

PVEK Solenoid Operation Right Angle Isolation valves



The Edwards PVEK series valves are compact, light-weight electromagnetic vacuum valves suitable for use in vacuum pipeline systems down to 1×10^{-9} mbar. A double wound coil combined with an electronic switching circuit ensures low energy consumption, low operating temperatures and extended operating life.

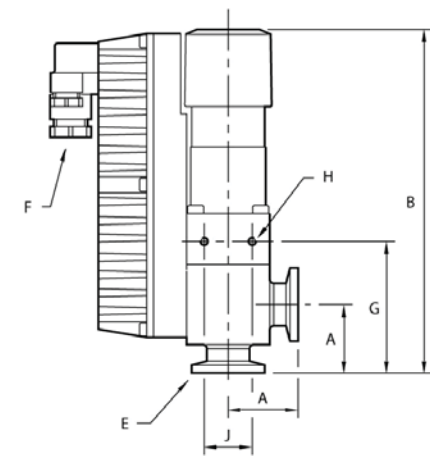
Bellows sealed, the PVEK solenoid operated right angle valves are available with either aluminum (A) or stainless steel (S) bodies, with an overall MTTF of up to 500,000 cycles.



Features & Benefits

- Transient high power for opening - electronically switched
- Low energy consumption in the 'hold open' position
- Enclosure rating to IP55
- Grease free vacuum
- MTTF up to 500000 cycles

Dimensions



F Connectors for electrical supply and reed switch cables.

(mm)	A	B	C	D	E	G	H	J	K
PV10EK	30	150	38	116	NW10	59	M4 x 7	20	41
PV16EK	40	160	38	126	NW16	69	M4 x 7	20	41
PV25EK	50	182	51	142	NW25	82	M4 x 7	20	41
PV40EK	65	230	76	170	NW40	110	M6 x 9	40	41

(inches)	A	B	C	D	E	G	H	J	K
PV10EK	1.17	5.85	1.48	4.52	NW10	2.3	M4 x 7	0.78	1.6
PV16EK	1.56	6.24	1.48	4.91	NW16	2.69	M4 x 7	0.78	1.6
PV25EK	1.95	7.1	1.99	5.54	NW25	3.2	M4 x 7	0.78	1.6
PV40EK	2.54	8.97	2.96	6.63	NW40	4.29	M6 x 9	1.56	1.6

Technical Data

Valve actuation type	Single acting, electrically opened, spring closed
Pressure range valve open	1×10^{-9} to 2000 mbar / 7.5×10^{-10} to 1500 Torr (30 psi)
Maximum pressure differential	
opening/closing	1000 mbar / 750 Torr
Leak rate	$< 1 \times 10^{-9}$ mbar l s ⁻¹ / $< 7.5 \times 10^{-10}$ Torr l s ⁻¹
Reed switch (peak ratings)	
Maximum voltage	24 V a.c. or d.c.
Maximum current	0.25 A
Maximum power	3 VA
Maximum cycle frequency	400 h ⁻¹
Ambient operating temperature	
PV10/16	5 °C to 45 °C
PV25/40	5 °C to 50 °C
Valve temperature above ambient	
Rapid cycling	
PV10/16	<25 °C
PV25/40	<20 °C
Valve open	<10 °C
Bellows reliability MTTF	
PV10/16	500000 cycles
PV25/40	130000 cycles
Construction materials	
PVEKA	HE30TF aluminum
PVEKS	AISI304 stainless steel
Bellows	AISI316L stainless steel
O-ring	Fluoroelastomer

Ordering Information

Product Description	Order No.
PV10EKA, 110-127V 1-ph 50/60Hz, aluminium	C41103000
PV10EKA, 220-240V 1-ph 50/60Hz, aluminium	C41101000
PV16EKA, 110-127V 1-ph 50/60Hz, aluminium	C41203000
PV16EKA, 220-240V 1-ph 50/60Hz, aluminium	C41201000
PV16EKS, 110-127V 1-ph 50/60Hz, stainless steel	C41204000
PV16EKS, 220-240V 1-ph 50/60Hz, stainless steel	C41202000
PV25EKA, 110-127V 1-ph 50/60Hz, aluminium	C41303000
PV25EKA, 220-240V 1-ph 50/60Hz, aluminium	C41301000
PV25EKS, 110-127V 1-ph 50/60Hz, stainless steel	C41304000
PV25EKS, 220-240V 1-ph 50/60Hz, stainless steel	C41302000
PV40EKA, 110-127V 1-ph 50/60Hz, aluminium	C41403000
PV40EKA, 220-240V 1-ph 50/60Hz, aluminium	C41401000
PV40EKS, 110-127V 1-ph 50/60Hz, stainless steel	C41404000
PV40EKS, 220-240V 1-ph 50/60Hz, stainless steel	C41402000
Accessories & Spares	Order No.
PV10/16MK O-Ring Kit	C41101800
Spares Kit Pad & Body O-ring PV25EK	C41301800
PV40MK O-Ring kit	C41401800
Moving Pole Assy PV10E	C41101007
Moving Pole Assy PV25EK	C41301007
Moving Pole Assy PV40E	C41401007
Spare PCA 110V for PVEK valve	C41101805
Spare PCA 240V for PVEK	C41101806
Spare PCA 110V, for PVEK	C41301805
Spare PCA 230V for PVEK	C41301806
Spare PCA 110 V for PVEK	C41401805
Spare PCA 240 V for PVEK	C41401806
Valve Body PV10KA	C41101816
Valve body PV16KA	C41201816
Valve Body PV16KS	C41602801
Valve Body PV25KA	C41301816
Valve Body PV25KS	C41622801
Valve Body PV40KA	C41401816
Valve Body PV40KS	C41642801

The Edwards IPVEK series valves are compact, light-weight electromagnetic vacuum valves suitable for use in vacuum pipeline systems down to 1×10^{-9} mbar. A double wound coil combined with an electronic switching circuit ensures low energy consumption, low operating temperatures and extended operating life.

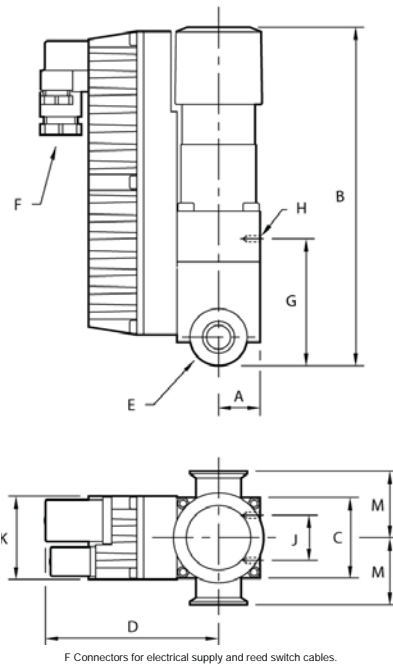
Bellows sealed, the IPVEK solenoid operated in-line valves are available with either aluminum (A) or stainless steel (S) bodies, with an overall MTTF of up to 500,000 cycles.



Features & Benefits

- Transient high power for opening - electronically switched
- Low energy consumption in the 'hold open' position
- Enclosure rating to IP55
- Grease free vacuum
- MTTF up to 500000 cycles

Dimensions



(mm)	A	B	C	D	E	G	H	K	M	
IPV16EK	19	142.9	38	85	NW16	37.4	M4 x 7	20	41	40
IPV25EK	25.4	172	51	93	NW25	72.5	M4 x 7	20	41	50
IPV40EK	38.1	222	76	111	NW40	101.5	M6 x 9	40	41	65

(inches)	A	B	C	D	E	G	H	K	M	
IPV16EK	0.7	5.57	1.48	3.32	NW16	1.46	M4 x 7	0.78	1.6	1.56
IPV25EK	1.0	6.7	1.99	3.63	NW25	2.83	M4 x 7	0.78	1.6	1.95
IPV40EK	1.5	8.69	2.96	4.33	NW40	3.96	M6 x 9	0.78	1.6	2.54

Technical Data

Valve actuation type	Single acting, electrically opened, spring closed
Pressure range valve open	1×10^{-9} to 2000 mbar / 7.5×10^{-10} to 1500 Torr (30 psi)
Maximum pressure differential	
Opening/closing	1000 mbar / 750 Torr
Leak rate	$< 1 \times 10^{-9}$ mbar l s ⁻¹ / $< 7.5 \times 10^{-10}$ Torr l s ⁻¹
Reed switch (peak ratings)	
Maximum voltage	24 V a.c. or d.c.
Maximum current	0.25 A
Maximum power	3 VA
Maximum cycle frequency	400 h ⁻¹
Ambient operating temperature	5 °C to 45 °C
Valve temperature above ambient	
Rapid cycling	<25 °C
Valve open	<10 °C
Bellows reliability MTTF	500000 cycles
Construction materials	
IPVEKA	HE30TF aluminum
Bellows	AISI316L stainless steel
O-ring	Fluoroelastomer
Molecular conductance (l s ⁻¹)	2
Time to open (ms)	40
Time to close (ms)	100
Operating power (VA)	
220 V a.c. at 25 °C pulse	417
220 V a.c. at 25 °C hold	4.7
Maximum continuous power 220 V a.c. rms (W)	4.5
Weight (g/oz)	800/28

Ordering Information

Product description	Order no.
IPV16EKA, 220-240V, 1-ph 50/60Hz, aluminium	C41610000
IPV16EKA, 110-127V 1-ph 50/60Hz, aluminium	C41611000
IPV16EKS, 110-127V 1-ph 50/60Hz, stainless steel	C41613000
IPV25EKA, 220-240V 1-ph 50/60Hz, aluminium	C41630000
IPV25EKA, 110-127V 1-ph 50/60Hz, aluminium	C41631000
IPV25EKS, 220-240V 1-ph 50/60Hz, stainless steel	C41632000
IPV25EKS, 110-127V 1-ph 50/60Hz, stainless steel	C41633000
IPV40EKA, 220-240V 1-ph 50/60Hz, aluminium	C41651000
IPV40EKA, 110-127V 1-ph 50/60Hz, aluminium	C41652000
IPV40EKS, 220-240V 1-ph 50/60Hz, stainless steel	C41653000
IPV40EKS, 110-127V 1-ph 50/60Hz, stainless steel	C41654000
Accessories Spares	Order no.
IEC plug to mating socket for PVEK valves	C41101090
Moving Pole Assy PV10E	C41101007
Moving Pole Assy PV25EK	C41301007
Moving Pole Assy PV40E	C41401007
PV10/16MK O-Ring Kit	C41101800
PV40MK O-Ring kit	C41401800
Spare PCA 110 V for PVEK	C41401805
Spare PCA 110V for PVEK valve	C41101805
Spare PCA 110V, for PVEK	C41301805
Spare PCA 230V for PVEK	C41301806
Spare PCA 240 V for PVEK	C41401806
Spare PCA 240V for PVEK	C41101806
Spares Kit Pad & Body O-ring PV25EK	C41301800
Valve Body IPV16KS	C41602811
Valve body IPV16PKA	C41601802
Valve Body IPV25KA	C41621802
Valve Body IPV25KS	C41622811
Valve Body IPV40KA	C41641802
Valve Body IPV40KS	C41642811
Valve body PV16KA	C41201816

Edwards' aluminum right angle LCPVEK valves are designed for vacuum applications which need a compact, simple, solenoid operation valve to control gas flow. These economical valves are ideal for a number of duties ranging from simple laboratory pump isolation to OEM vacuum system integration and design. Their versatility makes them effective both in vacuum pipelines and in chamber admittance applications.

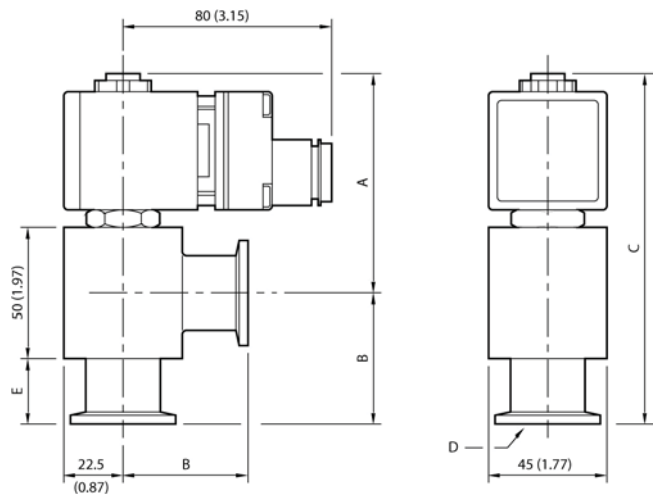
Careful design of the solenoid power control and vacuum isolation components delivers efficient magnetic actuation with optimum vacuum performance at an affordable price. This facilitates the use of an electrically actuated valve in many applications where previously this had been uneconomic.



Features & Benefits

- Economical design can be used in low budget applications
- Electrical actuation
- Low power requirements
- Electronic boost power supply
- Efficient magnetic design

Dimensions



(mm)	A	B	C	D	E
LCPV16EK	95	40	135	NW16	17.5
LCPV25EK	92.5	50	142.5	NE25	25

(inches)	A	B	C	D	E
LCPV16EK	3.33	1.56	4.89	NW16	0.69
LCPV25EK	3.24	1.95	5.19	NW25	0.98

Technical Data

Valve actuation type	Single acting, electrically opened, spring return
Molecular conductance	3 ls ⁻¹
Pressure range	1 x 10 ⁻⁶ - 1000 mbar / 7.5 x 10 ⁻⁷ - 750 Torr
Max pressure differential (open/close)	1000 mbar / 750 Torr
Time to open	60 ms
Time to close	<20 ms
Max cycle frequency	1800 h ⁻¹
Leak rate	< 1 x 10 ⁻⁶ mbar ls ⁻¹ / < 7.5 x 10 ⁻⁷ Torr ls ⁻¹
Power consumption	
Open	95 W for 60 ms
Hold	2.5 to 4 W
Reliability (MTTF)	500000 cycles
Operating temperature range	5 to 45 °C
Weight	
LCPV16EK	810g / 28oz
LCPV25EK	840g / 29oz
Enclosure rating	IP67
Voltage	
230V	10%
110V	-10% 15%
24V a.c./d.c.	-10% 15%
Construction materials	
Body	Aluminium, stainless steel
Seals	Fluoroelastomer

Ordering Information

Product description	Order no.
LCPV16EKA, 24V ac,dc, aluminium	C41751200
LCPV16EKA, 110V, 50/60Hz, aluminium	C41751100
LCPV16EKA, 230V 50/60Hz aluminium	C41751000
LCPV25EKA, 24V ac,dc, aluminium	C41752200
LCPV25EKA, 110V 50/60Hz, aluminium	C41752100
LCPV25EKA, 230V, 50/60Hz, aluminium	C41752000