEL NUMBER	PORT OD	DESCRIPTION	A INCH [MM]	B INCH [MM]	C INCH [MM]	D INCH [MM]	E INCH [MM]	F INCH [MM]	H INCH [MM]
JVSIE*-0752-NWB	3/4	NW-16B	3.15 [80]	1.57 [40]	5.12 [130]	4.53 [115]	2.68 [68]	5.43 [138]	5.67 [144]
JVSIE*-1002-NWB	1	NW-25B	3.94 [100]	1.97 [50]	6.34 [161]	4.61 [117]	2.68 [68]	5.43 [138]	7.13 [181]
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| 3 Actuator, 115VAC, CT24VDC, NO | 6 Actuator, 230VAC, CT24VDC, NO |

