



Pneumatic Cylinders II
Catalog No. CB-030SA

Position locking compact cylinder

USSD/USSD-K Series

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

JIS symbol



Common specifications

Item	USSD/USSD-K									
Bore size	mm	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	
Actuation		Double acting								
Working fluid		Compressed air								
Max. working pressure	MPa	1.0								
Min. working pressure	MPa	0.25 (no load) Note								
Proof pressure	MPa	1.6								
Ambient temperature	°C	-10 to 60 (no freezing)								
Port size		M5			Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance	mm	USSD: $+1.0_0$				USSD-K: $+2.0_0$				
Working piston speed	mm/s	50 to 500					50 to 300			
Cushion		USSD: None				USSD-K: Rubber cushion				
Lubrication		Not available								
Lock force	N	150	235	386	603	943	1497	2464	3847	
Option		Rod end male thread (N)								
Allowable absorbed	Without cushion	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56	
Energy	With cushion	0.157	0.157	0.402	0.628	0.98	1.56	2.51	7.92	

Note: Depending on the installation condition, piston rod may start moving at 0.05 MPa. Therefore, pay attention to residual and exhaust pressure.

Individual specifications

Model No.	USSD (double acting single rod)	USSD-K (double acting single rod/high load)
Stroke tolerance	mm	mm
	$+1.0_0$	$+2.0_0$
	0	0
Cushion	No	Rubber cushion

Stroke

Model	Bore size (mm)	Standard Stroke (mm) (*4)	Max. Stroke (mm)	Min. Stroke (mm)	Min. stroke with switch (mm)
USSD	$\phi 20$	5, 10, 15, 20, 25, 30	30	1 (*3)	5 (*4)
	$\phi 25, \phi 32, \phi 40, \phi 50$	5, 10, 15, 20, 25, 30, 40, 50	50		
	$\phi 63, \phi 80, \phi 100$	5, 10, 20, 30, 40, 50	200 (*1)		
USSD-K	$\phi 20$	5, 10, 15, 20, 25, 30, 40, 50	300 (*1)		5 (*4)
	$\phi 25, \phi 32, \phi 40, \phi 50$	10, 15, 20, 25, 30, 40, 50 60, 70, 80, 90, 100	300 (*1)		
	$\phi 63, \phi 80, \phi 100$	10, 20, 30, 40, 50, 60, 70 80, 90, 100			

*1: Stroke over standard to maximum is available in increments of 10. (Example) USSD-K-20: 60, 70, 80, 90, 100

Dimensions of custom Stroke (example: 64 mm Stroke) are the same as the next longer Stroke (example: 70 mm Stroke).

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

*3: The min. Stroke is available from 1 mm. Take into account the stroke tolerance when placing an order.

4: Less than 10 mm is not available for 2-color display, off-delay, strong magnetic field proof, or with T1 or T8* switch.

Dimensions for ordering mounting bracket P4

Bore size (mm)	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Mounting bracket	USSD-LB-20	USSD-LB-25	USSD-LB-32	USSD-LB-40	USSD-LB-50	USSD-LB-63	USSD-LB-80	USSD-LB-100
Foot (LB)	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 (CB)	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100

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

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 ($\phi 4$)	6 ($\phi 6$)	8 ($\phi 8$)	10 ($\phi 10$)	12 ($\phi 12$)	
SC3W-M5*-P4		●				●	●				530
SC3W-6*-P4			●			●	●	●			
SC3W-8*-P4				●			●	●	●		
SC3W-10*-P4					●		●	●	●	●	

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

Compatibility table by variation

Applicable bore size		Double acting	
		Double acting	Double acting/High load
ø20 to 100	P4	○	○
	P40	○	○

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

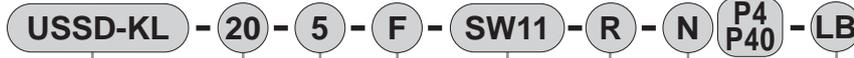
Note: Standard grease used

How to order

● Without switch



● With switch



A Model No.

B Bore size (mm)

C Stroke (mm)

D Lock direction

E Switch model No.

*2
*3

F Switch quantity

G Option

H Mounting bracket
*1
*3

Code	Description
A Model No.	
USSD	Double acting
USSD-L	Double acting/with switch
USSD-K	Double acting/high load
USSD-KL	Double acting/high load/with switch
B Bore size (mm)	
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100
C Stroke (mm)	
Refer to the Stroke table.	
D Lock direction	
F	Forward locking
B	Backward locking
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	
Blank	Rod end female thread
N	Rod end male thread
H Mounting bracket	
LB	Axial foot type
CB	Clevis bracket (pin and snap ring attached)

C Stroke

Series	Stroke (mm)	Bore size (mm)									
		ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100		
USSD	Standard Stroke	5	●	●	●	●	●	●	●	●	
		10	●	●	●	●	●	●	●	●	
		15	●	●	●	●	●	●	●	●	
		20	●	●	●	●	●	●	●	●	
		25	●	●	●	●	●	●	●	●	
		30	●	●	●	●	●	●	●	●	
		40	●	●	●	●	●	●	●	●	
		50	●	●	●	●	●	●	●	●	
		Min. Stroke	*5	1							
		Custom Stroke	*5	1							
USSD-K	Standard Stroke	5	●	●	●	●	●	●	●	●	
		10	●	●	●	●	●	●	●	●	
		15	●	●	●	●	●	●	●	●	
		20	●	●	●	●	●	●	●	●	
		25	●	●	●	●	●	●	●	●	
		30	●	●	●	●	●	●	●	●	
		40	●	●	●	●	●	●	●	●	
		50	●	●	●	●	●	●	●	●	
		60	●	●	●	●	●	●	●	●	
		70	●	●	●	●	●	●	●	●	
80	●	●	●	●	●	●	●	●			
90	●	●	●	●	●	●	●	●			
100	●	●	●	●	●	●	●	●			
Min. Stroke	*5	1									
Custom Stroke	*5	1									

⚠ Precautions for model No. selection

- *1: The mounting bracket is attached at shipment.
- *2: T8* switch cannot be mounted for USSD-*L bore size ø20 to ø32.
- *3: Switches and mounting brackets are shipped with the product. Contact CKD if assembling before shipment is necessary.
- *4: Made-to-order product. Contact CKD Sales for details.
- *5: Total length dimensions, The dimensions are the same as those of the next longer standard Stroke. (Less than 5 mm with switch is not available). Less than 10 mm with 2-color display, off-delay, or T1* or T8* switch is not available.

P4 Series

Pneumatic cylinders
Hand/Chuck
Related products
Cylinder Switch

Vacuum components
Pneumatic valves

Clean air components
Speed controller
Fitting
Auxiliary valve
Silencer
Tube

Pneumatic auxiliary components
Gas generator

Fluid control components

Motor specification
Motorless specifications
Electric actuator