



2.4 The APK series fluid valve

This series includes APK 11 series pilot two-pass solenoid valve and APK 21 series piston multi-media angle seat valve, which is widely used in washing, injection molding and other processing and manufacturing industries with steam as fluid, with stable performance and long service life.

APK11 series 2-way solenoid pilot valve

Summary

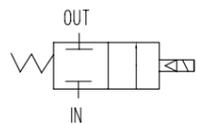
A pilot-jump two-way piston-driven solenoid valve that supports multiple fluids

Product feature

- Use a wide pressure range, from vacuum 10Torr to high pressure 1MPa
- The direction of wiring is free
- Installation ranges from the coil to the horizontal range (with pressure 0.05MPa)
- The piston action is sensitive, reliable and stable performance
- The piston guide is made of PTFE material with long service life



Diagram



Technical parameter

General technical parameter		
Item	Spec.Parameter of standard parts	Spec.parameter of optional parts
Work media	Air、insert Gas、 vacuum(10Torr), water、 kerosene、 oil (less than 20cst)	Warm water、 steam
Operating pressure range ¹⁾ MPa	0~1	
Max.operating pressure MPa	1	
Pressure resistance (water pressure) MPa	4	
Fluid temperature ²⁾ °C	-10...+60	+5...+180
Ambient temperature °C	-10...+60	
Operating circumstances	Place without corrosive gas or explosive gas	
Design	The APK 01 is of the direct-moving type; APK 11 is a leader jump lift structure with piston drive.	
Carrier leakage ³⁾ ml/min	0	< 300 (Air)
Type of mounting	Limit the vertical mounting from the coil up to the horizontal mounting	

Note
 1): Model difference is slightly different, please refer to the highest action pressure of the model and specification parameters
 2): Do not freeze
 3): Value at air pressure 0.05 ~ 0.7MPa.When using below 0.05MPa, the sealing performance is not stable, please consult our company.
 When the fluid is steam, the seal shall choose PTFE

Code and specification parameters

Code ¹⁾	Port size	Diameter mm	Effective cross section area mm ² (Cv value)	Mini working pressure MPa	Ultimate working pressure (MPa)								Ultimate working pressure MPa	Power	
					Air		Water/ kerosene		Oil (20cst)		vapor			AC(VA)	DC(W)
					AC	DC	AC	DC	AC	DC	AC	DC			
APK01-08A-* △□ ²⁾	G1/4	3	6 (0.31)	0	1	0.8	1	0.8	0.8	0.8	1	2	13	10	
APK11-08G-* △□	G1/4	12	35 (2.2)										22	15	
APK11-10G-* △□	G3/8	12	46 (2.7)										22	15	
APK11-15G-* △□	G1/2	16	88 (4.5)										24	18.5	
APK11-20G-* △□	G3/4	23	162 (8.6)										33	25	
APK11-25G-* △□	G1	28	231 (12)	33	25										

Note 1) *, △, □ refer to model selection; 2) APK 01-08A is derived,pipe diameter G1 / 4

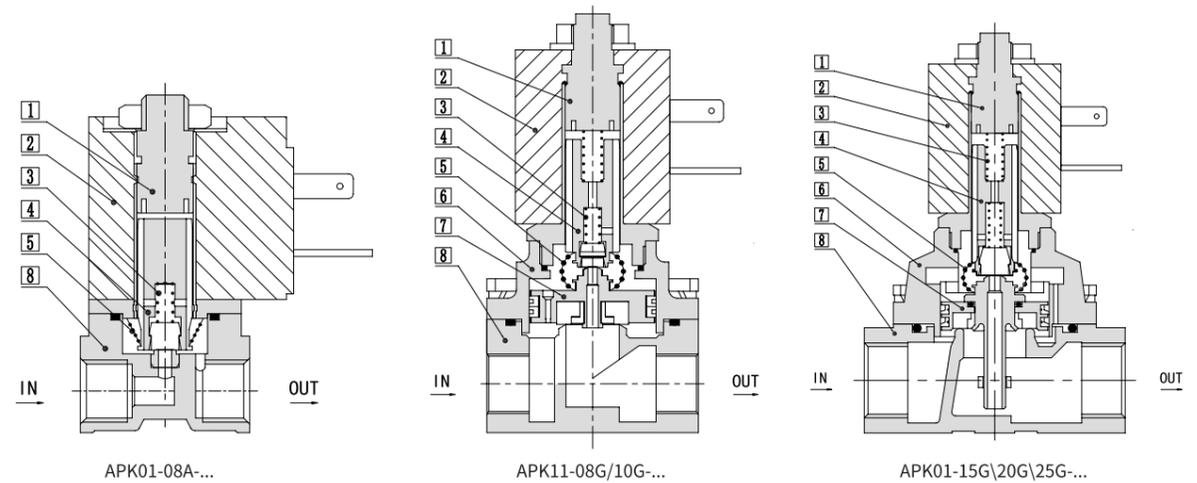
- APK11 series 2-way solenoid pilot valve

Model selection

APK 11 series two-way valve	-08G		-0		G		3	
	①		②		③		④	
①	-Code		08G	10G	15G	20G	25G	
	Diameter		G1/4	G3/8	G1/2	G3/4	G1	
②	-*Represents the valve body seal material combination code							
	Code	Body	Seal	Remark				
	0 ¹⁾	Stannous bronze	BNR	Air、 coal gas、 vacuum、 water、 kerosene				
	B	Stannous bronze	FKM	For Heat-Resistance				
	C	Stannous bronze	PTFE/FKM	For vapor				
	D	Stainless steel	BNR	For Corrosive fluid				
	E	Stainless steel	FKM	For heat resistance, and for corrosive fluids				
F	Stainless steel	PTFE	Solvent type, used for corrosive fluids					
③	△ Represent electrical connection mode:							
	Code	G	D	DZ				
	Electrical connection mode	Direct line	DIN socket-type	DIN socket type with indicator and over voltage inhibitor				
	□ Represents the used voltage:							
④	Code	3	4	5	6			
	Voltage	AC110V	AC220V	DC24V	DC12V			

Note 1) : Standard type

Structure diagram



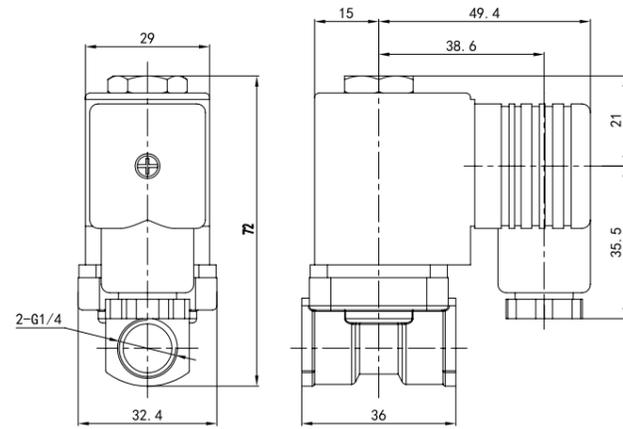
Number	Name	Material
1	Fixed core	Copper, stainless steel
2	Coil	Resin, grade H, enameled wire
3	Spring	Stainless steel
4	Moved core	Stainless steel、 PTFE

Number	Name	Material
5	Spring	Stainless steel
6	Valve carrier	Stannous bronze
7	Main components	Stainless steel、 PTFE
8	Body	Stannous bronze

- APK11 series 2-way solenoid pilot valve

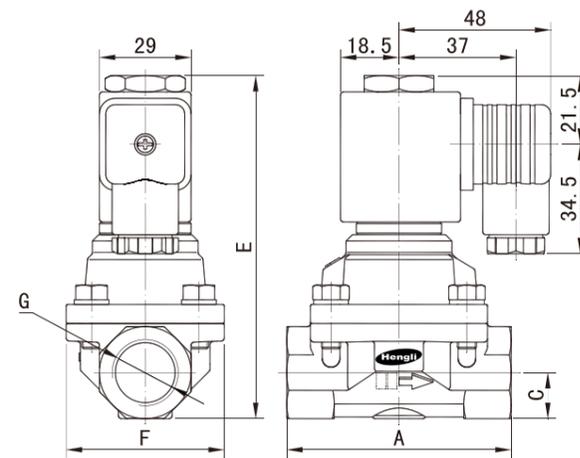
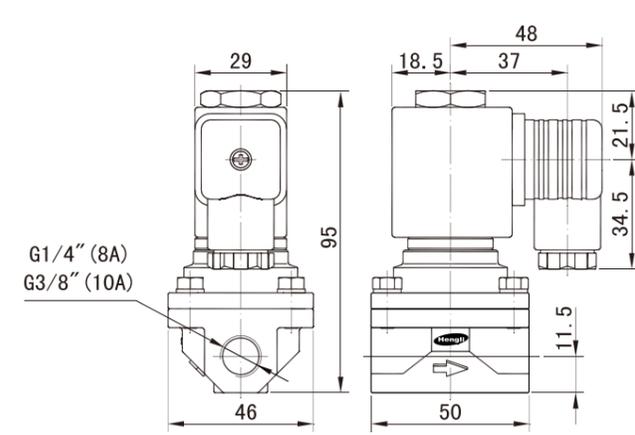
· Dimensions

APK01-08A-...



APK11-08G/10G-...

APK11-15G\20G\25G-...



Type	A	C	E	F	G
APK11-15G-*D □	71	14.5	119.5	50	G1/2
APK11-20G-*D □	80	17.5	126.5	60	G3/4
APK11-25G-*D □	90	22.5	137.5	71	G1

APK21 Series piston-type multi-medium angle seat valve

· Summary

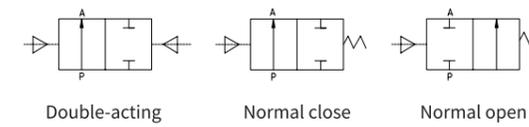
This series of corner seat valve is an external pilot control, driven by single action or double action piston actuator, nominal diameter ϕ 15-65, various installation methods, valve body material is optional, suitable for multi-media fluid.



· Product features

- Equipped with on/off state scope
- External pneumatic pilot, can prolong the service life, maintenance-free
- There is a self-adjusting sealing pressure cover between the overflow port and the slider, with good sealing performance
- Valve body corner seat structure, can achieve large flow, fast response

· Diagram



· Model selection

APK21 Series angle seat valve	-D	15	B	-L	-63	F
	①	②	③	④	⑤	⑥
①	- Valve body	D	Stannous bronze	N	Stainless steel	
②	Diameter: 15 20 25 32 40 50 65					
③	Circuit type	B	Normal close	C	Normal open	S
④	-Connection type	L	Screw Type	F	Flange type	H
⑤	- Size of actuator: 50 63 100 125					
⑥	Whether to take the valve	F	With control valve		No	

· Technical parameter

Diameter (mm)	Port screw thread	Kv value [m ³ /h]	Max operating pressure [MPa]	Required mini control pressure [MPa]	Actuator dimension [φmm] ¹⁾		Flow direction ²⁾
					Polyamide	Aluminium alloy	
15	G1/2	4.2	0 ~ 1.6	0.39	50	—	Direction A or Direction B
20	G3/4	8	0 ~ 1.1	0.39	50	—	
25	G1	19	0 ~ 1.1	0.42	63	—	
32	G1 1/4	27.5	0 ~ 1.5	0.5	63	100	
40	G1 1/2	42	0 ~ 1.25	0.44	63	100	
50	G2	55	0 ~ 1.0	0.4	—	125	
65	G2 1/2	90	0 ~ 0.52	0.4	—	125	

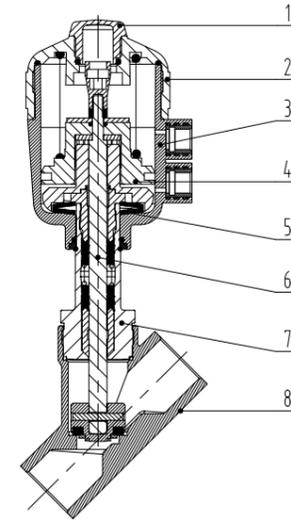
Note 1) Actuator selection: For the product with 15 / 20 / 25 diameter, the working pressure must be below 0.3MPa, otherwise the double-action actuator must be selected. 2) Flow direction selection: flow direction A, can improve the service life of the product, when the working medium is liquid, select the flow direction can be waterproof hammer impact. Flow direction B, when the working medium is steam or gas, the fluid sealing

-APK21 Series piston-type multi-medium angle seat valve

·Structure diagram

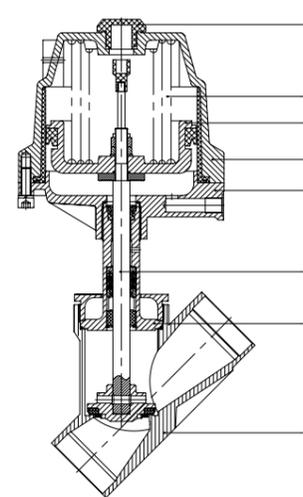
Actuator -polyamide

Actuator -polyamide φ50、 63		
	Name	Material
[1]	Indication window	Transparent polycarbonate
[2]	Upper cover	Polyamide
[3]	Housing	Polyamide
[4]	Piston	6082
[5]	Butterfly spring	55CrSi
[6]	Piston rod	316L
[7]	Connector	316L
[8]	Valve carrier	316L



Actuator -aluminum alloy

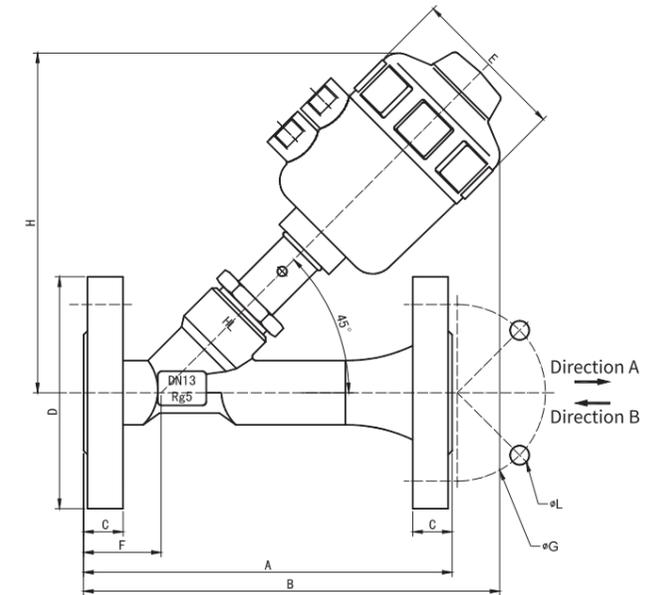
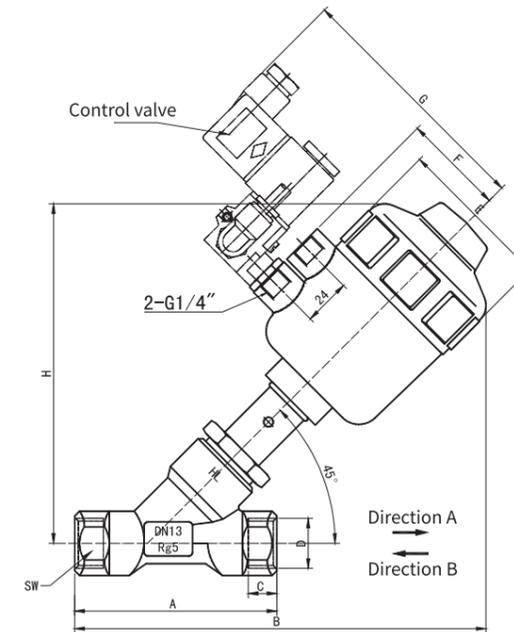
Actuator -aluminum alloy φ100、 125		
	Name	Material
[1]	Indication window	Transparent polycarbonate
[2]	Upper cover	Cast aluminium
[3]	Housing	Cast aluminium
[4]	Piston	6082
[5]	Middle spring	55CrSi
[6]	Piston rod	316L
[7]	Connector	316L
[8]	Valve carrier	316L/bronze



-APK21 Series piston-type multi-medium angle seat valve

·Dimensions

Thread size Flange shape dimensions



Thread size																					
Diameter	Port screw thread D	Actuator size φ[mm]		A			B		C	φE		F		G ¹⁾		H		J		L	SW
		Polyamid	Aluminium alloy	Polyamid	Aluminium alloy	Polyamid	Aluminium alloy	Polyamid		Aluminium alloy	Polyamid	Aluminium alloy	Polyamid	Aluminium alloy	Polyamid	Aluminium alloy					
15	G1/2	50	-	85	173	-	12	64	-	44	-	112	-	137	-	24	-	33	27		
20	G3/4	50	-	95	178	-	12	64	-	44	-	112	-	145	-	24	-	35	32		
25	G1	63	-	105	212	-	14	80	-	52	-	120	-	173	-	24	-	40	41		
32	G1 1/4	63	100	142	236	276	16	80	140	52	70	120	138	189	250	24	116	41	50		
40	G1 1/2	63	100	130	230	270	18	80	140	52	70	120	138	189	250	24	116	32	55		
50	G2	63	125	150	238	300	20	80	170	52	83	120	151	250	260	24	121	38	70		
65	G2 1/2	-	125	250	-	360	22	-	170	-	83	-	151	-	300	-	121	64	85		

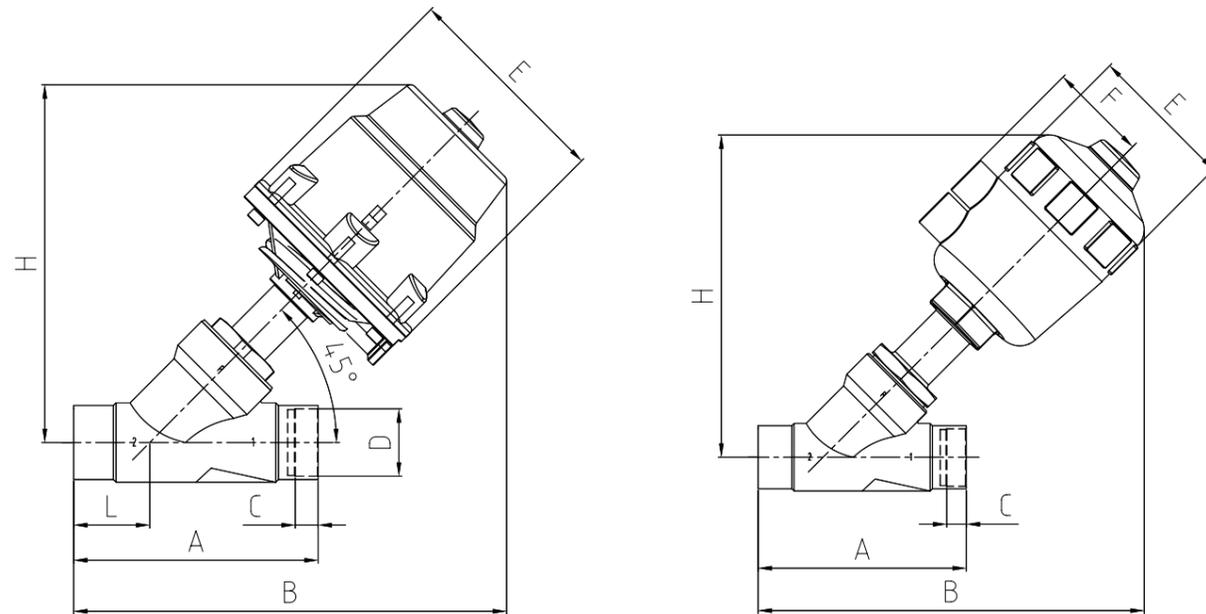
Note 1):The sizes of control valve, flange and welding type (F \ G)are same

Flange shape dimensions															
Diameter	D	Actuator size φ[mm]		A	B		C	φE		F	φG	H		φL	
		Polyamid	Aluminium alloy		Polyamid	Aluminium alloy		Polyamid	Aluminium alloy			Polyamid	Aluminium alloy		
15	95	50	-	130	175	-	14	64	-	29	65	145	-	14	
20	105	50	-	150	185	-	16	64	-	36	75	152	-	14	
25	115	63	-	160	212	-	16	80	-	35	85	177	-	14	
40	150	63	100	200	238	297	16	80	140	44	110	195	253	18	
50	165	63	125	230	265	345	18	80	170	60	125	206	285	18	
65	180	-	125	220	-	295	16	-	170	50	145	-	336	18	

-APK21 Series piston-type multi-medium angle seat valve

- Dimensions

Welded shape dimensions



Diameter	D	Actuator size ϕ (mm)		A	B		C	ϕE		F	G	H		L
		Polyamid	Aluminium alloy		Polyamid	Aluminium alloy		Polyamid	Aluminium alloy			Polyamid	Aluminium alloy	
32	38.5	63	100	145	237.5	281	12.5	80	140	70	138	189	237	50
40	44.2	63	100	160	245	285	15	80	140	70	138	189	237	50
50	55	63	125	175	250.5	314	15	80	170	83	151	250	270	50
65	71.5	-	125	210	-	330	25.5	-	170				286	50

· Installation and maintenance

The applicable safety specifications must be followed:



- 1.1. The pipes must be clean and pollution-free.
2. Install as needed, but preferably with the actuator facing up. Pay attention to the flow.
3. Connect the valve to the pipe and remove the actuator only by the user.
4. Cut off the fluid and control the air source and reduce the pressure in the piping system before opening or repairing the corner seat valve.

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