



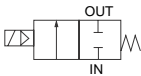
Pilot kick type 2 port solenoid valve
(general purpose valve)

APK21 Series

- NC (normally closed) type
- Port size: Rc1 1/4 to Rc2, 32 to 50 flange
- Piston structure



JIS symbol



Common specifications

Item	Standard specifications	Optional specifications
Working fluid	Air, low vacuum (1.33×10^3 Pa (abs)), water, kerosene, oil (20 mm ² /s or less)	Steam
Working pressure differential range MPa	0 to 0.7 (refer to max. working pressure differential in individual specifications.)	
Max. working pressure MPa	1	
Withstanding pressure (water) °C	3.2	
Fluid temperature °C	-10 to 60 (Note 1)	5 to 180
Ambient temperature	-10 to 60	
Heat proof class	B	H
Atmosphere	Place free of corrosive gas and explosive gas	
Valve structure	Pilot kick type poppet, piston structure	
Valve seat leakage (Note 2) cm ³ /min. (ANR)	1 or less (air)	800 or less (air)
Mounting attitude	Limited to vertical position with coil facing upward	
Body, sealant	Bronze, nitrile rubber	Bronze, PTFE

Note 1: No freezing

Note 2: This applies to pneumatic pressures between 0.05 and 0.7 MPa. When using at a pressure less than 0.05 MPa, the sealant may be unstable. Consult with CKD in this case.

Individual specifications

Item Model no.	Port size	Orifice (mm)	Min. working pressure diff. (MPa)	Max. working pressure diff. (MPa)								Rated voltage	Apparent power (VA)				Power consumption (W)		Weight (kg)															
				Air		Water, kerosene		Oil (20 mm ² /s)		Steam			Holding		Starting		AC	DC																
				AC	DC	AC	DC	AC	DC	AC			50 Hz	60 Hz	50 Hz	60 Hz	50/60 Hz																	
APK21-32A	Rc1 1/4	35	0	0.7	0.6	0.7	0.6	0.5	0.5	0.7	100 VAC 50/60 Hz 200 VAC 50/60 Hz 12 VDC 24 VDC 48 VDC 100 VDC	64	69	274	289	44/48	20	4.5																
APK21-32F	32 flange																	8																
APK21-40A	Rc1 1/2	43																	5.5															
APK21-40F	40 flange																		9															
APK21-50A	Rc2	53																	7															
APK21-50F	50 flange																		11.5															

*1: The model numbers above show the basic port size. Refer to How to order for other combinations.

*2: Refer to DC column for the maximum working pressure differential of coil with diode.

*3: Voltage fluctuation should be within $\pm 10\%$ of the rated voltage.

*4: When using with a low vacuum, vacuum the OUT port side.

Optional specifications

Sealant	Fluoro rubber		PTFE	
Coil (heat proof class)	B	H	B	H
Fluid temperature °C	5 to 60	5 to 90	-10 to 60 (Note 1)	5 to 180
Ambient temperature °C	-10 to 60			
Valve seat leakage (Note 2) cm ³ /min. (ANR)	1 or less (air)		800 or less (air)	

Note 1: No freezing

Note 2: This applies to pneumatic pressures between 0.05 and 0.7 MPa. When using at a pressure less than 0.05 MPa, the sealant may be unstable. Consult with CKD in this case.

Flow characteristics

Model no.	Port size	Orifice (mm)	Cv flow factor	Effective sectional area (mm ²)
APK21-32A	Rc1 1/4	35	25	460
APK21-32F	32 flange			
APK21-40A	Rc1 1/2	43	34	625
APK21-40F	40 flange			
APK21-50A	Rc2	53	53	975
APK21-50F	50 flange			

HNB/G

USB/G

FAB/G

FGB/G

FVB

FWB/G

FHB

FLB

AB

AG

AP/
AD

APK/
ADK

For
dry air

Explosion
proof

HVB/
HVL

SAB/
SVB

NP/NAP/
NVP

CHB/G

MXB/G

Other G.P.
systems

PD/FAD/
PJ

CVE/
CVSE

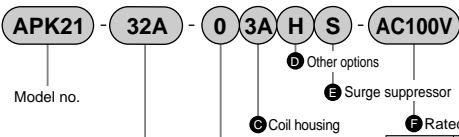
CPE/
CPD

Medical
analysis

Custom
order

General purpose valve
Pilot kick type 2 port solenoid valve

How to order



A Port size
 *1
 *2

B Body/sealant combination
 *3
 *4

Symbol	Descriptions
A Port size	
32A	Rc1 1/4
32F	32 flange
40A	Rc1 1/2
40F	40 flange
50A	Rc2
50F	50 flange

B Body/sealant combination					
	Body	Valve sealant	O ring	Treatment	Remarks
0	Std	Bronze	Nitrile rubber	-	Air, water, low vacuum, kerosene, oil (up to 60°C)
			Fluoro rubber		Air, low vacuum, kerosene, oil (up to 90°C *3)
			PTFE		Steam (up to 180°C *3)
C	Option	Stainless steel	Fluoro rubber	-	Steam (up to 180°C *3)
D			Nitrile rubber		Air, water, low vacuum, kerosene, oil (up to 60°C)
E			Fluoro rubber		Air, low vacuum, kerosene, oil (up to 90°C *3)
F			PTFE		Steam (up to 180°C *3)
H	Option	Bronze	Nitrile rubber	Oil free	Air, water, low vacuum, kerosene, oil (up to 60°C)
J			Fluoro rubber		Air, low vacuum, kerosene, oil (up to 90°C *3)
K			PTFE		Steam (up to 180°C *3)
L		Stainless steel	Nitrile rubber		Air, water, low vacuum, kerosene, oil (up to 60°C)
M			Fluoro rubber		Air, low vacuum, kerosene, oil (up to 90°C *3)
N			PTFE		Steam (up to 180°C *3)

Refer to page 36 in the Introduction for details on the material combinations.

C to F

Refer to the following page for details on the coil housing, other options and voltage, etc.

<Example 1 of model number>

APK21-32F-03A-DC24V

Series: APK21

- A** Port size: 32 flange
- B** Body/sealant combination
: Body - bronze, valve sealant - nitrile rubber,
O ring - nitrile rubber
- C** Coil housing: Open frame lead wire
- D** **E**: Blank
- F** Rated voltage: 24 VDC

<Example 2 of model number>

APK21-50F-B4MD-AC100V

Series: APK21

- A** Port size: 50 flange
- B** Body/sealant combination
: Body - bronze, valve sealant - fluoro rubber,
O ring - fluoro rubber
- C** Coil housing: Open frame type
(class H coil) with HP terminal box (G1/2)
- D** Other options: Cable gland A-15a
- E** Surge suppressor: Blank
- F** Rated voltage: 100 VAC 50/60 Hz

Note on model no. selection

- *1: The companion flange is JIS B2210 10K. (No flange is enclosed with the product, but must be purchased separately.)
- *2: G and NPT threads are used for piping port. Contact CKD for details.



Note on B


- *3: **B**: When selecting 4A, 4M or 4N.
- *4: When using the PTFE valve sealant with class H coil, the O ring material will be fluoro rubber for steam.

For ③ to ⑥, the combinations indicated with symbols can be manufactured.
Note that if options ④ and ⑤ are not required, no symbol is indicated.

C Coil housing				D Other options				E	F Rated voltage
Descriptions				Cable gland		Conduit		Surge suppressor	Descriptions
				(Marine cable gland)		(Conduit pipe)			
				A-15a	A-15b	A-15c	G1/2		
				A-20a	A-20b	A-20c			
3A	Std	Open frame type	Lead wire	D	E	F	H	S	100 VAC, 200 VAC, 12 VCD, 24 VDC, 48 VDC, 100 VDC
3M			HP terminal box (G1/2)						
3N			HP terminal box + light(G1/2)						
4A	Option	Open frame type (Heat proof class H)	Lead wire				H	S	100 VAC, 200 VAC
4M			HP terminal box (G1/2)	D	E	F			
4N			HP terminal box + light(G1/2)						
5A	Option	Open frame type (Diode integrated)	Lead wire				H		100 VAC, 200 VAC
5M			HP terminal box (G1/2)	D	E	F			
5N			HP terminal box + light(G1/2)						

⚠ Refer to the following precautions for ③ to ⑥.

3A 4A 5A		<ul style="list-style-type: none"> ● Open frame lead wire 300 mm ● Direct conduit wiring thread CTC19 integrated
3M 3N 4M 4N 5M 5N		<ul style="list-style-type: none"> ● Open frame HP terminal box ● 4M, 4N (heat proof class H) ● 5M, 5N (diode integrated)

H		<ul style="list-style-type: none"> ● Conduit (G1/2)
---	---	--

Refer to page 225 for coil selection.

⚠ Note on model no. selection

Note on ③

*5: 5A, 5M and 5N are coils for which AC power is converted to DC with a diode.

Note on ④ and ⑤

- *6: Select one among D, E, F and H for ④.
- *7: The surge suppressor is an accessory for the lead wire coil. When selecting a coil with terminal box, the surge suppressor is mounted in the terminal box.
- *8: The surge suppressor is incorporated in the coil with diode as standard.
- *9: Tropicalization (rust-proof coating) is available as a measure against rust. Contact CKD for more information.

Note on ⑥

- *10: For voltages other than above, consult with CKD.
- *11: The lead wire is available in the standard 300 mm length, and 500 mm, 1000 mm, 2000 mm and 3000 mm lengths. Contact CKD for more information.

HNB/G

USB/G

FAB/G

FGB/G

FVB

FWB/G

FHB

FLB

AB

AG

AP/
AD

APK/
ADK

For
dry air

Explosion
proof

HVB/
HVL

SAB/
SVB

NP/NAP/
NVP

CHB/G

MXB/G

Other G.P.
systems

PD/FAD/
PJ

CVB/
CVSE

CPE/
CPD

Medical
analysis

Custom
order

General purpose valve
Pilot kick type 2 port solenoid valve