



Pilot kick 2-port solenoid valve
General purpose

APK11 Series

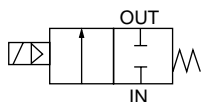
- NC (open when energized)
- Port size: Rc1/4 to Rc1
- Piston drive



Refer to the Ending for details.



JIS symbol



Common specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item	Standard specifications	Optional specifications
Working fluid	Air/low vacuum (1.33 x 10 ⁵ Pa (abs))/water/kerosene/oil (20mm ² /s or less)	Steam
Working pressure differential MPa	0 to 1.0 (refer to max. working pressure differential in individual specifications.)	
Max. working pressure MPa	2 (≈290 psi, 20 bar)	1 (≈150 psi, 10 bar)
Proof pressure (water pressure) MPa	4 (≈580 psi, 40 bar)	
Fluid temperature °C	-10 (14°F) to 60 (140°F) (*1)	5 (41°F) to 180 (356°F)
Ambient temperature °C	-10 (14°F) to 60 (140°F)	
Thermal class	Class 130 (B)	Class 180 (H)
Atmosphere	Place free of corrosive gas and explosive gas	
Valve structure	Pilot kick poppet, piston drive	
Valve seat leakage (*2) cm ³ /min(ANR)	0.2 or less (air)	400 or less (air)
Mounting orientation	Limited to the range of vertical orientation with the coil on top to horizontal orientation (*3).	
Body/seal material	Bronze/nitrile rubber	Bronze/PTFE

*1 : No freezing.

*2 : Value at pneumatic pressure of 0.05 to 1.0 MPa. When used at a pressure less than 0.05 MPa, the sealant may be unstable. Contact CKD in this case.

*3 : Limited to vertical orientation when used at a pressure less than 0.05 MPa.

Mounting orientation



Individual specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item Model No.	Port size	Orifice size (mm)	Min. working pressure differential (MPa)	Max. working pressure differential (MPa)								Rated voltage	Apparent power (VA)				Power consump (W)		Weight (kg)																										
				Air		Water/kerosene		Oil (20 mm ² /s)		Steam			When holding		When starting		AC 50/60 Hz	DC																											
				AC	DC	AC	DC	AC	DC	AC	DC		50 Hz	60 Hz	50 Hz	60 Hz																													
APK11-8A	Rc1/4	12	0	1.0	0.7	0.7	0.7	0.6	1.0	100 VAC 50/60 Hz *5	24	19	61	54	10/8	11	0.7																												
APK11-10A	Rc3/8	12																0.6	0.6	0.5	1.0	200 VAC 50/60 Hz *5	32	26	123	106	13/11	20	1.3																
APK11-15A	Rc1/2	16																												1.0	1.0	0.7	1.0	12 VDC	48 VDC	100 VDC	1.7								
APK11-20A	Rc3/4	23																																				1.0	1.0	0.7	1.0	12 VDC	48 VDC	100 VDC	1.7
APK11-25A	Rc1	28																																											
			1.0	1.0	0.7	1.0	12 VDC	48 VDC	100 VDC	1.7																																			

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

*2 : The voltage fluctuation range must be within ±10% of the rated voltage.

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

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

*5 : The 100 VAC (50/60 Hz) can be used with 110 VAC (60 Hz). The 200 VAC (50/60 Hz) can be used with 220 VAC (60 Hz). However, this does not apply to coil housings 5A/5M/5N/5I/5J.

Optional specifications

Sealant	Fluoro rubber		PTFE	
Coil (thermal class)	Class 130 (B)	Class 180 (H)	Class 130 (B)	Class 180 (H)
Fluid temperature °C	5 to 60	5 to 90	-10 to 60 (*1)	5 to 180
Ambient temperature °C	-10 to 60			
Valve seat leakage (*2) cm ³ /min (ANR)	0.2 or less (air)		400 or less (air)	

*1 : No freezing.

*2 : Value at pneumatic pressure of 0.05 to 1.0 MPa. When used at a pressure less than 0.05 MPa, the sealant may be unstable. Contact CKD in this case.

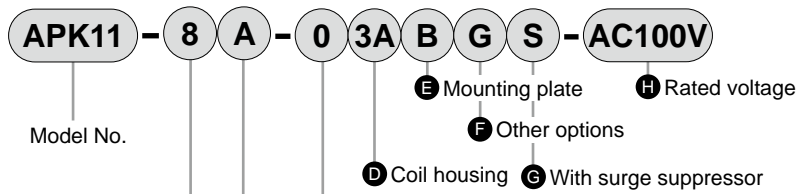
Flow characteristics

Model No.	Port size	Orifice size (mm)	Flow characteristics			
			C[dm ³ /(s·bar)]	b	Cv	S(mm ²)
APK11-8A	Rc1/4	12	9.4	0.41	2.2	-
APK11-10A	Rc3/8	12	15	0.37	2.7	-
APK11-15A	Rc1/2	16	20	0.31	4.5	-
APK11-20A	Rc3/4	23	-	-	8.6	162
APK11-25A	Rc1	28	-	-	12	231

*1 : Effective cross-sectional area S and sonic conductance C are converted as $S \approx 5.0 \times C$.

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/AD
APK/ADK
DryAir
EX-XPLNprf
XPLNprf
HVB/HVL
S $\hat{\phi}$ B/NAB
LAD/NAD
Water-Rela
NP/NAP/NVP
SNP
CHB/G
MXB/G
Other valves
SWD/MWD
DustColl
CVE/CVSE
CCH/CPE/D
LifeSci
Gas-Combus
Auto-Water
Outdoor
SpecFld
Custom
Ending

How to order



Code	Description					
A Port size						
8	1/4					
10	3/8					
15	1/2					
20	3/4					
25	1					
B Thread						
A	Rc					
G	G					
N	NPT					
C Body/sealant combination						
	Body	Valve seal	O-ring	Treatment	Remarks	
0	Std	Bronze	Nitrile rubber	Nitrile rubber	-	Air/water/low vacuum/kerosene/oil (up to 60°C)
			Fluoro rubber	Fluoro rubber		Air/low vacuum/kerosene/oil (When 4A/4M/4N is selected, up to 90°C)
			PTFE	Fluoro rubber (*1)		Steam (When 4A/4M/4N is selected)
D	Option	Stainless steel	Nitrile rubber	Nitrile rubber	Oil-prohibited	Air/water/low vacuum/kerosene/oil (up to 60°C)
			Fluoro rubber	Fluoro rubber		Air/low vacuum/kerosene/oil (When 4A/4M/4N is selected, up to 90°C)
			PTFE	PTFE (*1)		Steam (When 4A/4M/4N is selected)
J	Option	Bronze	Nitrile rubber	Nitrile rubber	Oil-prohibited	Air/water/low vacuum/kerosene/oil (up to 60°C)
			Fluoro rubber	Fluoro rubber		Air/low vacuum/kerosene/oil (When 4A/4M/4N is selected, up to 90°C)
			PTFE	Fluoro rubber (*1)		Steam (When 4A/4M/4N is selected)
L	Option	Stainless steel	Nitrile rubber	Nitrile rubber	Oil-prohibited	Air/water/low vacuum/kerosene/oil (up to 60°C)
			Fluoro rubber	Fluoro rubber		Air/low vacuum/kerosene/oil (When 4A/4M/4N is selected, up to 90°C)
			PTFE	PTFE (*1)		Steam (When 4A/4M/4N is selected)
Refer to Intro Page 39 for reference on material combinations.						

D to H

Refer to page 295 for details on the coil housing, other options and voltage, etc.

[Example of model No. 1]
APK11-20A-02C-AC100V

- Model : APK11
- Port size : 3/4
 - Thread : Rc
 - Body/sealant combination : Body - bronze, valve seal - nitrile rubber
O-ring - nitrile rubber
 - Coil housing : Grommet lead wire
 - Rated voltage : 100 VAC 50/60 Hz, 110 VAC 60 Hz

[Example of model No. 2]
APK11-10G-C4ABS-AC200V

- Model : APK11
- Port size : 3/8
 - Thread : G
 - Body/sealant combination : Body - bronze, valve seal - PTFE,
O-ring - fluoro rubber
 - Coil housing : Open frame lead wire (thermal class 180(H) coil)
 - Mounting plate : With mounting plate
 - Surge suppressor : With surge suppressor
 - Rated voltage : 200 VAC 50/60 Hz, 220 VAC 60 Hz

⚠ Precautions for model No. selection






Notes for C

*1 : When using the PTFE valve seal with thermal class 180(H) coil, the O-ring material is fluoro rubber for steam.


For Items ① to ④, the combinations indicated with codes are available.
 Note that if options for Items ⑤ to ⑧ are not required, they should be left blank.

① Coil housing		⑤	⑥ Other options					⑦	⑧ Rated voltage		
Description	Option	Mounting plate	Cable gland			Conduit		With surge suppressor	Description		
			(marine cable gland)			(conduit piping)					
			A-15a	A-15b	A-15c	CTC19	G1/2				
2C	Grommet lead wire							S	100 VAC, 200 VAC		
2E	With DIN terminal box (G1/2)	B *3									
2G	With DIN terminal box (Pg11)										
2H	DIN terminal box with small lamp (Pg11)					H					
3A	Open frame	B *3				G H		S	100 VAC, 200 VAC, 12 VDC, 24 VDC, 48 VDC, 100 VDC		
3M			Lead wire (IP65 or equivalent)						100 VAC, 200 VAC, 12 VDC, 24 VDC, 100 VDC		
3N			With HP terminal box (G1/2)	D	E	F			100 VAC, 200 VAC, 12 VDC, 24 VDC, 100 VDC		
3I			HP terminal box with lamp (G1/2)						100 VAC, 200 VAC, 12 VDC, 24 VDC, 48 VDC, 100 VDC		
3J			HP terminal box (IP65 or equivalent) (G1/2)						100 VAC, 200 VAC, 12 VDC, 24 VDC, 100 VDC		
4A	Open frame (Thermal class 180 (H))	B *3				G H		S	100 VAC, 200 VAC		
4M			Lead wire								
4N			With HP terminal box (G1/2)	D	E	F					
5A	Open frame (diode integrated)	B *3				G H		S	100 VAC, 200 VAC		
5M			Lead wire (IP65 or equivalent)								
5N			With HP terminal box (G1/2)	D	E	F					
5I			HP terminal box with lamp (G1/2)								
5J	HP terminal box (IP65 or equivalent) (G1/2)										
5J	HP term box, lamp (IP65, equiv) (G1/2)										

Refer to the following cautions for ① to ④.

2C		● Grommet lead wire 300 mm
2E 2G 2H		● DIN terminal box
3A 4A 5A		● Open frame Lead wire 300mm ● 4A (Thermal class 180 (H)) ● 5A (diode integrated)
3M 3N 4M 4N 5M 5N		● Open frame HP terminal box ● 4M, 4N (Thermal class 180 (H)) ● 5M, 5N (diode integrated)
3I 3J 5I 5J		● Open frame HP terminal box (IP65 or equivalent) ● 5I, 5J (diode integrated)

Refer to page 249 for coil selection.

G H		● Conduit ● G(CTC19) ● H(G1/2)
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⚠ Precautions for model No. selection

Notes for ①

*2 : Coils for 5A/5M/5N have a diode to convert AC to DC voltage.

Notes for ⑤ to ⑦

*3 : The mounting plate (Item ⑤ B) can be mounted only on Item ① (port size) 8 (1/4) or 10 (3/8).

*4 : For Item ⑤, select an option from D, E, F, G and H.

*5 : The surge suppressor is attached with the lead wire coil. When selecting a coil with a terminal box, the surge suppressor is mounted in the terminal box.

*6 : Surge suppressor is incorporated as standard in the coil with diode.

*7 : Tropicalization (rust-proof coating) is available as a measure against rust. Contact CKD for more information.

Notes for ⑧

*8 : 100 VAC coil is compatible with 100 VAC 50/60 Hz and 110 VAC 60 Hz, and 200 VAC coil is compatible with 200 VAC 50/60 Hz and 220 VAC 60 Hz. However, coils for Item ① 5A/5M/5N can be used with 100 VAC 50/60 Hz and 200 VAC 50/60 Hz only.

*9 : For voltages other than above, contact CKD.

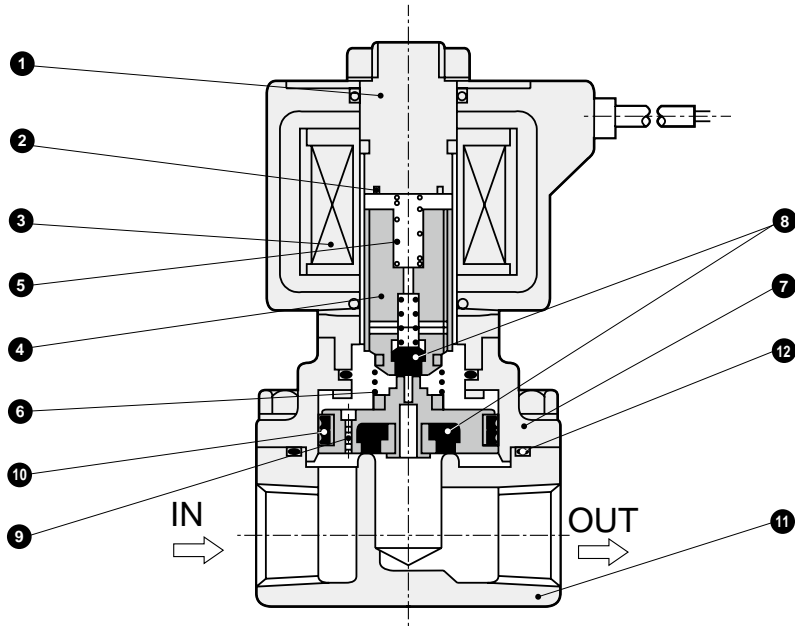
*10 : The lead wire is available in the standard 300 mm length, and 500 mm, 1000 mm, 2000 mm and 3000 mm lengths. Contact CKD for more information.

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/AD
APK/ADK
DryAir
EX-XPLNprf
XPLNprf
HVB/HVL
S ♂ B/NAB
LAD/NAD
Water-Rela
NP/NAP/NVP
SNP
CHB/G
MXB/G
Other valves
SWD/MWD
DustColl
CVE/CVSE
CCH/CPE/D
LifeSci
Gas-Combus
Auto-Water
Outdoor
SpecFld
Custom
Ending

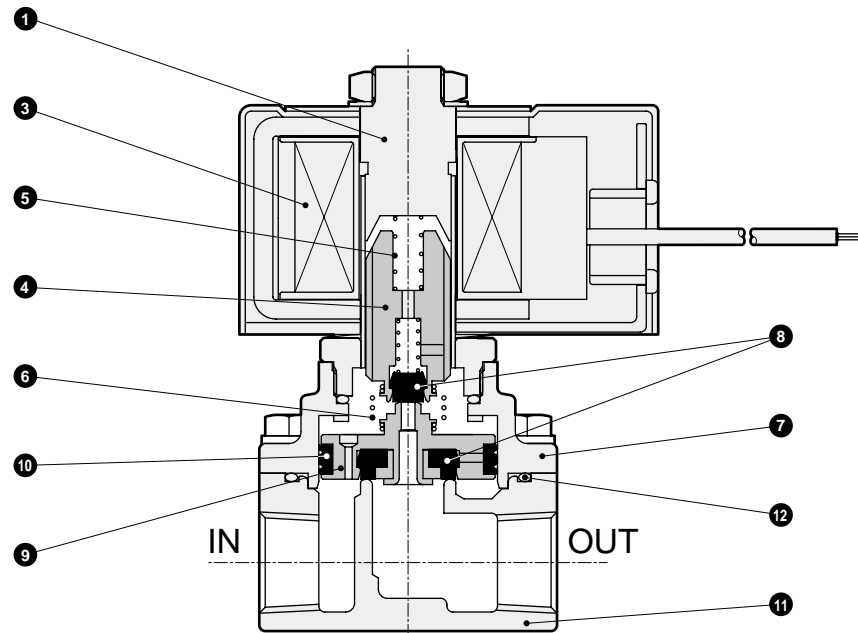
Internal structure and parts list

- EXA
- FWD
- HNB/G
- USB/G
- FAB/G
- FGB/G
- FVB
- FWB/G
- FHB
- FLB
- AB
- AG
- AP/AD
- APK/ADK
- DryAir
- EX-XPLNprf
- XPLNprf
- HVB/HVL
- S \diamond B/NAB
- LAD/NAD
- Water-Rela
- NP/NAP/NVP
- SNP
- CHB/G
- MXB/G
- Other valves
- SWD/MWD
- DustColl
- CVE/CVSE
- CCH/CPE/D
- LifeSci
- Gas-Combus
- Auto-Water
- Outdoor
- SpecFld
- Custom
- Ending

● APK11-8A/10A (AC)



● APK11-8A/10A (DC/diode integrated)



No.	Part name	Material
1	Core assembly	SUS405 or equiv./SUS316L/SUS403 *1
2	Shading coil *2	Cu (Ag for stainless steel body)
3	Coil	-
4	Plunger assembly	SUS405 or equiv./SUS304/NBR (SUS405 or equiv./SUS304/FKM, PFA or PTFE)
5	Plunger spring	SUS304
6	Kick spring	SUS304
7	Body	CAC408(SCS13)
8	Seal	NBR(FKM, PTFE)
9	Main valve assembly	SUS303/SUS304/NBR (SUS303/SUS304/FKM or PTFE)
10	Seal ring set	SUS304/PTFE
11	Body	CAC408(SCS13)
12	O-ring	NBR(FKM, PTFE)

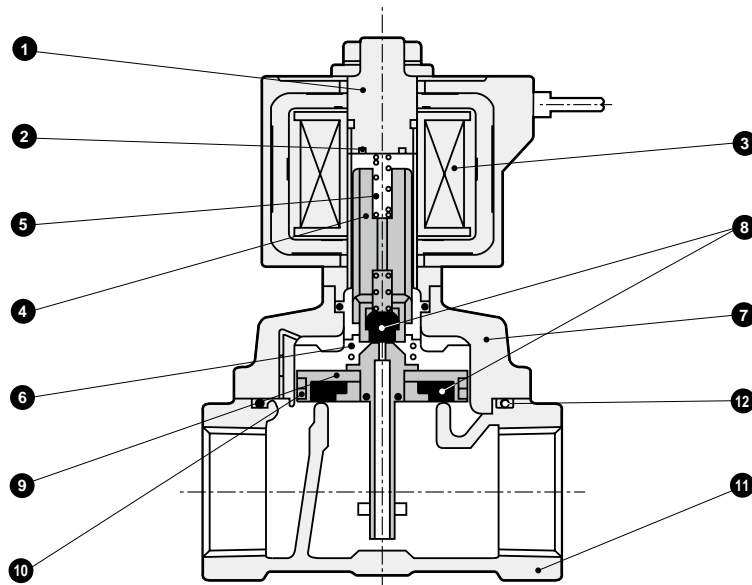
() shows options.

*1 : When the body/sealant combination is other than O and H: SUS405 or equivalent/SUS316L/SUS430.

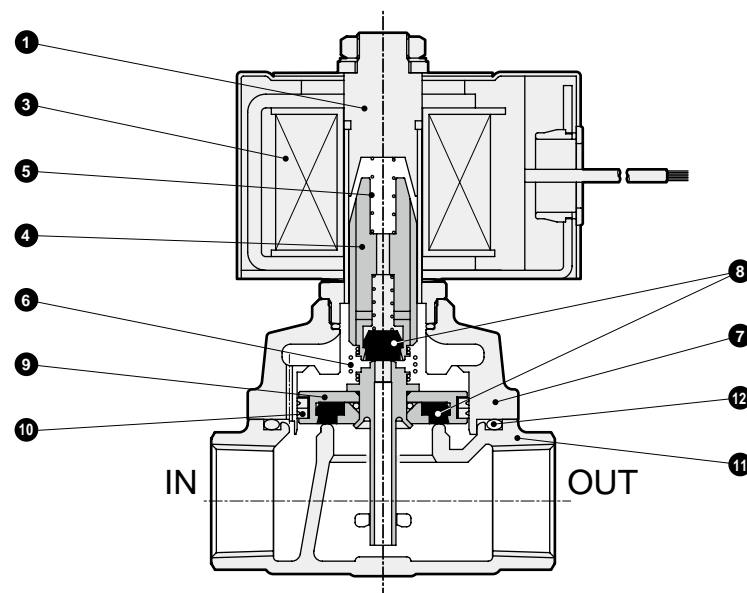
*2 : No shading coil is used for DC coil or coil with diode.

Internal structure and parts list

● APK11-15A/20A/25A (AC)



● APK11-15A/20A/25A (DC/diode integrated)



No.	Part name	Material	
1	Core assembly	SUS405 or equiv./SUS316L/SUS403 *1	Stainless steel
2	Shading coil *2	Cu (Ag for stainless steel body)	Copper (silver for stainless steel body)
3	Coil	-	-
4	Plunger assembly	SUS405 or equiv./SUS304/NBR (SUS405 or equiv./SUS304/FKM, PFA or PTFE)	Stainless steel
5	Plunger spring	SUS304	Stainless steel
6	Kick spring	SUS304	Stainless steel
7	Body	CAC408(SCS13)	Bronze casting (stainless steel casting)
8	Seal	NBR(FKM, PTFE)	Nitrile rubber (fluoro rubber or tetrafluoroethylene resin)
9	Main valve assembly	SUS303/SUS304/NBR (SUS303/SUS304/FKM or PTFE)	Stainless steel
10	Seal ring set	SUS304/PTFE	Stainless steel/tetrafluoroethylene resin
11	Body	CAC408(SCS13)	Bronze casting (stainless steel casting)
12	O-ring	NBR(FKM, PTFE)	Nitrile rubber (fluoro rubber or tetrafluoroethylene resin)

() shows options.

*1 : When the body/sealant combination is other than O and H: SUS405 or equivalent/SUS316L/SUS430.

*2 : No shading coil is used for DC coil or coil with diode.

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/ AD
APK/ ADK
DryAir
EX- XPLNprf
XPLNprf
HVB/ HVL
S ♂ B/ NAB
LAD/ NAD
Water- Rela
NP/NAP/ NVP
SNP
CHB/G
MXB/G
Other valves
SWD/ MWD
DustColl
CVE/ CVSE
CCH/ CPE/D
LifeSci
Gas- Combus
Auto- Water
Outdoor
SpecFld
Custom
Ending

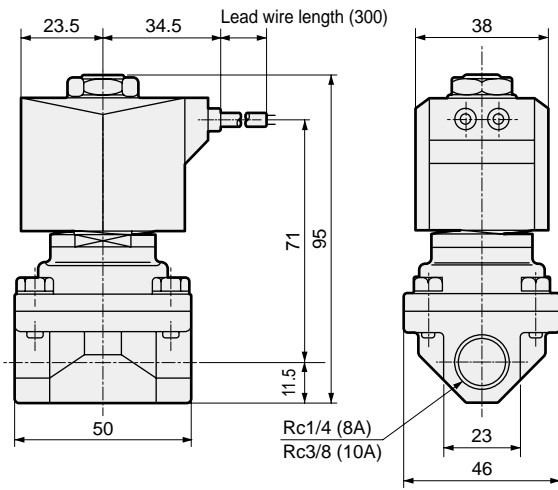
APK11 Series



Dimensions

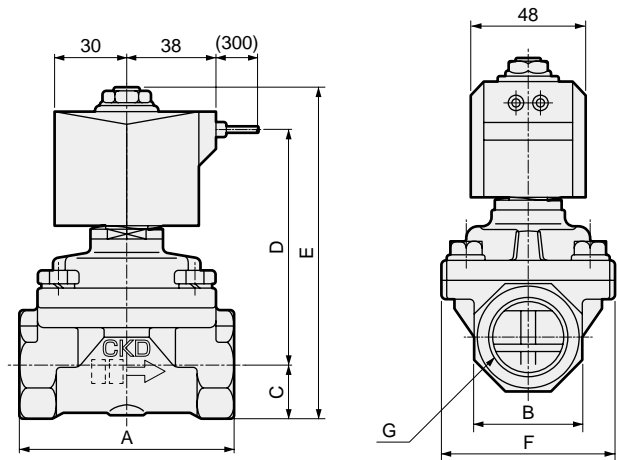
- EXA
- FWD
- HNB/G
- USB/G
- FAB/G
- FGB/G
- FVB
- FWB/G
- FHB
- FLB
- AB
- AG
- AP/AD
- APK/ADK
- DryAir
- EX-XPLNprf
- XPLNprf
- HVB/HVL
- S \diamond B/NAB
- LAD/NAD
- Water-Rela
- NP/NAP/NVP
- SNP
- CHB/G
- MXB/G
- Other valves
- SWD/MWD
- DustColl
- CVE/CVSE
- CCH/CPE/D
- LifeSci
- Gas-Combust
- Auto-Water
- Outdoor
- SpecFld
- Custom
- Ending

● Grommet lead wire
APK11-8A/10A-*2C



*1: The dimensions are the same for port sizes of G and NPT threads.

● Grommet lead wire
APK11-15A/20A/25A-*2C



*1: The dimensions are the same for port sizes of G and NPT threads.

*2: Dimensions shown in () are for stainless steel body.

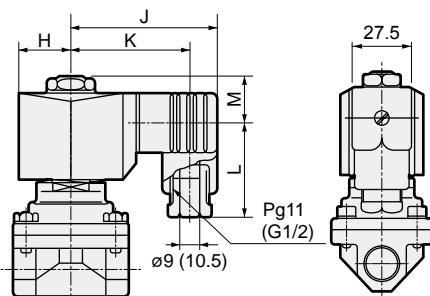
Model No.	A	B	C	D	E	F	G
APK11-15A-*2C	71	27 (29)	14.5	89	119.5	50	Rc1/2
APK11-20A-*2C	80	32 (35)	17.5	93	126.5	60	Rc3/4
APK11-25A-*2C	90	41 (45)	21.5 (22.5)	99	136.5 (137.5)	71	Rc1

Optional dimensions



● With DIN terminal box
APK11-8A to 25A-*

2E
2G
2H



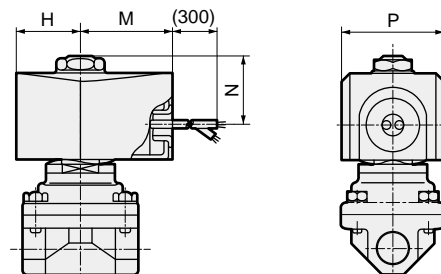
Dimensions shown in () are for G1/2.

Model No.	H	J	K	L	M
APK11-8A/10A	23.5	65.5	54 (53.5)	39 (41)	22
APK11-15A/20A/25A	30	73	61.5 (61)	39 (41)	24

* Refer to the dimensions of grommet lead wire above for common dimensions.

● Open frame lead wire
APK11-8A to 25A-*

3A
4A
5A



Model No.	H	M	N	P
APK11-8A/10A	28	42	29	46
APK11-15A/20A/25A	34	46	33	56

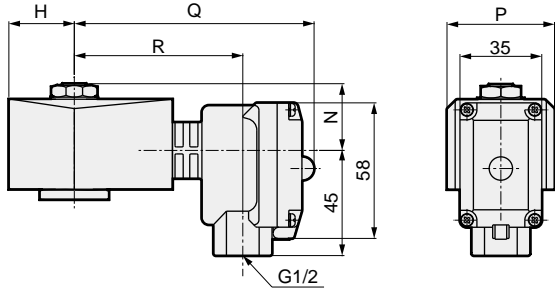
Optional dimensions



* Refer to the dimensions of grommet lead wire on page 298 for common dimensions.

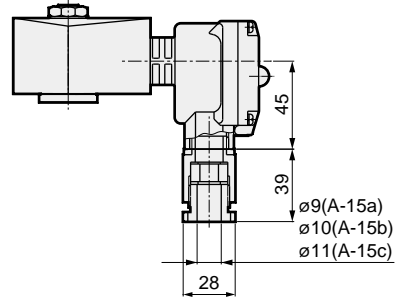
- Open frame + HP terminal box
APK11-8A to 25A-*

3 M
4 N
5



- Open frame + cable gland
APK11-8A to 25A-*

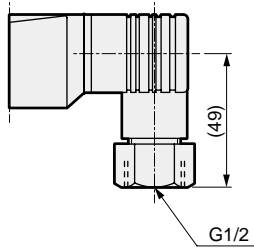
3 M D
4 N E
5 F



Model No.	H	N	P	Q	R
APK11-8A/10A	28	29	46	103	72
APK11-15A/20A/25A	34	33	56	98	68

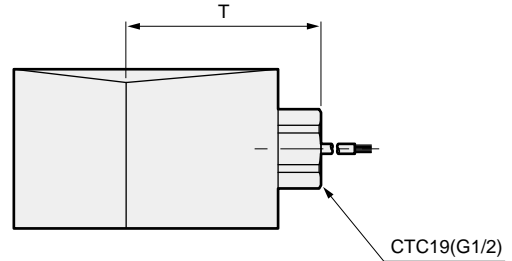
- DIN terminal box with small lamp + conduit (G1/2)
APK11-8A to 25A-*

2H H



- Open frame + conduit
APK11-8A to 25A-*

3A G
4A H
5A



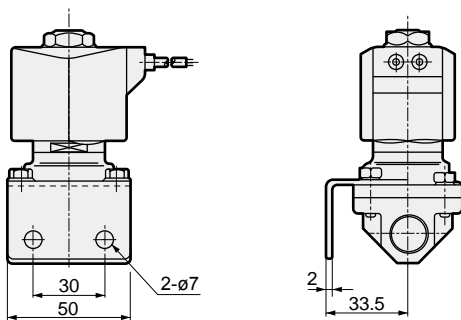
Dimensions shown in () are for G1/2.

Model No.	T
APK11-8A/10A	57(60)
APK11-15A to 25A	59(62)

- Mounting plate
APK11-8A/10A-***

Material: Steel
Zinc plated

B



EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/ AD
APK/ ADK
DryAir
EX- XPLNprf
XPLNprf
HVB/ HVL
S B/ NAB
LAD/ NAD
Water- Rela
NP/NAP/ NVP
SNP
CHB/G
MXB/G
Other valves
SWD/ MWD
DustColl
CVE/ CVSE
CCH/ CPE/D
LifeSci
Gas- Combus
Auto- Water
Outdoor
SpecFld
Custom
Ending



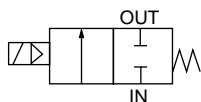
Pilot kick 2-port solenoid valve
General purpose

APK21 Series

- NC (open when energized)
- Port size: Rc1¹/₄ to Rc2, 32 to 50 flange
- Piston drive



JIS symbol



Common specifications

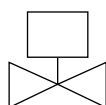
1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item	Standard specifications	Optional specifications
Working fluid	Air/low vacuum (1.33 x 10 ⁵ Pa (abs))/water/kerosene/oil (20mm ² /s or less)	Steam
Working pressure differential MPa	0 to 0.7 (refer to max. working pressure differential in individual specifications.)	
Max. working pressure MPa	1 (≈150 psi, 10 bar)	
Proof pressure (water pressure) MPa	3.2 (≈460 psi, 32 bar)	
Fluid temperature °C	-10 (14°F) to 60 (140°F) (*1)	5 (41°F) to 180 (356°F)
Ambient temperature °C	-10 (14°F) to 60 (140°F)	
Thermal class	Class 130 (B)	Class 180 (H)
Atmosphere	Place free of corrosive gas and explosive gas	
Valve structure	Pilot kick poppet, piston drive	
Valve seat leakage (*2) cm ³ /min(ANR)	1 or less (air)	800 or less (air)
Mounting orientation	Limited to vertical orientation with the coil on top	
Body/seal material	Bronze/nitrile rubber	Bronze/PTFE

*1 : No freezing.

*2 : Value at pneumatic pressure of 0.05 to 0.7 MPa. When used at a pressure less than 0.05 MPa, the sealant may be unstable. Contact CKD in this case.

Mounting orientation



Individual specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item Model No.	Port size	Orifice size (mm)	Min. working pressure differential (MPa)	Max. working pressure differential (MPa)								Rated voltage	Apparent power (VA)				Power consump (W)		Weight (kg)			
				Air		Water/kerosene		Oil (20 mm ² /s)		Steam	When holding		When starting		AC	DC						
				AC	DC	AC	DC	AC	DC	AC	50 Hz		60 Hz	50 Hz	60 Hz	50/60 Hz	DC					
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	64	69	274	289	44/48	20	4.5				
APK21-32F	32 flange										200 VAC 50/60 Hz								8			
APK21-40A	Rc1 ¹ / ₂	43									12 VDC									5.5		
APK21-40F	40 flange	43									24 VDC										9	
APK21-50A	Rc2	53									48 VDC											7
APK21-50F	50 flange	53									100 VDC											

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

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

*3 : The voltage fluctuation range must be within ±10% of the rated voltage.

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

Optional specifications

Sealant	Fluoro rubber		PTFE	
Coil (thermal class)	Class 130 (B)	Class 180 (H)	Class 130 (B)	Class 180 (H)
Fluid temperature °C	5 to 60	5 to 90	-10 to 60 (*1)	5 to 180
Ambient temperature °C	-10 to 60			
Valve seat leakage (*2) cm ³ /min (ANR)	1 or less (air)		800 or less (air)	

*1 : No freezing.

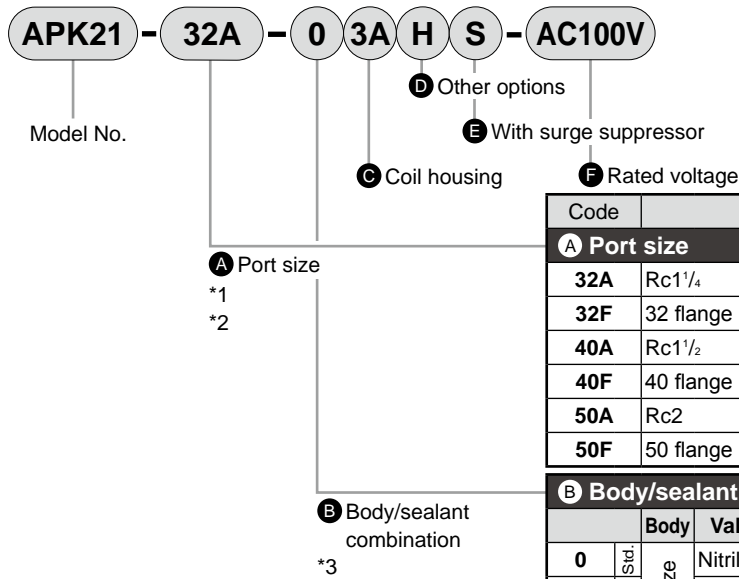
*2 : Value at pneumatic pressure of 0.05 to 0.7 MPa. When used at a pressure less than 0.05 MPa, the sealant may be unstable. Contact CKD in this case.

Flow characteristics

Model No.	Port size	Orifice size (mm)	Cv	Effective cross-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			

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/AD
APK/ADK
DryAir
EX-XPLNprf
XPLNprf
HVB/HVL
S ¹ B/NAB
LAD/NAD
Water-Rela
NP/NAP/NVP
SNP
CHB/G
MXB/G
Other valves
SWD/MWD
DustColl
CVE/CVSE
CCH/CPE/D
LifeSci
Gas-Combus
Auto-Water
Outdoor
SpecFld
Custom
Ending

How to order



Code	Description
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 seal	O-ring	Treatment	Remarks
0	Std. Bronze	Nitrile rubber	Nitrile rubber	-	Air/water/low vacuum/kerosene/oil (up to 60°C)
		Fluoro rubber	Fluoro rubber		Air/vac/kerosene/oil (for 4A,4M,4N: ≤ 90°C)
		PTFE	Fluoro rubber (*3)		Steam (When 4A/4M/4N is selected)
D	Option Stainless steel	Nitrile rubber	Nitrile rubber	-	Air/water/low vacuum/kerosene/oil (up to 60°C)
		Fluoro rubber	Fluoro rubber		Air/vac/kerosene/oil (for 4A,4M,4N: ≤ 90°C)
		PTFE	PTFE (*3)		Steam (When 4A/4M/4N is selected)
H	Option Bronze	Nitrile rubber	Nitrile rubber	Oil-prohibited	Air/water/low vacuum/kerosene/oil (up to 60°C)
		Fluoro rubber	Fluoro rubber		Air/vac/kerosene/oil (for 4A,4M,4N: ≤ 90°C)
		PTFE	Fluoro rubber (*3)		Steam (When 4A/4M/4N is selected)
M	Option Stainless steel	Nitrile rubber	Nitrile rubber	Oil-prohibited	Air/water/low vacuum/kerosene/oil (up to 60°C)
		Fluoro rubber	Fluoro rubber		Air/vac/kerosene/oil (for 4A,4M,4N: ≤ 90°C)
		PTFE	PTFE (*3)		Steam (When 4A/4M/4N is selected)

Refer to Intro Page 39 for reference on material combinations.

C to F

Refer to page 303 for details on the coil housing, other options and voltage, etc.

[Example of model No. 1] APK21-32F-03A-DC24V

Model : APK21

- A** Port size : 32 flange
- B** Body/sealant combination : Body - bronze, valve seal - nitrile rubber
O-ring - nitrile rubber
- C** Coil housing : Open frame lead wire
- D** **E** : None
- F** Rated voltage : 24 VDC

[Example of model No. 2] APK21-50F-B4MD-AC100V

Model : APK21

- A** Port size : 50 flange
- B** Body/sealant combination : Body - bronze, valve seal - fluoro rubber
O-ring - fluoro rubber
- C** Coil housing : Open frame
(Thermal class 180 (H) coil)
HP terminal box (G1/2)
- D** Other options : Cable gland A-15a
- E** Surge suppressor : None
- F** Rated voltage : 100 VAC 50/60 Hz

⚠ Precautions for model No. selection

- *1 : The companion flange is JIS B2210 10K. (Flange is not enclosed with the product and must be purchased separately.)
- *2 : As G and NPT threads can also be used for piping port threads, contact CKD for details.

Notes for **B**



- *3 : When using the PTFE valve seal with thermal class 180(H) coil, the O-ring material is fluoro rubber for steam.


- EXA
- FWD
- HNB/G
- USB/G
- FAB/G
- FGB/G
- FVB
- FWB/G
- FHB
- FLB
- AB
- AG
- AP/AD
- APK/ADK
- DryAir
- EX-XPLNprf
- XPLNprf
- HVB/HVL
- S ⚡ B/NAB
- LAD/NAD
- Water-Rela
- NP/NAP/NVP
- SNP
- CHB/G
- MXB/G
- Other valves
- SWD/MWD
- DustColl
- CVE/CVSE
- CCH/CPE/D
- LifeSci
- Gas-Combus
- Auto-Water
- Outdoor
- SpecFld
- Custom
- Ending

For Items © to ƒ, the combinations indicated with codes are available.
 Note that if options ƒ and ƒ are not required, they should be left blank.

C Coil housing			D Other options				E	F Rated voltage
Description			Cable gland		Conduit		With surge suppressor	Description
			(marine cable gland)		(conduit piping)			
			A-15a	A-15b	A-15c	G1/2		
3A	Open frame	Lead wire (IP65 or equivalent)				H	S	100 VAC, 200 VAC, 12 VDC, 24 VDC, 48 VDC, 100 VDC
3M		With HP terminal box (G1/2)	D	E	F			
3N		HP terminal box with lamp (G1/2)						
4A	Open frame (Thermal class 180 (H))	Lead wire				H	S	100 VAC, 200 VAC
4M		With HP terminal box (G1/2)	D	E	F			
4N		HP terminal box with lamp (G1/2)						
5A	Open frame (diode integrated)	Lead wire (IP65 or equivalent)				H		100 VAC, 200 VAC
5M		With HP terminal box (G1/2)	D	E	F			
5N		HP terminal box with lamp (G1/2)						

⚠ Refer to the following cautions for © to ƒ.

3A 4A 5A		<ul style="list-style-type: none"> ● Open frame lead wire 300 mm ● With CTC19 thread for direct conduit piping
3M 3N 4M 4N 5M 5N		<ul style="list-style-type: none"> ● Open frame HP terminal box ● 4M, 4N (Thermal class 180 (H)) ● 5M, 5N (diode integrated)

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

Refer to page 250 for coil selection.

⚠ Precautions for model No. selection

Notes for ©

*4 : Coils for 5A/5M/5N have a diode to convert AC to DC voltage.

Notes for ƒ/ƒ

- *5 : For Item ƒ, select an option from D, E, F and H.
- *6 : The surge suppressor is attached with the lead wire coil. When selecting a coil with a terminal box, the surge suppressor is mounted in the terminal box.
- *7 : Surge suppressor is incorporated as standard in the coil with diode.
- *8 : Tropicalization (rust-proof coating) is available as a measure against rust. Contact CKD for more information.

Notes for ƒ

- *9 : For voltages other than above, contact CKD.
- *10 : 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.

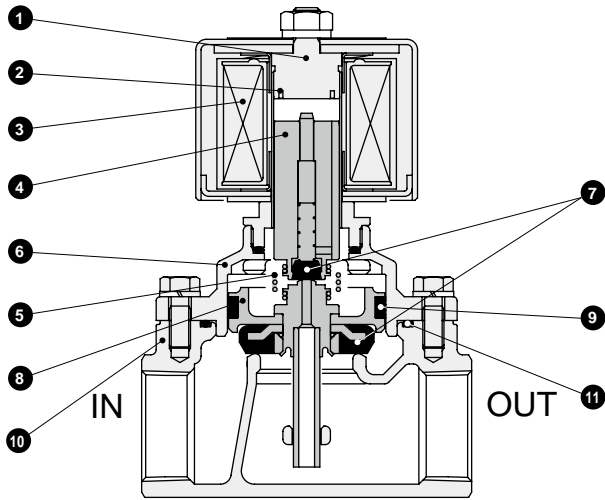
EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/AD
APK/ADK
DryAir
EX-XPLNprf
XPLNprf
HVB/HVL
S ƒ B/NAB
LAD/NAD
Water-Rela
NP/NAP/NVP
SNP
CHB/G
MXB/G
Other valves
SWD/MWD
DustColl
CVE/CVSE
CCH/CPE/D
LifeSci
Gas-Combus
Auto-Water
Outdoor
SpecFld
Custom
Ending

APK21 Series

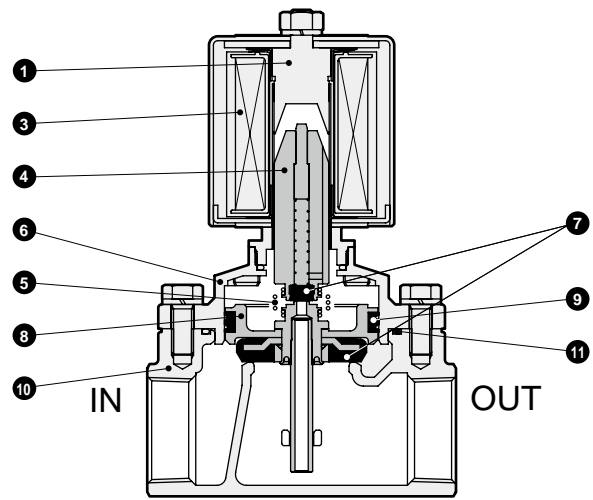
EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/AD
APK/ADK
DryAir
EX-XPLNprf
XPLNprf
HVB/HVL
S◇B/NAB
LAD/NAD
Water-Rela
NP/NAP/NVP
SNP
CHB/G
MXB/G
Other valves
SWD/MWD
DustColl
CVE/CVSE
CCH/CPE/D
LifeSci
Gas-Combus
Auto-Water
Outdoor
SpecFld
Custom
Ending

Internal structure and parts list

● APK21-32A/40A/50A (AC)



● APK21-32A/40A/50A (DC/diode integrated)



No.	Part name	Material
1	Core assembly	SUS405 or equiv./SUS316L/SUS403 ; Stainless steel
2	Shading coil *1	Cu (Ag for stainless steel body) ; Copper (silver for stainless steel body)
3	Coil	- ; -
4	Plunger assembly	SUS405 or equiv./SUS304/C3604/NBR (SUS405 or equiv./SUS304/FKM, PFA or PTFE) ; Stainless steel
5	Kick spring	SUS304 ; Stainless steel
6	Body	CAC408(SCS13) ; Bronze casting (stainless steel casting)
7	Seal	NBR(FKM, PTFE) ; Nitrile rubber (fluoro rubber or tetrafluoroethylene resin)
8	Main valve assembly	SUS303/SUS304/C3604/NBR (SUS303/SUS304/FKM or PTFE) ; Stainless steel/copper alloy (stainless steel)
9	Seal ring set	SUS304/PTFE ; Stainless steel/tetrafluoroethylene resin
10	Body	CAC408(SCS13) ; Bronze casting (stainless steel casting)
11	O-ring	NBR(FKM, PTFE) ; Nitrile rubber (fluoro rubber or tetrafluoroethylene resin)

() shows options.

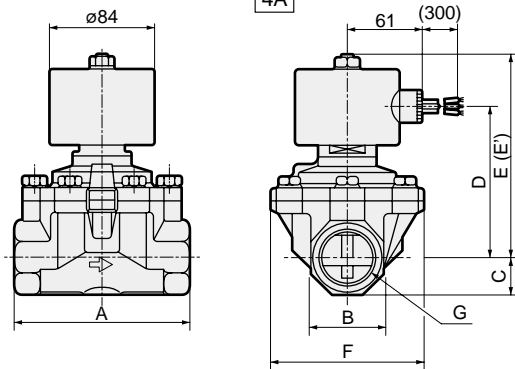
*1 : No shading coil is used for DC coil or coil with diode.

Dimensions



● Open frame lead wire (Rc screw-in)

APK21-32A/40A/50A-*
3A
4A



- Conduit size
Thin steel conduit thread
JIS B 0204 CTC19
- Lead wire

30/0.18(0.75 mm²)

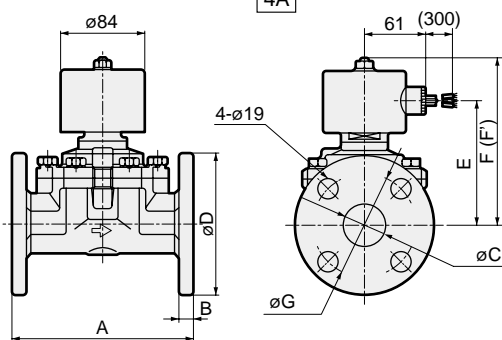
Length 300 mm

The dimension (E') applies only to the APK21-32A/40A/50A-*3A DC specifications.

Model No.	A	B	C	D	E	E'	F	G
APK21-32A-*□A	125	54	27	116.5	158.5	183.5	112	Rc1 ¹ / ₄
APK21-40A-*□A	140	60	30	123.5	165.5	190.5	122	Rc1 ¹ / ₂
APK21-50A-*□A	160	74	37	132.5	174.5	199.5	132	Rc2

● Open frame lead wire (flange)

APK21-32F/40F/50F-*
3A
4A



- Conduit size
Thin steel conduit thread
JIS B 0204 CTC19
- Lead wire

30/0.18(0.75 mm²)

Length 300 mm

The dimension (F') applies only to the APK21-32F/40F/50F-*3A DC specifications.

Model No.	A	B	C	D	E	F	F'	G
APK21-32F-*□A	170	12	36(35)	135	116.5	158.5	183.5	100
APK21-40F-*□A	180	14	42	140	123.5	165.5	190.5	105
APK21-50F-*□A	180	14	53(52)	155	132.5	174.5	199.5	120

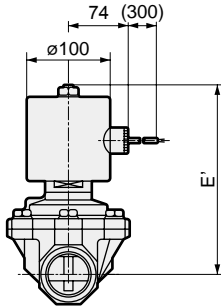
Dimensions shown in () are for stainless steel body.

Optional dimensions



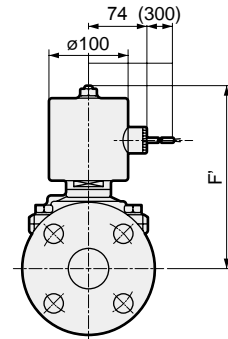
* Refer to the open frame lead wire dimensions on page 304 for common dimensions.

- Open frame diode integrated lead wire (Rc screw-in)
APK21-32A/40A/50A-***5A**



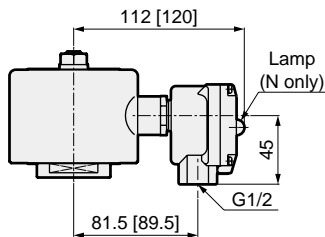
Model No.	E'
APK21-32A-*5A	183.5
APK21-40A-*5A	190.5
APK21-50A-*5A	199.5

- Open frame diode integrated lead wire (flange)
APK21-32F/40F/50F-***5A**



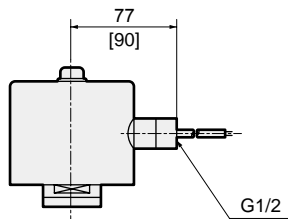
Model No.	F'
APK21-32F-*5A	183.5
APK21-40F-*5A	190.5
APK21-50F-*5A	199.5

- Open frame + HP terminal box
APK21-32^Δ to 50^Δ -***3M**
4N
5



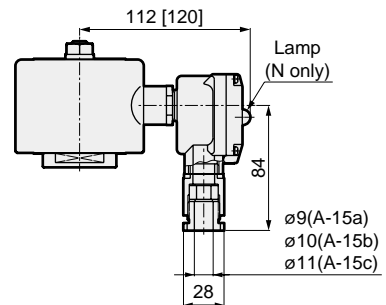
[] shows APK21-32^Δ to 50^Δ -***5M** type.

- Open frame + conduit
APK21-32^Δ to 50^Δ -***3A** H
4A
5A



[] shows APK21-32^Δ to 50^Δ -***5M** type.

- Open frame + cable gland
APK21-32^Δ to 50^Δ -***3M** D
4N E
5 F



[] shows APK21-32^Δ to 50^Δ -***5M** type.

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/AD
APK/ADK
DryAir
EX-XPLNprf
XPLNprf
HVB/HVL
S ^Δ B/NAB
LAD/NAD
Water-Rela
NP/NAP/NVP
SNP
CHB/G
MXB/G
Other valves
SWD/MWD
DustColl
CVE/CVSE
CCH/CPE/D
LifeSci
Gas-Combus
Auto-Water
Outdoor
SpecFld
Custom
Ending