



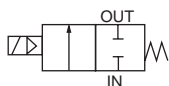
Pilot kick 2-port solenoid valve
(general purpose valve)

ADK11-W Series

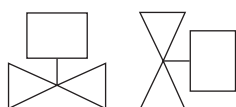
- NC (Normally Closed)
- Port size: Rc1/2 to Rc1
- Diaphragm drive



JIS symbol



Mounting orientation



Common specifications

Item	Standard specifications
Working fluid	Air/low vacuum (1.33×10^3 Pa (abs)/water/kerosene/oil (50mm ² /s or less *2)
Working pressure differential MPa	0 to 1.0 (refer to max. working pressure differential in individual specifications.)
Max. working pressure MPa	2
Proof pressure (water) MPa	4
Fluid temperature °C	Nitrile rubber(D): -20 to 60 (no freezing) Fluoro rubber(E): 5 to 60 (no freezing)
Ambient temperature °C	Nitrile rubber(D): -20 to 60, fluoro rubber(E): -10 to 60
Thermal class	Class 130 (B)
Working environment	Indoors / Outdoors
Atmosphere	A place free of corrosive gases, liquids, chemicals, and explosive gases
Valve structure	Pilot kick poppet, diaphragm drive
Valve seat leakage (*1) cm ³ /min (ANR)	1 or less (air)
Mounting orientation	Usable in a range of vertical to horizontal orientation with the coil on top
Degree of protection	IP65

*1: Value at pneumatic pressure 0.02 to 1.0MPa. When used at a pressure less than 0.02MPa, the operation or sealant may be unstable. Contact CKD in this case.

*2: Dynamic viscosity varies depending on temperature. Check that the dynamic viscosity is 50mm²/s or less within the temperature range being used. When exceeding 50 mm²/s, operation will become unstable.

Individual specifications

Item	Port size	Orifice (mm)	Min. working pressure differential (MPa)	Max. working pressure differential (MPa)			Rated voltage	Apparent power (VA)				Power consumption (W)	Weight (kg)
				Air	Water/kerosene	Oil (50mm ² /s)		When holding	When starting	AC			
Model No.				AC	AC	AC		50Hz	60Hz	50Hz	60Hz	50/60Hz	
NC (open when energized)													
ADK11-15A	Rc1/2	16	0	1	1	0.6	100 VAC 50/60Hz 200 VAC 50/60Hz	25	21	84	75	10/8.5	1.2
ADK11-20A	Rc3/4	23											1.3
ADK11-25A	Rc1	28											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 $\pm 10\%$ of the rated voltage.

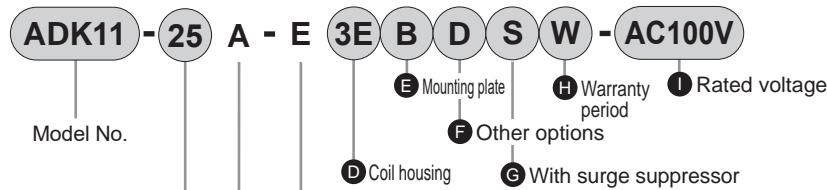
*3: When using at low vacuum, vacuum the OUT port side.

Flow characteristics

Model No.	Port size	Orifice size(mm)	Flow characteristics			
			C[dm³/(s·bar)]	b	Cv	S (mm²)
NC (open when energized)						
ADK11-15A	Rc1/2	16	20	0.31	4.5	-
ADK11-20A	Rc3/4	23	-	-	8.6	162
ADK11-25A	Rc1	28	-	-	12.0	231

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

How to order



Code	Description		
A Port size			
15	1/2		
20	3/4		
25	1		
B Thread			
A	Rc		
C Body/sealant combination			
	Body	Seal	Remarks
D	Stainless	Nitrile rubber *5	air/water/low vacuum/kerosene/oil
E	steel	Fluoro rubber *5	air/water/low vacuum/kerosene/oil
D to I			
Refer to the following table for details on the coil housing, other options, voltage, etc.			
H Warranty period			
W	1 year after delivery		
WG	3 years after delivery *3, *4 (with inspection certificate, inspection guidelines, traceability system diagram)		

[Example of model No. 1]

ADK11-15A-E3EWG-AC100V

- A** Port size : 1/2
- B** Thread : Rc
- C** Body/sealant combination : Body - stainless steel, sealant - fluoro rubber
- D** Coil housing: Open frame with round terminal box
- E** to **G** : None
- H** Warranty period : 3 years after delivery
- I** Rated voltage : 100 VAC 50/60Hz, 110 VAC 60Hz

For Items ① to ⑩, the combinations indicated with codes are available.

Note that if options for Items ③ to ⑥ are not required, it should be blank.

D Coil housing			E	F Other options			G	I Rated voltage
Description			Mounting plate	Cable gland			With surge suppressor	Description
				(marine cable gland)				
				A-15a	A-15b	A-15c		
3E	Open	With round terminal box (G1/2)	B	D	E	F	S	100 VAC, 200 VAC
3L	Frame type	Round terminal box with lamp(G1/2)						

⚠ Refer to the following cautions for Items ③ to ⑩.

⚠ Precautions for model No. selection

Notes for Items ③ to ⑥

- *1: For Item ⑤, select an option from D, E and F.
- *2: The surge suppressor is mounted in the terminal box.
- *3: The warranty period of option WG is guaranteed for a period of three years from the date of delivery or for a period of one year from the start of use, whichever comes first.
- *4: For option WG, the specifications and drawings must be exchanged. Refer to page 101.
- *5: The ambient temperature for option D is -20°C to 60°C. For option E, the ambient temperature is -10°C to 60°C.

Notes for Item ⑩

- *6: 100 VAC coil can be used at 100 VAC 50/60Hz and 110 VAC 60Hz, and 200 VAC coil can be used at 200 VAC 50/60Hz and 220 VAC 60Hz.

Dimensions: ADK11-W Series

- Open frame + round terminal box
ADK11-15A/20A/25A-*

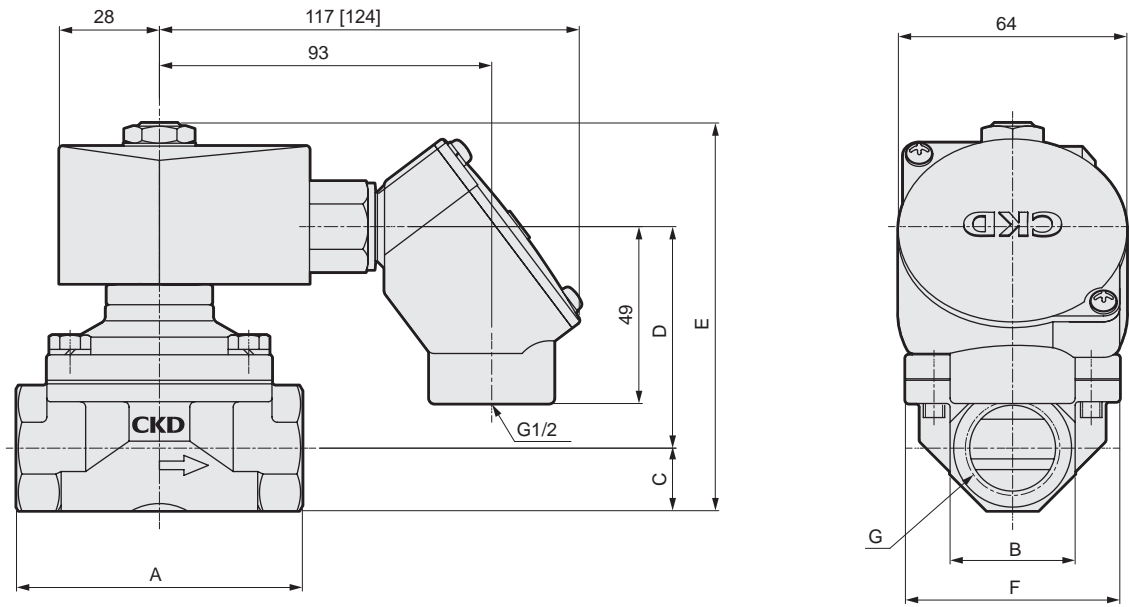
3E

3L

Values in [] are for the the ADK11-15A/20A/25A-*

3L

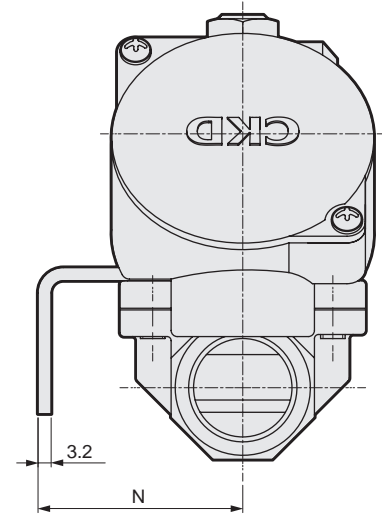
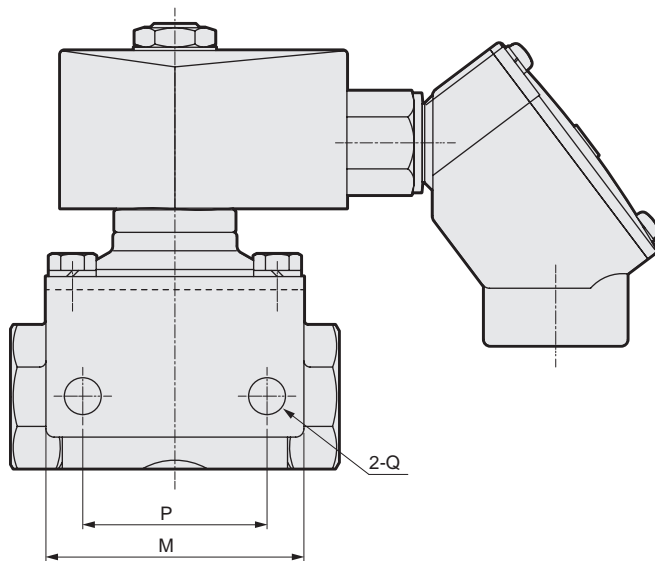
 type.



Model No.	A	B	C	D	E	F	G
ADK11-15A-*3E/3L	71	29	14.5	58.5	102	50	Rc1/2
ADK11-20A-*3E/3L	80	35	17.5	62	108.5	60	Rc3/4
ADK11-25A-*3E/3L	90	45	22.5	67.5	119	71	Rc1

Dimensions: ADK11-W Series

- Mounting plate
ADK11-15A/20A/25A-*B

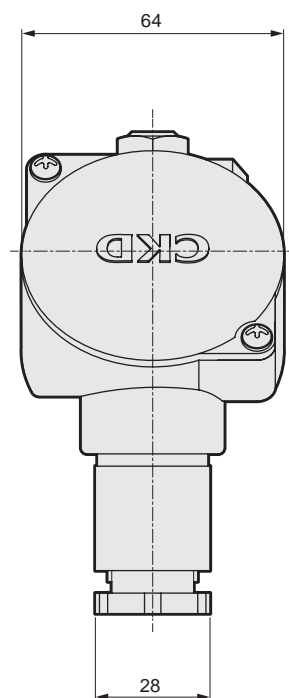
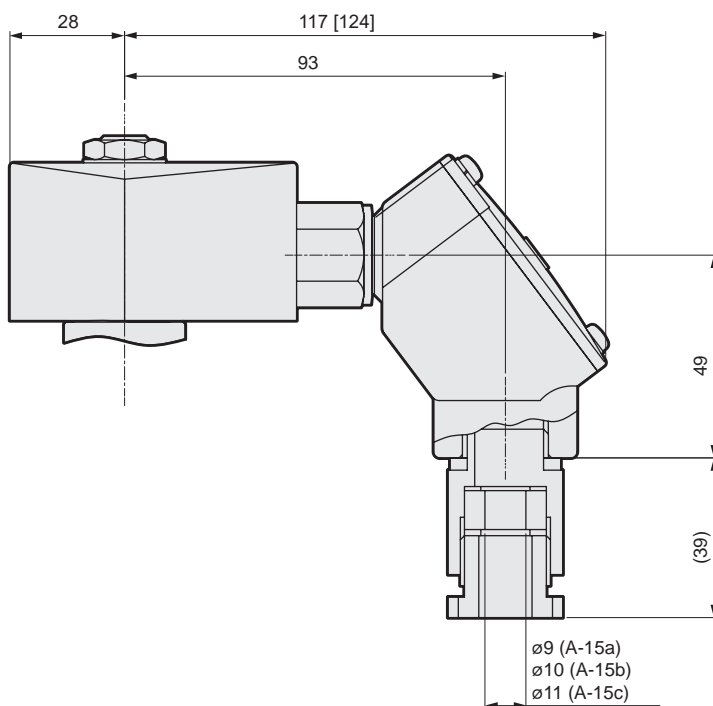


Model No.	M	N	P	Q
ADK11-15A-*3E/3LB	56	45	40	ø9
ADK11-20A-*3E/3LB	63	50	45	ø9
ADK11-25A-*3E/3LB	75	56	50	ø11

- Open frame + round terminal box + cable gland
ADK11-15A/20A/25A-*3ED

3LEF

Values in [] are for the the ADK11-15A/20A/25A-*3L type.





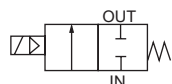
Pilot kick 2-port solenoid valve
General purpose

ADK21-W Series

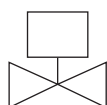
- NC (Normally Closed)
- Port size: Rc1¹/₄ to Rc2, 32 to 50 flange
- Diaphragm drive



JIS symbol



Mounting orientation



Common specifications

Item	Standard specifications
Working fluid	Air/low vacuum (1.33 × 10 ³ Pa (abs)/water/kerosene/oil (50mm ² /s or less *2)
Working pressure differential MPa	0 to 0.7 (refer to max. working pressure differential in individual specifications.)
Max. working pressure MPa	1
Proof pressure (water) MPa	3.2
Fluid temperature °C	Nitrile rubber (D): -20 to 60 (no freezing) Fluoro rubber (E): 5 to 60 (no freezing)
Ambient temperature °C	Nitrile rubber (D): -20 to 60, fluoro rubber (E): -10 to 60
Thermal class	Class 130 (B)
Working environment	Indoors/outdoors
Atmosphere	A place free of corrosive gases, liquids, chemicals, and explosive gases
Valve structure	Pilot kick poppet, diaphragm drive
Valve seat leakage (*1) cm ³ /min (ANR)	1 or less (air)
Mounting orientation	Limited to vertical orientation with the coil on top
Degree of protection	IP65

*1: Value at pneumatic pressure 0.02 to 0.7MPa. When used at a pressure less than 0.02 MPa, the sealant may be unstable. Contact CKD in this case.

*2: Dynamic viscosity varies with temperature. Check that the dynamic viscosity is 50mm²/s or less within the temperature range being used. When exceeding 50 mm²/s, operation will become unstable.

Individual specifications

Item	Connection Bore size	Orifice size (mm)	Min. working pressure differential (MPa)	Max. working pressure differential (MPa)			Rated voltage	Apparent power (VA)				Power consumption (W)	Weight (kg)
				Air	Water/kerosene	Oil (50mm ² /s)		When holding		When starting			
				AC	AC	AC		50Hz	60Hz	50Hz	60Hz		
ADK21-32A	Rc1 1/4	35	0	0.7	0.7	0.5	100 VAC 50/60Hz 200 VAC 50/60Hz	64	69	274	289	44/48	4.5
ADK21-32F	32 flange												7.5
ADK21-40A	Rc1 1/2	43											5.5
ADK21-40F	40 flange												8.5
ADK21-50A	Rc2	53											6.5
ADK21-50F	50 flange												10.5

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

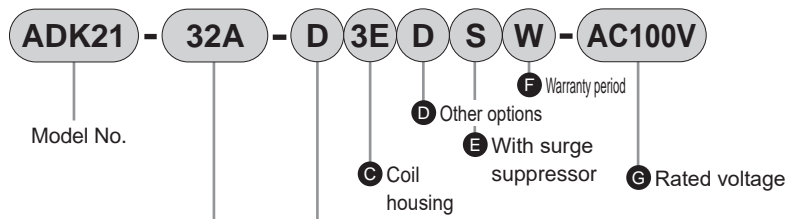
*2: The voltage fluctuation range must be within ±10% of the rated voltage.

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

Flow characteristics

Model No.	Port size	Orifice size (mm)	Cv	Effective cross-sectional area (mm ²)
ADK21-32A	Rc1 ¹ / ₄	35	25	460
ADK21-32F	32 flange			
ADK21-40A	Rc1 ¹ / ₂	43	34	625
ADK21-40F	40 flange			
ADK21-50A	Rc2	53	53	975
ADK21-50F	50 flange			

How to order



Code	Description		
A Port size			
32A	Rc1¼		
32F	32 flange		
40A	Rc1½		
40F	40 flange		
50A	Rc2		
50F	50 flange		
B Body/sealant combination			
	Body	Seal	Remarks
D	Stainless	Nitrile rubber	*6 air/water/low vacuum/kerosene/oil
E	steel	Fluoro rubber	*6 air/water/low vacuum/kerosene/oil
C to G			
Refer to the following table for details on the coil housing, other options, voltage, etc.			
F Warranty period			
W	1 year after delivery		
WG	3 years after delivery *4*5 (with inspection certificate, inspection guidelines, traceability system diagram)		

[Example of model No. 1]

ADK21-50F-E3EWG-AC100V

Model: ADK21

- A** Port size : 50 flange
- B** Body/sealant combination : Body - stainless steel, sealant - fluoro rubber
- C** Coil housing : Open frame with round terminal box
- D** **E** : None
- F** Warranty period : 3 years after delivery
- G** Rated voltage : 100 VAC 50/60Hz

For Items **C** to **G**, the combinations indicated with codes are available.
Note that if options for Items **D** to **E** are not required, it should be blank.

C Coil housing			D Other options			E	G Rated voltage
Description			Cable gland (marine cable gland)			With surge suppressor	Description
			A-15a	A-15b	A-15c		
			D	E	F		
3E	Open	With round terminal box (G1/2)				S	100 VAC, 200 VAC
3L	Frame type	Round terminal box with lamp (G1/2)					

⚠ Refer to the following cautions for Items **A** to **G**.


⚠ Precautions for model No. selection

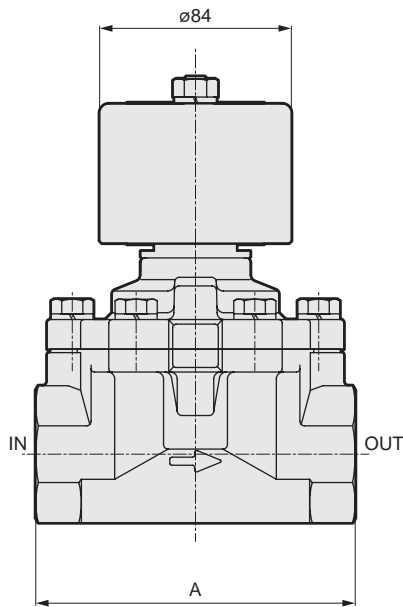
Notes for Items **A** to **F**

- *1: The companion flange is JIS B2210 10K. (Flange is not included with the product and must be purchased separately.)
- *2: For Item **D**, select an option from D, E and F.
- *3: The surge suppressor is mounted in the terminal box.
- *4: The warranty period of option WG is guaranteed for a period of three years from the date of delivery or for a period of one year from the start of use, whichever comes first.
- *5: For option WG, the specifications and drawings must be exchanged. Refer to page 101 for details.
- *6: For option D, the ambient temperature is -20°C to 60°C.
For option E, the ambient temperature is -10°C to 60°C.

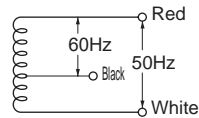
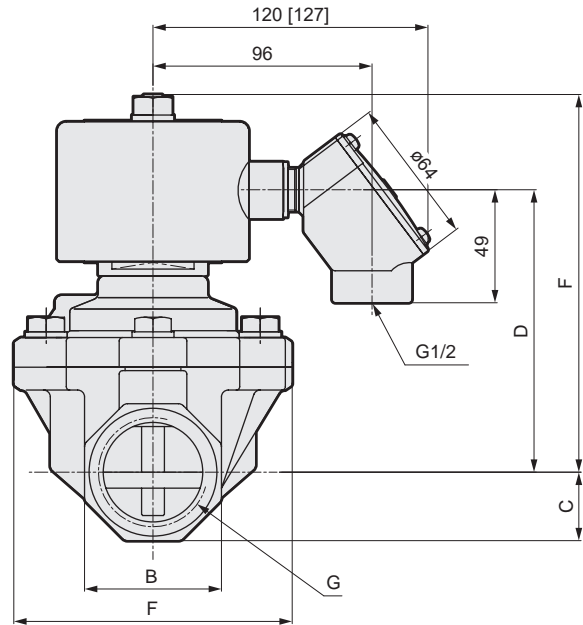
ADK21-W Series

Dimensions


- Open frame + round terminal box (Rc screw-in)
ADK21-32A/40A/50A-* 

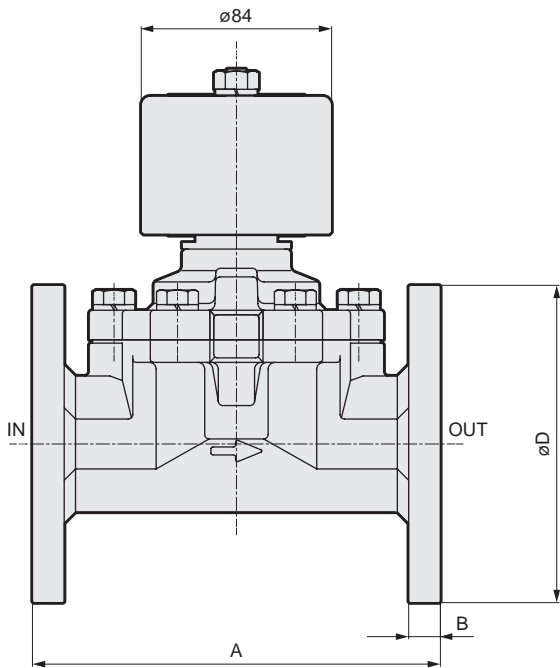


Model No.	A	B	C	D	E	F	G
ADK21-32A	125	54	27	116.5	158.5	112	Rc1 ¹ / ₄
ADK21-40A	140	60	30	123.5	165.5	122	Rc1 ¹ / ₂
ADK21-50A	160	74	37	132.5	174.5	132	Rc2

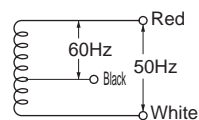
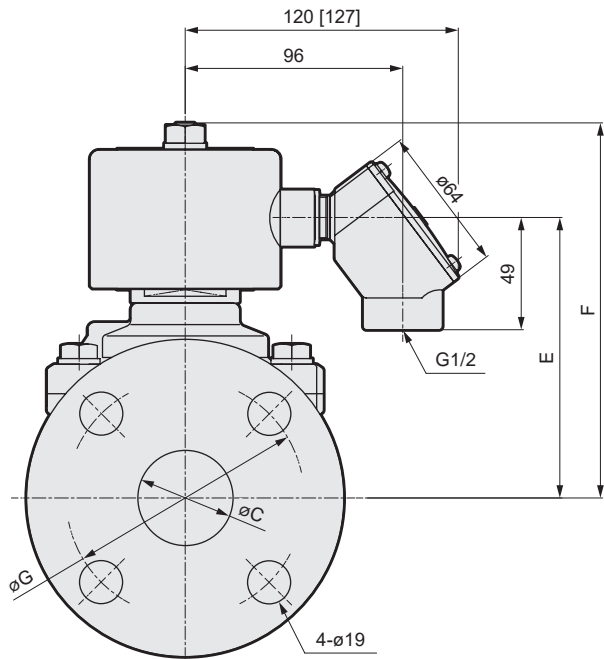


- Conduit size
Thin steel conduit thread
JIS B 0204 CTC19

- Open frame + round terminal box (flange)
ADK21-32F/40F/50F-* 



Model No.	A	B	C	D	E	F	G
ADK21-32F	170	12	35	135	116.5	158.5	100
ADK21-40F	180	14	42	140	123.5	165.5	105
ADK21-50F	180	14	52	155	132.5	174.5	120



- Conduit size
Thin steel conduit thread
JIS B 0204 CTC19

Optional dimensions

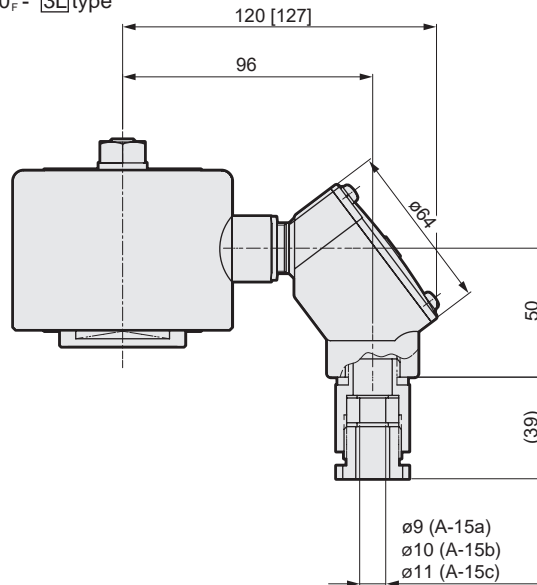


- Open frame + round terminal box + cable gland

ADK21-32^A_F to 50^A_F-*

3E	D
3L	E
	F

Values in [] are for the ADK21-32^A_F to 50^A_F-* **3L** type



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