



Pneumatic Cylinders I
Catalog No. CB-029SA

Compact cylinder Double acting/ Single rod

SSD Series

- Bore size: $\phi 12/\phi 16/\phi 20/\phi 25/\phi 32/\phi 40/\phi 50/\phi 63/\phi 80/\phi 100/\phi 125/\phi 140/\phi 160$

JIS symbol



Specifications

Item	SSD												
	SSD-L (With switch)												
Bore size mm	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	$\phi 125$	$\phi 140$	$\phi 160$
Actuation	Double acting												
Working fluid	Compressed air												
Max. working pressure MPa	1.0												
Min. working pressure MPa	0.1						0.05						
Proof pressure MPa	1.6												
Ambient temperature °C	-10 to 60 (no freezing)												
Port size	M5				Rc 1/8		Rc 1/4		Rc 3/8				
Stroke	With rubber cushion												
Tolerance mm	Without cushion												
Working piston speed mm/s	50 to 500						50 to 300						
Cushion	With or without cushion can be selected											With rubber cushion (standard)	
Lubrication	Not available												
Allowable absorbed Energy J	With rubber cushion												
	Without cushion												
	0.03	0.05	0.10	0.16	0.16	0.44	0.75	0.78	2.51	3.92	6.52	6.52	7.78
	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56	-		

Stroke

Bore size (mm)	Standard Stroke (mm)	Max. Stroke (mm)	Min. Stroke (mm)
$\phi 12$	5, 10, 15, 20, 25, 30	*1) 30	1
$\phi 16$			
$\phi 20$	5, 10, 15, 20, 25, 30, 40, 50	*1) 50	
$\phi 25$			
$\phi 32$			
$\phi 40$			
$\phi 50$			
$\phi 63$	5, 10, 20, 30, 40, 50	*1) 50	
$\phi 80$			
$\phi 100$			
$\phi 125$	10, 20, 30, 40	300	
$\phi 140$	50, 60, 70, 80		
$\phi 160$	90, 100		

*1) $\phi 12$ to $\phi 100$ is a high load type if the standard stroke is exceeded. Refer to page 22 for specifications.

(Stroke table)

Stroke (mm)	Applicable bore size												
	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	$\phi 125$	$\phi 140$	$\phi 160$
5	●	●	●	●	●	●	●	●	●	●	●	●	●
10	●	●	●	●	●	●	●	●	●	●	●	●	●
15	●	●	●	●	●	●	●	●	●	●	●	●	●
20	●	●	●	●	●	●	●	●	●	●	●	●	●
25	●	●	●	●	●	●	●	●	●	●	●	●	●
30	●	●	●	●	●	●	●	●	●	●	●	●	●
40	●	●	●	●	●	●	●	●	●	●	●	●	●
50	●	●	●	●	●	●	●	●	●	●	●	●	●
60	●	●	●	●	●	●	●	●	●	●	●	●	●
70	●	●	●	●	●	●	●	●	●	●	●	●	●
80	●	●	●	●	●	●	●	●	●	●	●	●	●
90	●	●	●	●	●	●	●	●	●	●	●	●	●
100	●	●	●	●	●	●	●	●	●	●	●	●	●
Min. Stroke (mm) *1	1												
Max. Stroke (mm)	30			50						300			
Custom Stroke *2	In 1 mm increments												

1: Less than 5 mm with 1-color display switch and less than 10 mm with the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch are not available. Refer to "Pneumatic Cylinders I (Catalog No. CB-029SA)" for the number of installed switches and the minimum Stroke.

*2: Custom Stroke of $\phi 12$ to $\phi 100$ and $\phi 125$ to $\phi 160$ is handled differently as follows. Please be careful. The dimensions of the total length with the custom Stroke [$\phi 12$ to $\phi 100$] are handled the same as the next longer standard Stroke. Total length dimension with custom Stroke [$\phi 125$ to $\phi 160$] is handled as the custom stroke dedicated length.

How to order mounting bracket P4

Bore size (mm)	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	$\phi 125$	$\phi 140$	$\phi 160$
Foot (LB)	SSD-LB-12	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100	SSD-LB-125	SSD-LB-140	SSD-LB-160
Foot (LB2)	SSD-LB2-12	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100	-	-	-
Flange (FA/FB)	SSD-FA-12	SSD-FA-16	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100	-	-	-
Clevis bracket (CB)	SSD-CB-12	SSD-CB-16	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100	SSD-CB-125	SSD-CB-140	SSD-CB-160
Clevis bracket (CB2)	SSD-CB2-12	SSD-CB2-16	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100	-	-	-

*1: The foot mounting bracket is provided as 2 pcs./set.

*2: For the P40 Series mounting bracket, indicate -P40 at the end of the model No.

Compatibility table by variation

Applicable bore size		Double acting/ single rod	Double acting/ position locking	Single acting/ push	Single acting/ pull	Double acting/ double rod	Double acting/ back to back	Double acting/ two-stage	Double acting/ fine speed	Double acting/ low speed	Double acting/ heat resistance	Double acting/ rubber scraper	Double acting/ anti-spatter adherence	Double acting/ coolant proof	Double acting/ double rod/ anti-spatter adherence	Double acting/ rotation-stop
			Q	X	Y	D	B	W	F	O	T	G	G1/G4	G2/G3	DG1 DG4	M
ø12 to 160	P4	●	●	○	○	○	○	○								▲
	P40	●	●	○	○	○	○	○								▲
	P42	▲	▲					▲	▲	▲						

- : Applicable models
- : Semi-applicable models
- ▲: Contact CKD for details.
- : Not applicable

How to order

Without switch



With switch



2-color display/off-delay, with T1* switch (ø12, ø16 only)



A Model No.

B Bore size

C Cushion

D Stroke

E Switch model No.

*1

*2

*9

F Switch quantity

G Option

*3

H Mounting bracket

*5

*6

*10

I Accessory

*6

⚠ Precautions for model No. selection

- *1: ø12 to ø16 cannot be equipped with a strong magnetic field proof switch.
- *2: T8* switch cannot be installed on ø12 to ø32.
- *3: Piston rod material of ø12 to ø25 is stainless steel as standard. C-snap ring will be stainless steel, not steel. The rod end male thread nut is stainless steel.
- *4: The mounting bracket is attached at shipment.
- *5: The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Dimensions are in "Pneumatic Cylinders I (Catalog No. CB-029SA)" and the number of the specified projection dimension will be added at the end of the model No. printed on the metal plate on the body.
- *6: "I" and "Y" cannot be selected together.
- *7: Refer to "Pneumatic Cylinders I (Catalog No. CB-029SA)" for made to order specifications of rod end.
- *8: Refer to "Pneumatic Cylinders I (Catalog No. CB-029S)" for combinations of variations and options.
- *9: Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.
- *10: ø125 to ø160 is only available for LB and CB.

Related products

Speed controller											
Model No.	Appearance	Port size (Rc or R)				Compatible tube O.D.				Page	
		M5	1/8	1/4	3/8	4 (ø4)	6 (ø6)	8 (ø8)	10 (ø10)		12 (ø12)
SC3W-M5- *-P4		●				●	●				530
SC3W-6- *-P4			●			●	●	●			
SC3W-8- *-P4				●			●	●	●		
SC3W-10- *-P4					●		●	●	●		

Specify the compatible tube O.D. code for *.

Code	Description													
A Model No.														
SSD	Double acting/ Single rod													
SSD-L	Double acting/ Single rod/with switch													
SSD-L1	ø12, ø16, 2 color display, off-delay, with T1* switch													
B Bore size (mm)														
12	ø12													
16	ø16													
20	ø20													
25	ø25													
32	ø32													
40	ø40													
50	ø50													
63	ø63													
80	ø80													
100	ø100													
125	ø125													
140	ø140													
160	ø160													
C Cushion														
Blank	Without cushion (ø125 and over have rubber cushion)													
D	With rubber cushion (ø12 to ø100)													
D Stroke (mm)														
Refer to the Stroke table.														
E Switch model No.														
Refer to the compatibility table on Intro Pages 23 to 26 for switch model No.														
F Switch quantity														
R	1 on rod side													
H	1 on head side													
D	2													
G Option														
	Bore size (mm)	12	16	20	25	32	40	50	63	80	100	125	140	160
Blank	Rod end female thread	●	●	●	●	●	●	●	●	●	●	●	●	●
N	Rod end male thread	●	●	●	●	●	●	●	●	●	●	●	●	●
P6	Copper and PTFE free specs	Supported as standard												
S	Dedicated unit for custom Stroke	●	●	●	●	●	●	●	●	●	●	●	●	●
M	Piston rod material (stainless steel)	●	●	●	●	●	●	●	●	●	●	●	●	●
H Mounting bracket														
LB	Axial foot type													
LB2	Axial foot (compact)													
CB	Clevis bracket (pin and snap ring attached)													
CB2	Clevis bracket (compact)(Pin and snap ring attached)													
FA	Rod side flange													
FB	Head side flange													
I Accessory (Rod end male thread "N" is selected.)														
I	Rod eye													
I2	Rod eye (compact)													
Y	Rod clevis (pin and snap ring attached)													
Y2	Rod clevis (compact) (pin and snap ring attached)													

P4 Series

Pneumatic cylinders

Hand/Chuck

Related products

Cylinder Switch

Vacuum components

Pneumatic valves

Clean air components

Pneumatic auxiliary components

Speed controller

Fitting

Auxiliary valve

Stemmer

Tube

Gas generator

Fluid control components

Motor specification

Motorless specifications

Electric actuator



Pneumatic Cylinders I
Catalog No. CB-029SA

Compact cylinder Double acting/ Single rod/high load

SSD-K Series

● Bore size: $\phi 12/\phi 16/\phi 20/\phi 25/\phi 32$
 $\phi 40/\phi 50/\phi 63/\phi 80/\phi 100$

JIS symbol



Specifications

Item	SSD-K SSD-KL (with switch)									
	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Bore size mm	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Actuation	Double acting									
Working fluid	Compressed air									
Max. working pressure MPa	1.0									
Min. working pressure MPa	0.1					0.05				
Proof pressure MPa	1.6									
Ambient temperature °C	-10 to 60 (no freezing)									
Port size	M5				Rc 1/8		Rc 1/4		Rc 3/8	
Stroke tolerance mm	+2.0 0									
Working piston speed mm/s	50 to 500					50 to 300				
Cushion	Rubber cushion									
Lubrication	Not available									
Allowable absorbed energy J	0.04	0.09	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92

Stroke

Bore size (mm)	Standard Stroke (mm)	Max. Stroke (mm)	Min. Stroke (mm)
$\phi 12$	5, 10, 15, 20, 25, 30, 40, 50	*2) 100	1
$\phi 16$		*2) 200	
$\phi 20$	10, 15, 20, 25, 30, 40	300	
$\phi 25$			
$\phi 32$			
$\phi 40$	50, 60, 70, 80, 90, 100		
$\phi 50$	10, 20, 30, 40, 50		
$\phi 63$			
$\phi 80$			
$\phi 100$	60, 70, 80, 90, 100		

*1) The custom stroke length is available in 1 mm increments. However, the total length is the same as that of the next longer standard stroke length.

*2) Stroke length over standard to maximum is available per 10 mm increments.
(Example) $\phi 16$: 60, 70, 80, 90, 100

*3) From 101 to 200 for $\phi 20$, 151 to 300 for $\phi 25$ to $\phi 50$, or 201 to 300 for $\phi 63$ to $\phi 100$, internal structure and total length are different in some products.

[Stroke table]

Stroke (mm)	Applicable bore size									
	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
5	●	●	●							
10	●	●	●	●	●	●	●	●	●	●
15	●	●	●	●	●	●	●			
20	●	●	●	●	●	●	●	●	●	●
25	●	●	●	●	●	●	●			
30	●	●	●	●	●	●	●	●	●	●
40	●	●	●	●	●	●	●	●	●	●
50	●	●	●	●	●	●	●	●	●	●
60				●	●	●	●	●	●	●
70				●	●	●	●	●	●	●
80				●	●	●	●	●	●	●
90				●	●	●	●	●	●	●
100				●	●	●	●	●	●	●
Min. Stroke (mm) *1	1									
Max. Stroke (mm)	100	200	300							
Custom Stroke *2	In 1 mm increments									

1: Less than 5 mm for 1-color display switch, less than 10mm for the 2-color display, off-delay, AC magnetic field proof, T1, T8* switches are not available. Refer to "Pneumatic Cylinders I (Catalog No. CB-029SA)" for the number of installed switches and the minimum stroke length.

*2: The total length is the same as that of the next longer standard stroke.

How to order mounting bracket P4

Bore size (mm)	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Foot (LB)	SSD-LB-12	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-12	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-12	SSD-FA-16	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-12	SSD-CB-16	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-12	SSD-CB2-16	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

*1: The foot mounting bracket is provided as 2 pcs./set.

*2: For the P40 Series mounting bracket, indicate -P40 at the end of the model No.

Compatibility table by variation

Applicable bore size	P4	Double acting/ single rod	Double acting/ fine speed	Double acting/ low friction	Double acting/ rubber-air cushioned	Double acting/ rubber scraper	Double acting/ anti-spatter adherence	Double acting/ coolant proof
		F	U	*C	G	G1/G4	G2/G3	
ø12 to 160	P4	●			○	○		
	P40	●			○	○		
	P42	▲			▲			

●: Applicable models ○: Semi-applicable models ▲: Contact CKD for details. □: Not applicable

How to order

Without switch



With switch



A Tube Bore size

B Stroke

C Switch model No.
*1
*8

D Switch quantity

E Option
*2

F Mounting bracket
*3
*4

G Accessory
*5

Precautions for model No. selection

- *1: ø12 to ø16 cannot be equipped with an AC magnetic field proof switch or T8 * switch.
- *2: Piston rod material of ø12 to ø25 is stainless steel as standard. C-snap ring will be stainless steel, not steel. The rod end male thread nut is stainless steel.
- *3: The mounting bracket is attached at shipment.
- *4: The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to "Pneumatic Cylinders I (Catalog No. CB-029SA)" for dimensions. Also, the printed model No. on the metal plate on the body appears at the end. The specified overhang length model No. will be printed.
- *5: "I" and "Y" cannot be selected together.
- *6: Refer to "Pneumatic Cylinders I (Catalog No. CB-029SA)" for made-to-order specifications of rod end form.
- *7: Refer to "Pneumatic Cylinders I (Catalog No. CB-029SA)" for combinations of variations and options.
- *8: Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

Related products

Speed controller										
Model No.	Appearance	Port size (Rc or R)				Compatible tube O.D.				Page
		M5	1/8	1/4	3/8	4 (ø4)	6 (ø6)	8 (ø8)	10 (ø10)	
SC3W-M5- *P4		●				●	●			
SC3W-6- *P4			●			●	●	●		
SC3W-8- *P4				●			●	●	●	
SC3W-10- *P4					●		●	●	●	

Specify the compatible tube O.D. code for *

Code	Description
A Bore size (mm)	
12	ø12
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100
B Stroke (mm)	
Refer to the Stroke table.	
C Switch model No.	
Refer to the compatibility table on Intro Pages 23 to 26 for switch model No.	
D Switch quantity	
R	1 on rod side
H	1 on head side
D	2
E Option	
Bore size (ø)	12 16 20 25 32 40 50 63 80 100
Blank	Rod end female thread ● ● ● ● ● ● ● ● ● ●
N	Rod end male thread ● ● ● ● ● ● ● ● ● ●
S	Dedicated unit for custom stroke ● ● ● ● ● ● ● ● ● ●
M	Piston rod material (stainless steel) ● ● ● ● ● ● ● ● ● ●
F Mounting bracket	
LB	Axial foot type
LB2	Axial foot (compact)
CB	Clevis bracket (pin and snap ring attached)
CB2	Clevis bracket (compact) (pin and snap ring attached)
FA	Rod side flange
FB	Head side flange
G Accessory (Rod end male thread "N" is selected.)	
I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

P4 Series
Pneumatic cylinders
Hand/Chuck
Related products
Pneumatic actuator
Vacuum components
Pneumatic valves
Clean air components controller
Speed
Pneumatic auxiliary components
Auxiliary valve
Silencer
Tube
Gas generator
Fluid control components
Electric actuator
Motor specification
Motorless specifications