

Series variation



Cylinder with valve CAV2/COV^P_N2 Series

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

Variation	Model No. JIS symbol	Bore size (mm)	Standard stroke (mm)						Min. stroke (mm)	Max. stroke (mm)	Available stroke (mm)	Custom stroke (per mm)	
			50	75	100	150	200	300					
Double acting/ double solenoid, lubrication	CAV2 	ø50	●	●	●	●	●	●	1	500	1000	1	
		ø75	●	●	●	●	●	●		600			
		ø100	●	●	●	●	●	●		800			
Double acting/single solenoid, push out when energized lubrication	COVP2 	ø50	●	●	●	●	●	●	1	500	1000	1	
		ø75	●	●	●	●	●	●		600			
		ø100	●	●	●	●	●	●		800			
Double acting/single solenoid, pull when energized, lubrication	COVN2 	ø50	●	●	●	●	●	●	1	500	1000	1	
		ø75	●	●	●	●	●	●		600			
		ø100	●	●	●	●	●	●		800			
Double acting/ double solenoid, no-lubrication	CAV2-N 	ø50	●	●	●	●	●	●	1	500	1000	1	
		ø75	●	●	●	●	●	●		600			
		ø100	●	●	●	●	●	●		800			
Double acting/single solenoid, push out when energized no-lubrication	COVP2-N 	ø50	●	●	●	●	●	●	1	500	1000	1	
		ø75	●	●	●	●	●	●		600			
		ø100	●	●	●	●	●	●		800			
Double acting/single solenoid, pull when energized, no-lubrication	COVN2-N 	ø50	●	●	●	●	●	●	1	500	1000	1	
		ø75	●	●	●	●	●	●		600			
		ø100	●	●	●	●	●	●		800			
Double acting/double solenoid, with cushion, short overall length	CAV2-S CAV2-NS 	ø50	●	●	●	●	●	●	1	500	1000	1	
		ø75	●	●	●	●	●	●		600			
		ø100	●	●	●	●	●	●		800			
Double acting/single solenoid, push out when energized, with cushion, short overall length	COVP2-S COVP2-NS 	ø50	●	●	●	●	●	●	1	500	1000	1	
		ø75	●	●	●	●	●	●		600			
		ø100	●	●	●	●	●	●		800			
Double acting/single solenoid, pull when energized, with cushion, short overall length	COVN2-S COVN2-NS 	ø50	●	●	●	●	●	●	1	500	1000	1	
		ø75	●	●	●	●	●	●		600			
		ø100	●	●	●	●	●	●		800			

●: Standard ○: Option ■: Not available

	Mounting					Cushion		Option						Accessory			Switch	Page
	Axial foot	Rod side flange	Eye bracket	Intermediate trunnion, shaft	Intermediate trunnion, supporting hole	Without cushion	Both sides cushioned	Bellows (100°C)	Round terminal box	Square terminal box	With muffler	Molded coil	Air supply block	Rod eye	Rod clevis	Clevis bracket		
	LB	FA	CA	TC	TF	N	B	J	TB1	TB2	MF1	Z	Q	I	Y	B2		
	●	●	●	●	●	●	●	○	○	○	○	○	○	○	○	○	○	710
	●	●	●	●	●	●	●	○	○	○	○	○	○	○	○	○		
	●	●	●	●	●	●	●	○	○	○	○	○	○	○	○	○		
	●	●	●	●	●	●	●	○	○		○	●	○	○	○	○	○	710
	●	●	●	●	●	●	●	○	○		○	●	○	○	○	○		
	●	●	●	●	●	●	●	○	○		○	●	○	○	○	○		
	●	●	●	●	●	●	●	○	○		○	●	○	○	○	○	○	710
	●	●	●	●	●	●	●	○	○		○	●	○	○	○	○		
	●	●	●	●	●	●	●	○	○		○	●	○	○	○	○		
	●	●	●	●	●	●	●	○	○		○	●	○	○	○	○	○	710
	●	●	●	●	●	●	●	○	○		○	●	○	○	○	○		
	●	●	●	●	●	●	●	○	○		○	●	○	○	○	○		
	●	●	●	●	●		●	○	○	○	Lubrication ○	○	○	○	○	○	○	710
	●	●	●	●	●		●	○	○	○	No lubrication ●	○	○	○	○	○		
	●	●	●	●	●		●	○	○	○	Lubrication ○	○	○	○	○	○		
	●	●	●	●	●		●	○	○		Lubrication ○	○	○	○	○	○	○	710
	●	●	●	●	●		●	○	○		No lubrication ●	○	○	○	○	○		
	●	●	●	●	●		●	○	○		Lubrication ○	○	○	○	○	○		
	●	●	●	●	●		●	○	○		No lubrication ●	○	○	○	○	○	○	710
	●	●	●	●	●		●	○	○		Lubrication ○	○	○	○	○	○		
	●	●	●	●	●		●	○	○		No lubrication ●	○	○	○	○	○		

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Ending

CAV2(-S)/CAV2-N(S) COV^P2(-S)/COV^P2-N(S) Series

Variation and option combination selection table

◎: Option
○: Available (made-to-order product)
△: Available depending on conditions (Contact CKD.)
x: Not available

Category		Category	Variation							Port thread		Option						
			Double acting basic (lubrication)	No lubrication	Short overall length	Double solenoid	Single solenoid	Cushioned	With cylinder switch	NPT	G	Neoprene with bellows	Round terminal box	Square terminal box	With muffler	Molded coil	Intake block	Specify piston rod end form
		Code	None	N	S	CAV2	COV*2	None	None	N	G	J	TB1	TB2	MF1	Z	Q	N*
Variation	Double acting basic (lubrication)	Blank		◎	◎	◎	◎	◎	◎	○	○	◎	◎	◎	◎	◎	◎	○
	No lubrication	N			◎	◎	◎	◎	◎	○	○	◎	◎	◎	x	◎	◎	○
	Short overall length	S				◎	◎	*1	◎	○	○	◎	◎	◎	◎	◎	◎	○
	Double solenoid	CAV2						◎	◎	○	○	◎	◎	◎	◎	◎	◎	○
	Single solenoid	COV*2						◎	◎	○	○	◎	◎	x	◎	*2	◎	○
	Cushioned	Blank							◎	○	○	◎	◎	◎	◎	◎	◎	○
	With cylinder switch	Blank								○	○	◎	◎	◎	◎	◎	◎	○
Port thread	NPT	N									x	○	○	○	○	○	○	○
	G	G										○	○	○	○	○	○	○
Option	Neoprene with bellows	J											◎	◎	◎	◎	◎	○
	Round terminal box	TB1												x	◎	◎	x	○
	Square terminal box	TB2													◎	◎	x	○
	With muffler	MF1														◎	◎	○
	Molded coil	Z															x	○
	Intake block	Q																○
	Specify piston rod end form	N*																
Accessory	Cylinder switch	Listed separately	◎	◎	◎	◎	◎	◎	◎	○	○	◎	◎	◎	◎	◎	◎	○
	Rod eye	I	◎	◎	◎	◎	◎	◎	◎	○	○	◎	◎	◎	◎	◎	◎	△
	Rod clevis	Y	◎	◎	◎	◎	◎	◎	◎	○	○	◎	◎	◎	◎	◎	◎	△
	Clevis bracket	B2	◎	◎	◎	◎	◎	◎	◎	○	○	◎	◎	◎	◎	◎	◎	○

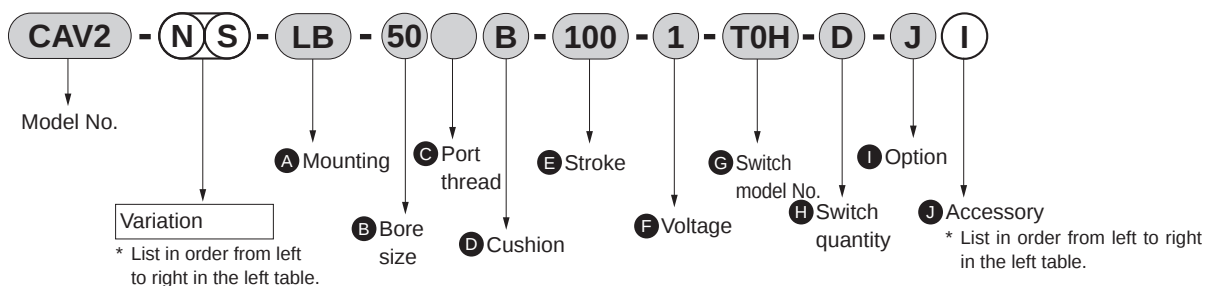
*1: Short overall length is available only for the type with cushion.

*2: COV*2 coil is molded as standard.

CAV2(-S)/CAV2-N(S) COV^P_N2(-S)/COV^P_N2-N(S) Series

Variation and option combination selection table

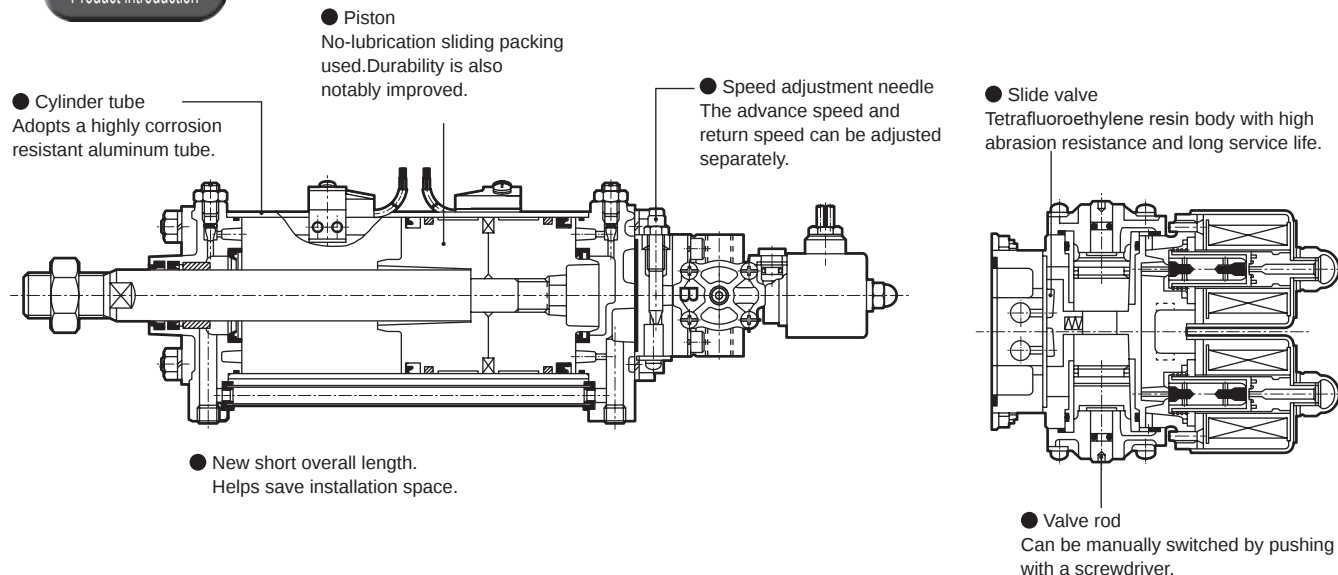
[Example of model No.]



Model No.: Cylinder with valve

- Variation: No lubrication, with cushion, short overall length
- A Mounting : Axial foot
- B Bore size : ø50 mm
- C Port thread : Rc thread
- D Cushion : Both sides cushioned
- E Stroke : 100 mm
- F Voltage : 100 VAC
- G Switch model No.: Reed T0H switch, lead wire 1m
- H Switch quantity : 2
- I Option : Bellows for max. ambient temperature 60°C
- J Accessory : Rod eye

Product introduction



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CAV2/ COV ^P _N 2
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CAV2(-S)/CAV2-N(S)

COV^P_N2(-S)/COV^P_N2-N(S) Series

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CAV2/COV^P_N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

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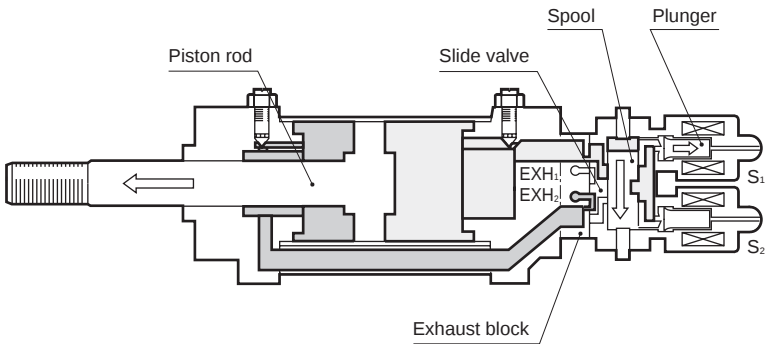
Operational explanation

Air supply
 Exhaust
 For explanation purposes, the valve position is rotated 90° counterclockwise when viewed from the piston rod side.

● CAV2/CAV2-N/CAV2-S/CAV2-NS

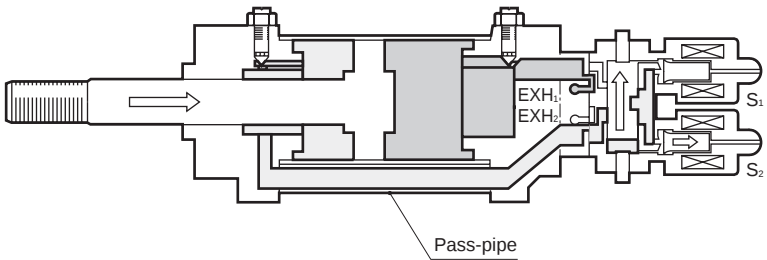
A Piston rod push type

- When the solenoid S1 is energized, the plunger is suctioned.
- The orifice opens, air moves the spool and the slide valve moves down.
- Soon the air passes the exhaust block and enters the cylinder, pushing the piston rod.
- As the spool is self-held after the solenoid valve S1 is de-energized, the piston rod remains protruding.



B Piston rod pull type

- When the solenoid S2 is energized, the plunger is suctioned.
- The orifice opens, air moves the spool and the slide valve moves up.
- Soon the air passes the exhaust block and pass-pipe and enters the cylinder, pulling the piston rod.
- As the spool is self-held after the solenoid valve S2 is de-energized, the piston rod remains retracted.

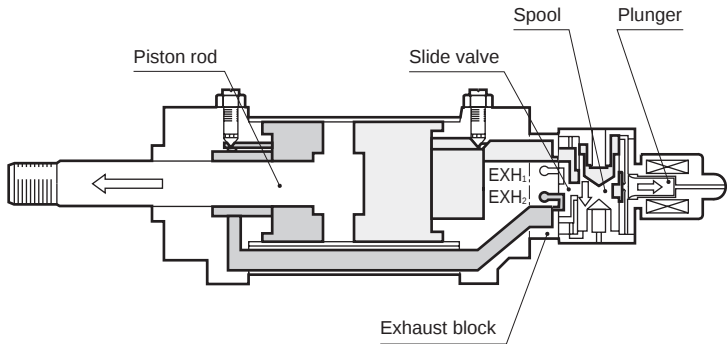


● COV^P_N2/COV^P_N2-N/COV^P_N2-S/COV^P_N2-NS

The explanation below is for the type of push when energized (P). The type retracted in when energized (N) operates in the reverse direction.

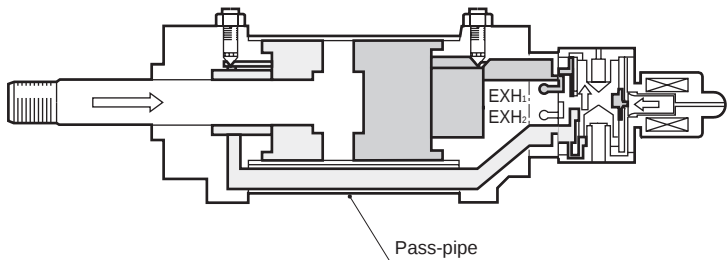
A When the solenoid valve is energized

- When the solenoid valve is energized, the plunger is suctioned and the orifice opens.
- The force on the upper side of the spool becomes larger than that on the lower side and moves the spool. The slide valve moves down. (This occurs due to difference of the pressurized areas.)
- Soon the air passes the exhaust block and enters the cylinder, pushing the piston rod.



B When the solenoid valve is deenergized

- When the solenoid valve is deenergized, the plunger is pushed down by the spring and closes the orifice.
- As compressed air does not flow into the upper side of the spool, the force on the lower side of the spool becomes larger and moves the spool. The slide valve moves up.
- Soon the air passes the exhaust block and pass-pipe and enters the cylinder, pulling the piston rod.



C How to switch push out when energized and retracted in when energized

*1:The factory setting is push when energized.

⚠ CAUTION

*1: Be sure to stop air before switching.

- Loosen and remove the screws of the cap ⑥ and fixing piston ① (four screws each) with a Phillips screwdriver as shown in Fig. 1.
- Switch the positions of the cap ⑥ and fixing piston ① as shown in Fig. 2 and tighten the screws.

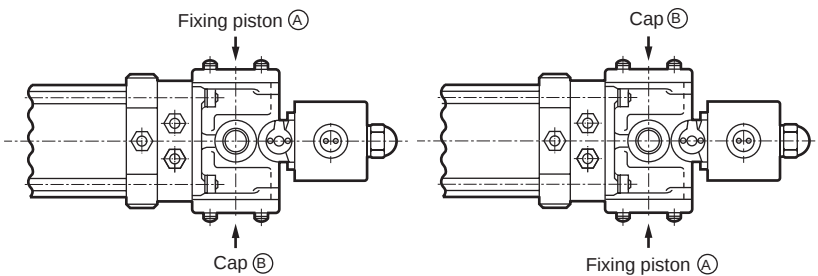


Fig. 1 Push when energized

Fig. 2 Retracted in when energized