



VAT Vakuumentile AG
CH-9469 Haag, Schweiz

Product data sheet

Series 216, DN 16 – 40 ($\frac{5}{8}$ " – 1 $\frac{1}{2}$ ")

Ordering No. 216..-K...-....

HV Angle / Inline Valve

Pneumatic actuator with position indicator, with or without solenoid valve, single acting, closing spring

Description

The VAT ISO-KF valve line, 216.-K...-.... performs as gauge isolation, bypass, roughing or venting valve and is well suited for all general high vacuum and semiconductor processes. The improved industrial design results in a rugged, compact, highly reliable valve with a low cost of ownership. The All-in-One concept means the valve is fast and easy to install and the solenoid valve and electrical position indicator are integrated for convenient "plug and play" use. The proven All-in-One design and extremely long service lifetime makes this valve easy to maintain.



Advantages

- All-in-One design for fast and easy installation; one connector for solenoid valve and electrical position indicator for easiest "plug and play"
- Direct pneumatic actuation or via integrated solenoid valve
- Single acting actuator with closing spring
- Normally open and normally closed solenoid versions available
- Electrical and visual position indicator, standard
- 10 million cycle 316L stainless steel bellows
- Easy maintenance, fast bellows and seal replacement
- Fast opening and closing time
- High conductance for fast pump down or venting
- High differential pressure resistance
- High purity aluminum or stainless steel body

Created by: T. Eugster	Release date: 2013-09-02	1 of 5
Modified by:	Release date:	602405EA



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Ordering Information

Selection Data

Vacuum connection		DN 16 ISO-KF		DN 25 ISO-KF		DN 40 ISO-KF	
Aluminum body	AISI/DIN	-/EN AW-6060		-/EN AW-6060		-/EN AW-6060	
Stainless steel body	AISI/DIN		304/1.4301		304/1.4301		304/1.4301

HV Angle Valve

Without solenoid valve with position indicator	21624-KA21-000.	21624-KE21-000.	21628-KA21-000.	21628-KE21-000.	21632-KA21-000.	21632-KE21-000.
With solenoid valve with position indicator						
24V DC (n.c.)	21624-KA41-000.	21624-KE41-000.	21628-KA41-000.	21628-KE41-000.	21632-KA41-000.	21632-KE41-000.
24 V AC; 50/60Hz (n.c.)	21624-KA41-AAM.	21624-KE41-AAM.	21628-KA41-AAM.	21628-KE41-AAM.	21632-KA41-AAM.	21632-KE41-AAM.
100 – 115 V AC; 50/60Hz (n.c.)	21624-KA41-AAK.	21624-KE41-AAK.	21628-KA41-AAK.	21628-KE41-AAK.	21632-KA41-AAK.	21632-KE41-AAK.
200 – 230 V AC; 50/60Hz (n.c.)	21624-KA41-AAL.	21624-KE41-AAL.	21628-KA41-AAL.	21628-KE41-AAL.	21632-KA41-AAL.	21632-KE41-AAL.
24 V DC normally open	21624-KA41-ACV.	21624-KE41-ACV.	21628-KA41-ACV.	21628-KE41-ACV.	21632-KA41-ACV.	21632-KE41-ACV.

HV Inline Valve

Without solenoid valve with position indicator	21624-KA21-AAB.	21624-KE21-AAB.	21628-KA21-AAB.	21628-KE21-AAB.	21632-KA21-AAB.	21632-KE21-AAB.
With solenoid valve with position indicator						
24V DC (n.c.)	21624-KA41-AAB.	21624-KE41-AAB.	21628-KA41-AAB.	21628-KE41-AAB.	21632-KA41-AAB.	21632-KE41-AAB.
24 V AC; 50/60Hz (n.c.)	21624-KA41-AAP.	21624-KE41-AAP.	21628-KA41-AAP.	21628-KE41-AAP.	21632-KA41-AAP.	21632-KE41-AAP.
100 – 115 V AC; 50/60Hz (n.c.)	21624-KA41-AAN.	21624-KE41-AAN.	21628-KA41-AAN.	21628-KE41-AAN.	21632-KA41-AAN.	21632-KE41-AAN.
200 – 230 V AC; 50/60Hz (n.c.)	21624-KA41-AAO.	21624-KE41-AAO.	21628-KA41-AAO.	21628-KE41-AAO.	21632-KA41-AAO.	21632-KE41-AAO.
24 V DC normally open	21624-KA41-ACW.	21624-KE41-ACW.	21628-KA41-ACW.	21628-KE41-ACW.	21632-KA41-ACW.	21632-KE41-ACW.

Specifications

Cycle life	cycles	10 Mio ¹⁾	10 Mio ¹⁾	10 Mio ¹⁾
Conductance for molecular flow				
angle valve	l/s	5	14	45
inline valve	l/s	2.5	7	20
Leak rate	mbar l/s	1×10 ⁻⁹	1×10 ⁻⁹	1×10 ⁻⁹

¹⁾ Cycle life tested at room temperature and under clean and static conditions. Expandable parts are excluded

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Specifications

Vacuum connection		DN 16 ISO-KF	DN 25 ISO-KF	DN 40 ISO-KF
Pressure range	mbar / bar min / max	1×10 ⁻⁸ / 5 (abs)	1×10 ⁻⁸ / 5 (abs)	1×10 ⁻⁸ / 5 (abs)
Differential pressure on the plate				
in closing direction	bar	5	5	5
in opening direction	bar	2	2	2
Diff. pressure at opening	bar	2 ²⁾	2 ²⁾	2 ²⁾
Ambient temperature	°C	0 – 50	0 – 50	0 – 50
Switching frequency	1/min	100	100	75
Opening time	ms	100	120	260
Closing time	ms	100	160	540
Electrical position indicator				
contact rating	VAC/V/A	250 / 25 / 0.1	250 / 25 / 0.1	250 / 25 / 0.1
contact Rating	VDC/W/A	50 / 12.5 / 0.25	50 / 12.5 / 0.25	50 / 12.5 / 0.25
Compressed air				
overpressure	bar	4 – 8	4 – 8	4 – 8
pneum. actuator volume	cm ³	4	11	35
Mounting orientation		any	any	any
Seals		FKM	FKM	FKM
Weight				
angle valve	kg	0.49 0.52	0.68 0.75	1.21 1.33
inline valve	kg	0.56 0.89	0.78 1.35	1.41 2.2

Spare Parts

Seal kit / O-rings for one valve	242324	241077	241079
Bellows cpl. / Bellows & seal kit	575359	575363	575364
Cover cpl. / Receptacle, visual and electrical position indicator already assembled	574498	574588	574606

Accessories

Cable connector right angled	N-8504-005	N-8504-005	N-8504-005
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²⁾ Opening above atmospheric pressure reduces specified cycle life



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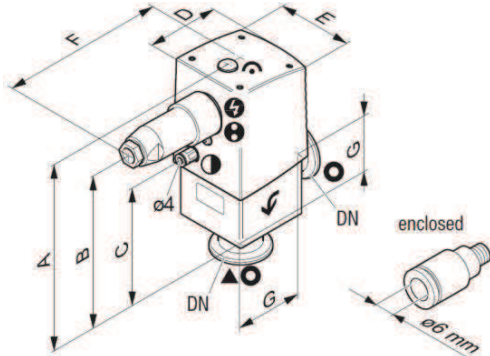
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Ordering No. 216..-K...-....

Dimensions

Angle valve with aluminum body

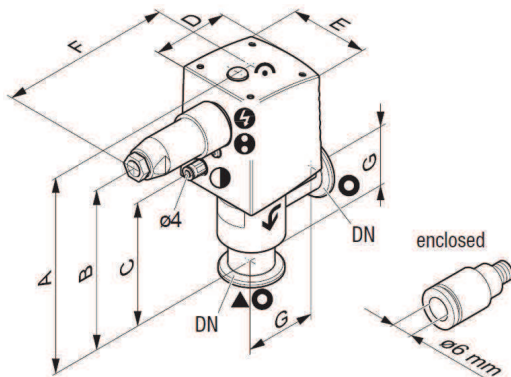


- ① Compressed air connection
- ⊙ Protective lid
- ⚡ Electrical connection
- ↻ Flow direction
- ⊕ Position indicator connection
- ▼ Valve seat site
- ⌚ Visual position indicator

DN	A	B	C	D	E	F	G
DN 16 ISO-KF	142	112.9	75.1	55	51.4	93.2	40
DN 25 ISO-KF	146.9	117.8	79	64.3	60.1	97.8	50
DN 40 ISO-KF	188.8	159.7	114.9	81.3	75.7	105.3	65

Dimensions

Angle valve with stainless steel body



- ① Compressed air connection
- ⊙ Protective lid
- ⚡ Electrical connection
- ↻ Flow direction
- ⊕ Position indicator connection
- ▼ Valve seat site
- ⌚ Visual position indicator

DN	A	B	C	D	E	F	G
DN 16 ISO-KF	144.5	115.4	77.6	55	51.4	93.2	40
DN 25 ISO-KF	150.3	121.2	82.5	64.3	60.1	97.8	50
DN 40 ISO-KF	191.8	162.7	117.9	81.3	75.7	105.3	65



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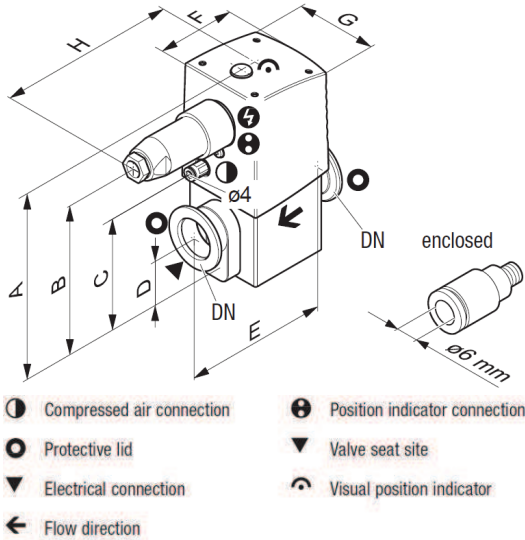
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Dimensions

Inline valve



Aluminum body								[mm]
DN	A	B	C	D	E	F	G	H
DN 16 ISO-KF	133.1	104	66.2	18.7	80	55	51.4	93.2
DN 25 ISO-KF	137.6	108.5	69.7	25	100	64.3	60	97.8
DN 40 ISO-KF	177.1	148	103.2	30	130	81.2	75.7	105.3

Stainless steel body								[mm]
DN	A	B	C	D	E	F	G	H
DN 16 ISO-KF	126.1	97	59.2	20	80	55	51.4	93.2
DN 25 ISO-KF	133.6	104.5	65.7	31.8	100	64.3	60.1	97.8
DN 40 ISO-KF	169.1	140	95.2	40.8	130	81.3	75.7	105.3