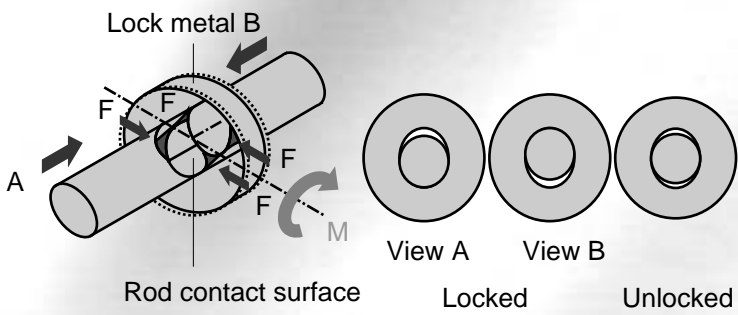


Position locking by compact/short stroke

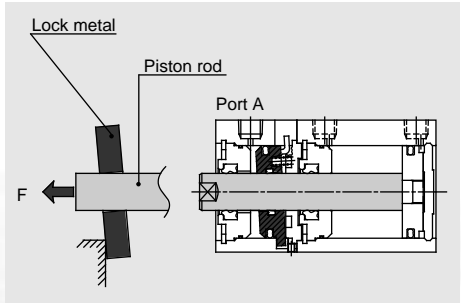
SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

High abrasion resistance round slit method

New long life position locking mechanism is used. Applying torque M to the lock metal generates axial force F . This force holds the position of piston rod.



Operational explanation



Locked
When exhausting air from port A, the lock metal is tilted by spring force to hold the position of piston rod.

Any stop position can be selected in the range of full stroke length

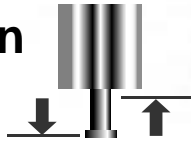
Any stop position is possible including the stroke end, if the piston stops.

Damage of a workpiece salvaged

Falling down of a cylinder by self-weight at trouble time such as shut down is prevented. This eliminates damages of workpieces etc.

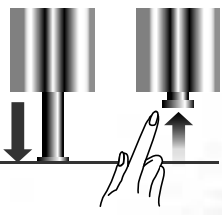
2 types of lock direction

Any of forward lock and backward lock can be selected.



Lock reverse direction is free

Piston rod can be moved to the opposite direction of locking. Even if a workpiece etc., is pinched, easily removed.

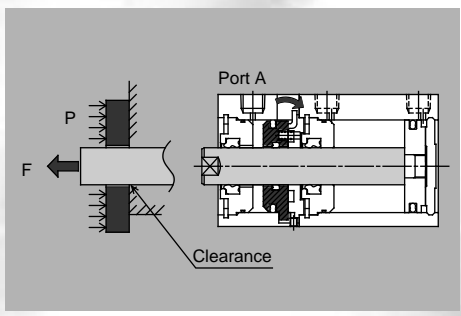


Easy unlocked

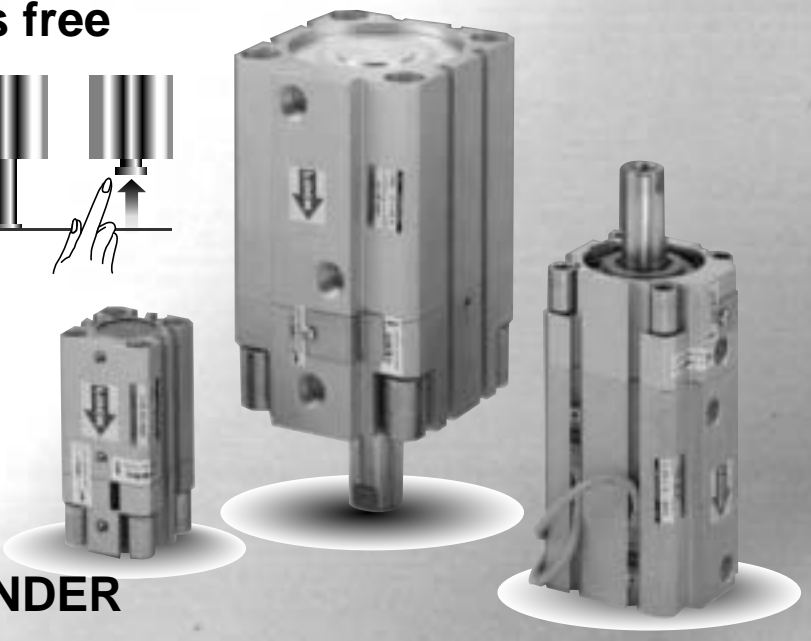
Flat tip screwdriver allows unlocked easily.



During lock operation Lock release



Unlocked
Air supply from port A results in ejection of lock metal. This create clearance between the lock metal and the piston rod, then the rod can move freely.



SUPER COMPACT CYLINDER

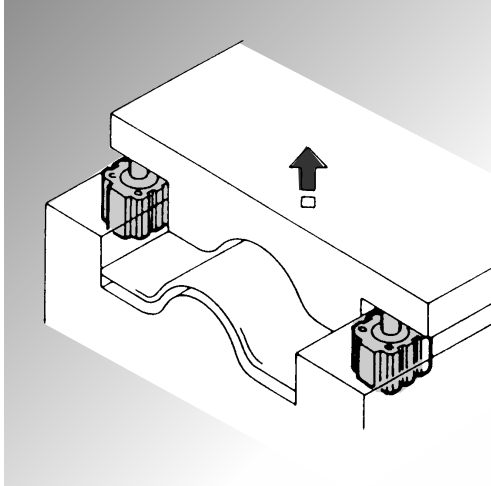
USSD SERIES

CKD

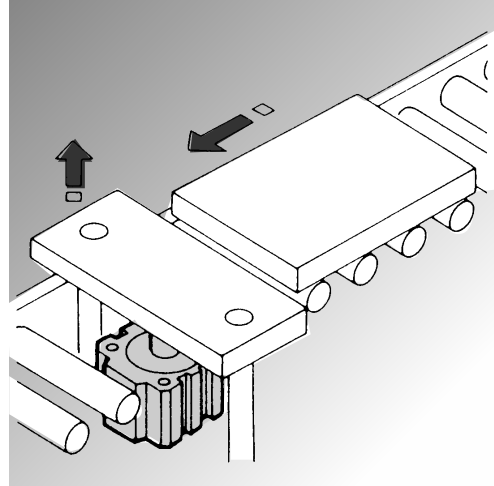
length

Position locking mechanism is integrated into space saving/short length type compact cylinder.
Safety function is provided for service interruption or accident etc.

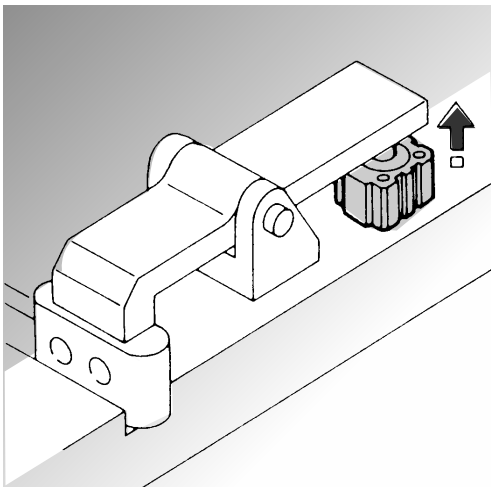
Applications



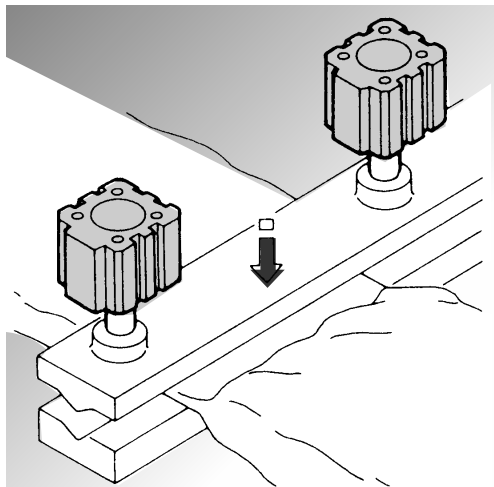
● Safety mechanism for die lifting



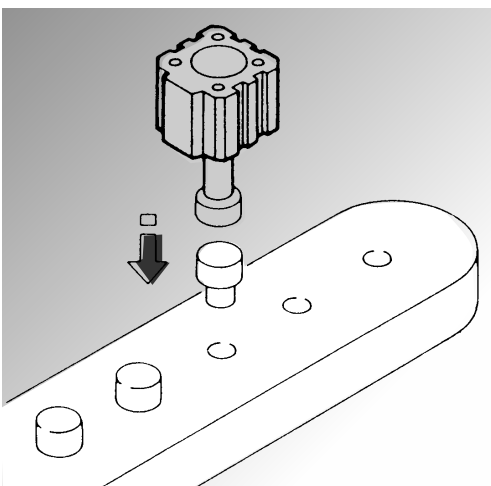
● Position locking of stopper



● Position locking of clamp jig



● Position locking of press jig

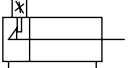
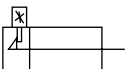


● Position locking of press-fit jig

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Position locking compact cylinder
With brake

● : Standard, ◎ : Option, ■ : Not available

Variation	Model no. JIS symbol	Bore size (mm)	Standard stroke length (mm)														Min. stroke length (mm)	Max. stroke length (mm)	Custom stroke length (per mm)	Option			Switch	Page		
			Stroke length (mm)																	Rod end male thread	Mounting bracket					
			5	10	15	20	25	30	40	50	60	70	80	90	100	Foot					Clevis					
Double acting with switch	USSD USSD-L 	φ 20	●	●	●	●	●	●										1	30		◎	◎	◎	◎	1366	
		φ 25, φ 32, φ 40, φ 50	●	●	●	●	●	●		●	●								1	50		◎	◎			◎
		φ 63, φ 80, φ 100	●	●	■	●	■	●		●	●									50		◎	◎			◎
Double acting high load type with switch	USSD-K USSD-KL 	φ 20	●	●	●	●	●	●										1	200		◎	◎	◎	◎	1366	
		φ 25, φ 32, φ 40, φ 50	■	●	●	●	●	●		●	●	●	●	●	●	●	●	●	1	300		◎	◎			◎
		φ 63, φ 80, φ 100	■	●	■	●	■	●		●	●	●	●	●	●	●	●	●		300		◎	◎			◎

- SCP*2
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS
- CKV2
- CA/OV2
- SSD
- CAT
- MDC2
- MVC
- SMD2
- MSD*
- FC*
- STK
- ULK*
- JSK/M2
- JSG
- JSC3
- USSD**
- USC
- JSB3
- LMB
- STG
- STS/L
- LCS
- LCG
- LCM
- LCT
- LCY
- STR2
- UCA2
- HCM
- HCA
- SRL2
- SRG
- SRM
- SRT
- MRL2
- MRG2
- SM-25
- CAC3
- UCAC
- RCC2
- MFC
- SHC
- GLC
- Ending

- SCP*2
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS
- CKV2
- CA/OV2
- SSD
- CAT
- MDC2
- MVC
- SMD2
- MSD*
- FC*
- STK
- ULK*
- JSK/M2
- JSG
- JSC3
- USSD**
- USC
- JSB3
- LMB
- STG
- STS/L
- LCS
- LCG
- LCM
- LCT
- LCY
- STR2
- UCA2
- HCM
- HCA
- SRL2
- SRG
- SRM
- SRT
- MRL2
- MRG2
- SM-25
- CAC3
- UCAC
- RCC2
- MFC
- SHC
- GLC
- Ending

Position locking compact cylinder
With brake



Pneumatic components

Safety precautions

Always read this section before starting use.

Refer to Intro 71 for general precautions of the cylinder, and to Intro 78 for general precautions of the cylinder switch.

Position locking compact cylinder USSD Series

Design & Selection

⚠ WARNING

■ This cylinder has a position locking mechanism (holds cylinder stationary).

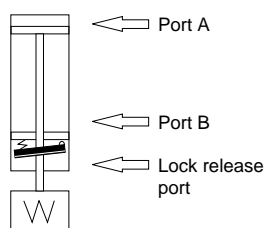
Life drops markedly if used for emergency stops (stopping while the cylinder is moving).

■ If back pressure is applied to the locking mechanism, the lock may be released. Use the valve as a single unit, or use an individual exhaust manifold.

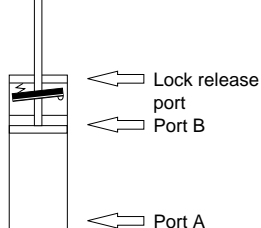
■ Do not apply torque to the rod when brakes are applied because holding force may drop, presenting a hazard. Use a rod that does not rotate.

■ To release the lock, when using forward locking, supply pressure to port B, and when using backward locking, supply pressure to port A. Check that load is not applied to the locking mechanism. When both ports A and B are exhausted and the piston is locked, if pressure is supplied to port A for forward locking or to port B for backward locking, the lock may not be released or, even if released, the piston rod may pop out, creating a hazard.

Forward locking type
(Downward load)



Backward locking type
(Upward load)



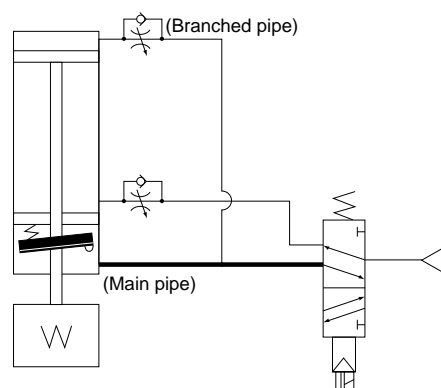
⚠ CAUTION

■ Basic circuit diagram

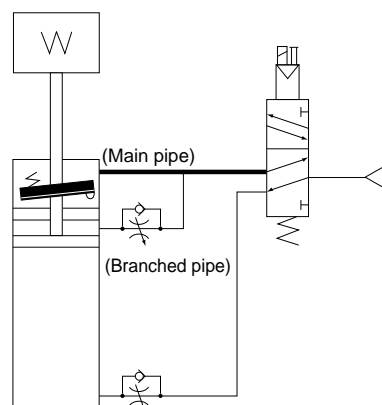
Pipe air piping for this cylinder as shown below. Faults such as a delayed response may result if piping other than that below is used, such as independent piping to the position locking mechanism.

1. As shown below, branch the piping to this cylinder at a position behind the valve, and pipe to the position locking section (connect main pipe to lock release port) and to the cylinder section (connect branched pipe to cylinder port).
2. If cylinder operation is faster than lock release, the lock may not be released or, even if released, the piston rod may pop out. This is hazardous, so design piping so that lock release is faster than cylinder operation.

Forward locking type
(Downward load)



Backward locking type
(Upward load)



SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

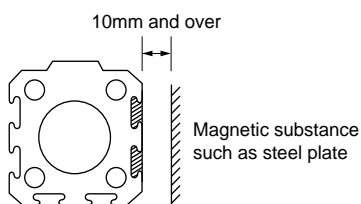
Installation & Adjustment

⚠ WARNING

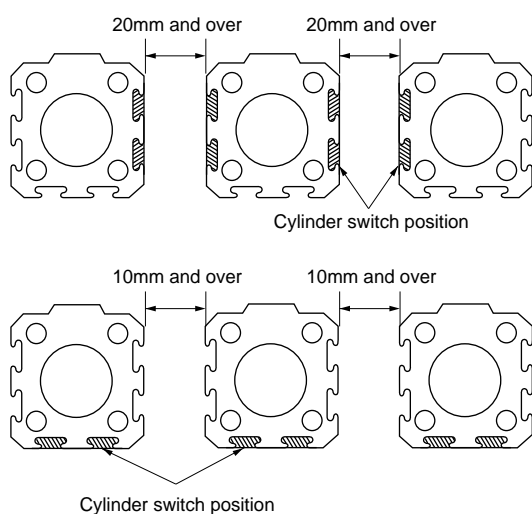
- Do not apply grease to the piston rod because holding force drops and creates a hazard.
- Do not apply torque to the piston rod because holding force drops.

⚠ CAUTION

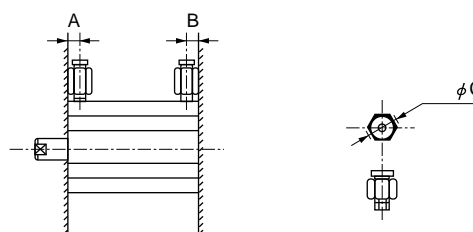
- Main piping in the basic circuit diagram on the previous page should be thicker and shorter than branch piping.
- The cylinder may malfunction if a magnetic substance, such as a steel plate, is nearby. Move the magnetic substance to at least 10 mm from the cylinder. (Same clearance for all bore size)



- The cylinder switch may malfunction if cylinders are installed adjacently. Separate cylinders by the following distances. (Same clearance for all bore size)



- When using several cylinders synchronized, install a separate guide. If only cylinders are used, synchronization is not possible, the rod twists, and operation becomes faulty.
- Compatible joints are limited, so see the following table to select the joint.



Descriptions Bore size (mm)	Port size	Port dimension		Compatible joints	Joint O.D. φ C	Incompatible joints
		A	B			
φ 20	M5 x 0.8	10	5.5	SC3W-M5-4 SC3W-M5-6 GWS4-M5-S GWS4-M5 GWL4-M5 GWL6-M5	φ 11 or less	GWS6-M5
		12	6			
φ 25	Rc1/8	12	8	SC3W-6-4-6-8 GWS4-6 GWS6-6 GWS8-6 GWL4-6 GWL6-6	φ 15 or less	GWS10-6 GWL8-6 GWL10-6
		15	8.5			
φ 32	Rc1/4	12	8	SC3W-8-6-8-10 GWS4-8 GWS6-8 GWS10-8 GWL4 to 12-8	φ 21 or less	GWS12-8
		15.5	11			
φ 40	Rc3/8	15	10.5	SC3W-10-6-8-10 GWS6-10 GWS8-10 GWS10-10 GWL6 to 12-10	φ 21 or less	---
		16	13			
φ 50		16	13			
φ 63		23	15			
φ 80						
φ 100						

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB

STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC

Ending

Position locking compact cylinder
With brake

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

During use & Maintenance

⚠ WARNING

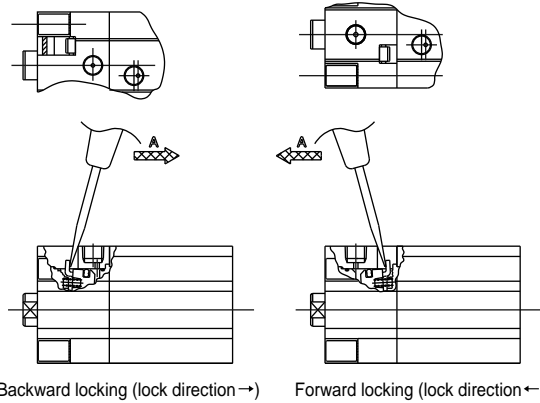
- Do not lubricate at the lock section, or could result in holding force decrease.
- Do not disassemble the unit, since this may cause a hazardous situation.
- To prevent faults, use a dust cover during operation except when manually releasing brakes.
- If no air pressure is supplied in vertical mounting, etc., holding force may not be sufficient when the lock is manually released. This may cause the rod to move (drop) with the load's weight.
For safety, take the following measures before manually releasing the lock:

- Move the load to the lowest end.
- Provide a stopper on the load.
- Supply air pressure to the cylinder and balance the load.

⚠ CAUTION

- When locking the first time after leaving the lock released for a long time, a delayed response may occur in the lock.
Do not leave the lock pressurized, and operate the lock at each cylinder operation.
(Use the basic circuit diagram shown on page 1362)
- If the cylinder is held while pressure is applied on the locking mechanism, the lock could be released. Thus, do not use the 3-position closed center or 3-position P/A/B solenoid valve.
- Due to the structure, the piston rod drops by about 1 mm when the lock is applied.

■ How to unlock manually



Backward locking (lock direction →) Forward locking (lock direction ←)

- When the cover is removed and a minus headed screw driver is inserted and tilted lightly in the direction of arrow A, the release lever rises, the lock is released, and the piston rod is freed.

- The cylinder may be damaged or may malfunction if a unit with excessive inertia, etc., is moved. Use within the allowable energy absorption range.

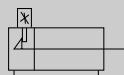


Position locking compact cylinder

USSD/USSD-K Series

● Bore size ϕ 20, ϕ 25, ϕ 32, ϕ 40, ϕ 50, ϕ 63, ϕ 80, ϕ 100

JIS symbol



Common specifications

Descriptions		USSD/USSD-K							
Bore size	mm	ϕ 20	ϕ 25	ϕ 32	ϕ 40	ϕ 50	ϕ 63	ϕ 80	ϕ 100
Actuation		Double acting							
Working fluid		Compressed air							
Max. working pressure	MPa	1.0							
Min. working pressure	MPa	0.25 (loadless) note							
Withstanding 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 energy	No cushion	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56
absorption J	Cushioned	0.157	0.157	0.402	0.628	0.98	1.56	2.51	7.92

Note: Piston rod may start to move from 0.05MPa depending on conditions that the product left. Check the residual pressure and back pressure.

Individual specifications

Model no.	USSD (double acting single rod type)	USSD-K (double acting single rod high load type)
Stroke tolerance	mm	
Cushion	None	Rubber cushion

Stroke length

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

Note 1: Lengths exceeding the standard stroke are available in increments of 10 to the maximum stroke. (e.g.) USSD-K-20: 60, 70, 80, 90, 100 ...

Dimensions of custom stroke length (e.g. 64mm stroke) is the same as the following increment of stroke length (e.g. 70mm stroke).

Note 2: Custom stroke length is available per 1mm increment. Note that the total length is the same as the next longer standard stroke length.

Note 3: The minimum stroke is available from 1mm, but consideration must be made to the tolerable stroke difference.

Note 4: The 2 color indicator type, off delay type, strong magnetic field proof type, or 10mm or shorter type with T1* or T8* switch is not available.

Switch specifications

- 1 color/2 color indicator

*The T0/T5 switch can be used with 220 VAC. Consult with CKD for working conditions.

Descriptions	Proximity 2 wire			Proximity 3 wire			Reed 2 wire						
	T1H/T1 V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T3H/ T3V	T3PH/T3PV (Custom order)	T3YH/ T3YV	T0H/T0V	T5H/T5V		T8H/T8V			
Applications	Programmable controller relay, small solenoid valve	Programmable controller		Programmable controller, relay			Programmable controller, relay	Programmable controller, relay, IC circuit (w/o indicator light), serial connection		Programmable controller, relay			
Output method	-			NPN output	PNP output	NPN output	-						
Power voltage	-			10 to 28 VDC			-						
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC
Load current	5 to 100mA	5 to 20mA (Note 1)		100mA or less	50mA or less		5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Without indicator light		LED (ON lighting)			
Leakage current	1mA or less with 100 VAC 2mA or less with 200 VAC	1mA or less		10 μA or less			0mA						

- With preventive maintenance output

Descriptions	Proximity 3 wire		Proximity 4 wire		Proximity 3 wire		Proximity 4 wire		
	T2YFH/V		T3YFH/V		T2YMH/V		T3YMH/V		
Applications	Programmable controller		Programmable controller, relay		Programmable controller		Programmable controller, relay		
Output method	NPN output								
Light	Red/green LED (ON lighting)								
	Preventive maintenance output		-		Yellow LED (ON lighting)				
Regular Output	Power voltage	-		10 to 28 VDC		-		10 to 28 VDC	
	Load voltage	10 to 30 VDC		30 VDC or less		10 to 30 VDC		30 VDC or less	
	Load current	5 to 20mA		50mA or less		5 to 20mA		50mA or less	
	Leakage current	1mA or less		10 μA or less		1.2mA or less		10 μA or less	
Preventive maintenance Output	Load voltage	30 VDC or less							
	Load current	20mA or less		50mA or less		5 to 20mA or less		50mA or less	
	Leakage current	10 μA or less							

Note 1: Refer to Ending 1 for other switches.

Note 2: Max. load current above: 20mA at 25°C. The current will be lower than 20mA if ambient temperature around switch is higher than 25 °C. (5 to 10mA when 60°C)

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC

Ending

Position locking compact cylinder
With brake

USSD/USSD-K Series

How to order

● Without switch
USSD-K - **20** - **5** - **F** - **N** - **LB**

● With switch
USSD-KL - **20** - **5** - **F** - **T0H** - **R** - **N** - **LB**

A Model no.

B Bore size (mm)

C Stroke length (mm)

D Lock direction

E Switch model no.
 Note 3

F Switch quantity

G Option

H Mounting bracket
 Note 2

Symbol	Descriptions
A Model no.	
USSD	Double acting
USSD-L	Double acting with switch
USSD-K	Double acting high load type
USSD-KL	Double acting high load type with switch

B Bore size (mm)	
20	φ20
25	φ25
32	φ32
40	φ40
50	φ50
63	φ63
80	φ80
100	φ100

C Stroke length (mm)
 Refer to the stroke length table on the following page.

D Lock direction	
F	Forward locking
B	Backward locking

E Switch model no.				
Axial lead wire	Radial lead wire	Contact	Indicator	Lead wire
T0H*	T0V*	Reed	1 color indicator type	2-wire
T5H*	T5V*		Without indicator light	
T8H*	T8V*		1 color indicator type	
T1H*	T1V*	Proximity	1 color indicator type	2-wire
T2H*	T2V*			
T3H*	T3V*		1 color indicator type (custom order)	3-wire
T3PH*	T3PV*			
T2YH*	T2YV*		2 color indicator type	2-wire
T3YH*	T3YV*			3-wire
T2YFH*	T2YFV*	2 color indicator type (without indicator light for preventive maintenance output)	3-wire	
T3YFH*	T3YFV*		4-wire	
T2YMH*	T2YMV*	2 color indicator type (w/ indicator light for preventive maintenance output (1 color))	3-wire	
T3YMH*	T3YMV*		4-wire	
T2JH*	T2JV*		Off-delay type	2-wire

*Lead wire length (m)	
Blank	1m (standard)
3	3m (option)
5	5m (option)

F Switch quantity	
R	One on rod end
H	One on head end
D	Two

G Option	
Blank	Rod end female thread
N	Rod end male thread

H Mounting bracket	
LB	Axial foot
CB	Clevis (pin and snap ring attached)

Note on model no. selection

- Note 1: Switches other than (E) switch model no. are available. (Custom order)
 Refer to an Ending 1 page for the details.
- Note 2: The mounting bracket is shipped with the product.
- Note 3: For bore size φ 20 to φ 32 of USSD-*L, T8* switch can not be installed.

<Example of model number>
USSD-KL-20-5-F-T0H-R-N

Model: Position locking compact cylinder

- A** Model no. : Double acting high load type with switch
- B** Bore size : φ 20mm
- C** Stroke length : 5mm
- D** Lock direction : Forward lock
- E** Switch model no. : Reed, axial lead wire 1m
- F** Switch quantity : One on rod end
- G** Option : Rod end male thread

③ Stroke length

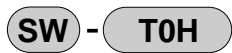
Series	Stroke length (mm)	Applicable bore size								
		φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100	
USSD	Standard stroke length	5	●	●	●	●	●	●	●	●
		10	●	●	●	●	●	●	●	●
		15	●	●	●	●	●			
		20	●	●	●	●	●	●	●	●
		25	●	●	●	●	●			
		30	●	●	●	●	●	●	●	●
		40		●	●	●	●	●	●	●
		50		●	●	●	●	●	●	●
	Min. stroke length	Note 1	1							
	Custom stroke length	Note 1, Note 2	1							
USSD-K	Standard stroke length	5	●							
		10	●	●	●	●	●	●	●	●
		15	●	●	●	●	●			
		20	●	●	●	●	●	●	●	●
		25	●	●	●	●	●			
		30	●	●	●	●	●	●	●	●
		40	●	●	●	●	●	●	●	●
		50	●	●	●	●	●	●	●	●
		60		●	●	●	●	●	●	●
		70		●	●	●	●	●	●	●
		80		●	●	●	●	●	●	●
		90		●	●	●	●	●	●	●
	100		●	●	●	●	●	●	●	
	Min. stroke length	Note 1	1							
Custom stroke length	Note 1, Note 2	1								

Note 1: Total length is the same as the next longer standard stroke length.

(Less than 5 mm with switch is not available)

The 2 color indication type, off delay type, strong magnetic field proof type, or 10mm or shorter type with T1* or T8* switch is not available.

How to order switch



Switch model no.
(Item ⑤ previous page)

Mounting bracket model no. display dimension

Bore size (mm)	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Mounting bracket								
Foot (LB)	USSD-LB-20	USSD-LB-25	USSD-LB-32	USSD-LB-40	USSD-LB-50	USSD-LB-63	USSD-LB-80	USSD-LB-100
Clevis (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

Note 1: Foot type mounting bracket is a two-piece/set.

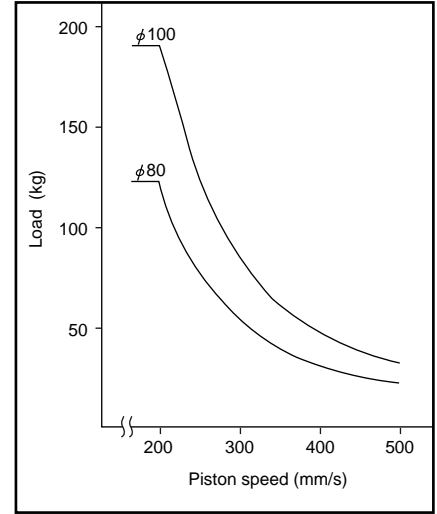
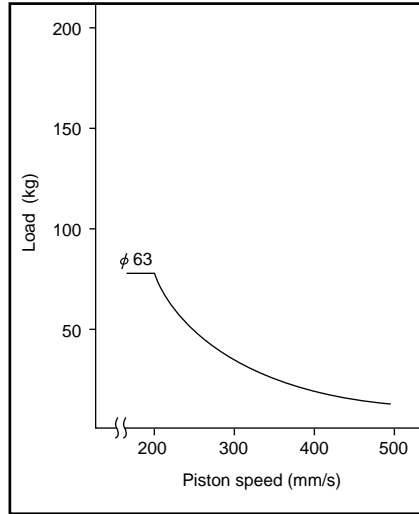
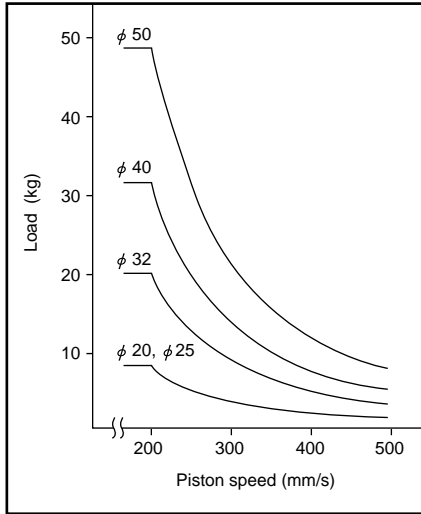
SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Position locking compact cylinder
With brake

USSD/USSD-K Series

High load type allowable energy graph/weight table

High load type allowable energy graph



● Note: The area left and below curve is usable range. For right and above area, an external cushion is required.

USSD cylinder weight table (weight with switch includes weight for two cylinder switches) Unit: g

Stroke length (mm)	5		10		15		20		25		30		40		50	
	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch
φ 20	173	228	185	260	198	273	211	286	223	298	236	311	-	-	-	-
φ 25	247	338	262	353	278	369	294	385	310	401	325	416	357	448	388	479
φ 32	342	456	364	478	386	500	408	522	429	543	451	565	495	609	538	652
φ 40	493	636	520	663	546	689	573	716	600	743	626	769	679	822	732	875
φ 50	859	1053	901	1095	943	1137	985	1179	1027	1221	1070	1264	1154	1348	1238	1432
φ 63	1342	1621	1397	1676	-	-	1507	1786	-	-	1617	1896	1728	2007	1838	2117
φ 80	2591	3004	2678	3091	-	-	2851	3264	-	-	3024	3437	3198	3611	3371	3784
φ 100	4219	4786	4333	4900	-	-	4560	5127	-	-	4788	5355	5015	5582	5243	5810

USSD-K cylinder weight table (weight with switch includes weight for two cylinder switches)

Unit: g

Stroke length (mm)	5		10		15		20		25		30		40		50		60		70		80	
Bore size (mm)	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch
φ 20	185	260	198	273	211	286	223	298	236	311	248	323	273	348	298	373	323	398	348	423	373	448
φ 25	-	-	278	369	294	385	310	401	325	416	342	433	374	465	406	497	438	529	470	561	502	593
φ 32	-	-	408	522	429	543	451	565	473	587	495	609	538	652	581	695	624	738	667	781	710	824
φ 40	-	-	573	716	600	743	626	769	652	795	679	822	732	875	785	928	838	981	891	1034	944	1087
φ 50	-	-	985	1179	1027	1221	1070	1264	1113	1307	1154	1348	1238	1432	1322	1516	1406	1600	1490	1684	1574	1768
φ 63	-	-	1507	1786	-	-	1617	1896	-	-	1728	2007	1838	2117	1948	2227	2058	2337	2168	2447	2278	2557
φ 80	-	-	2851	3264	-	-	3024	3437	-	-	3198	3611	3371	3784	3544	3957	3717	4130	3890	4303	4063	4476
φ 100	-	-	4560	5127	-	-	4788	5355	-	-	5015	5582	5243	5810	5471	6038	5699	6266	5927	6494	6155	6722
Stroke length (mm)	90		100		110		120		130		140		150		160		170		180		190	
Bore size (mm)	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch
φ 20	398	473	423	498	448	523	473	548	498	573	523	598	548	623	573	648	598	673	623	698	648	723
φ 25	534	625	566	657	598	689	630	721	662	753	694	785	726	817	758	849	790	881	822	913	854	945
φ 32	753	867	796	910	839	953	882	996	925	1039	968	1082	1011	1125	1053	1167	1096	1210	1139	1253	1182	1296
φ 40	997	1140	1050	1193	1103	1246	1156	1299	1209	1352	1262	1405	1315	1458	1368	1511	1421	1564	1474	1617	1527	1670
φ 50	1658	1852	1742	1936	1826	2020	1910	2104	1994	2188	2078	2272	2162	2356	2260	2454	2345	2539	2430	2624	2515	2709
φ 63	2388	2667	2498	2777	2608	2887	2718	2997	2828	3107	2938	3217	3048	3327	3158	3437	3268	3547	3378	3657	3488	3767
φ 80	4236	4649	4409	4822	4582	4995	4755	5168	4928	5341	5101	5514	5274	5687	5447	5860	5620	6033	5793	6206	5966	6379
φ 100	6383	6950	6611	7178	6839	7406	7067	7634	7295	7862	7523	8090	7751	8318	7979	8546	8207	8774	8435	9002	8663	9230
Stroke length (mm)	200		210		220		230		240		250		260		270		280		290		300	
Bore size (mm)	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch
φ 20	673	748	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
φ 25	886	977	929	1009	961	1041	993	1073	1025	1105	1057	1137	1089	1169	1121	1201	1153	1233	1185	1265	1217	1297
φ 32	1225	1339	1268	1382	1311	1425	1354	1468	1397	1511	1440	1554	1483	1597	1526	1640	1569	1683	1612	1726	1655	1769
φ 40	1580	1723	1633	1776	1686	1829	1739	1882	1792	1935	1845	1988	1898	2041	1951	2094	2004	2147	2057	2200	2110	2253
φ 50	2600	2794	2685	2879	2770	2964	2855	3049	2940	3134	3025	3219	3110	3304	3195	3389	3280	3474	3365	3559	3450	3644
φ 63	3598	3877	3707	3986	3817	4096	3927	4206	4037	4316	4147	4426	4257	4536	4367	4646	4477	4756	4587	4866	4697	4976
φ 80	4139	6552	6311	6724	6484	6897	6657	7070	6830	7243	7003	7416	7176	7589	7349	7762	7522	7935	7695	8108	7868	8281
φ 100	8891	9458	9120	9687	9348	9915	9576	10143	9804	10371	10032	10599	10260	10827	10488	11055	10716	11283	10944	11511	11172	11739

- SCP*2
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS
- CKV2
- CA/OV2
- SSD
- CAT
- MDC2
- MVC
- SMD2
- MSD*
- FC*
- STK
- ULK*
- JSK/M2
- JSG
- JSC3
- USSD
- USD
- JSB3
- LMB
- STG
- STS/L
- LCS
- LCG
- LCM
- LCT
- LCY
- STR2
- UCA2
- HCM
- HCA
- SRL2
- SRG
- SRM
- SRT
- MRL2
- MRG2
- SM-25
- CAC3
- UCAC
- RCC2
- MFC
- SHC
- GLC

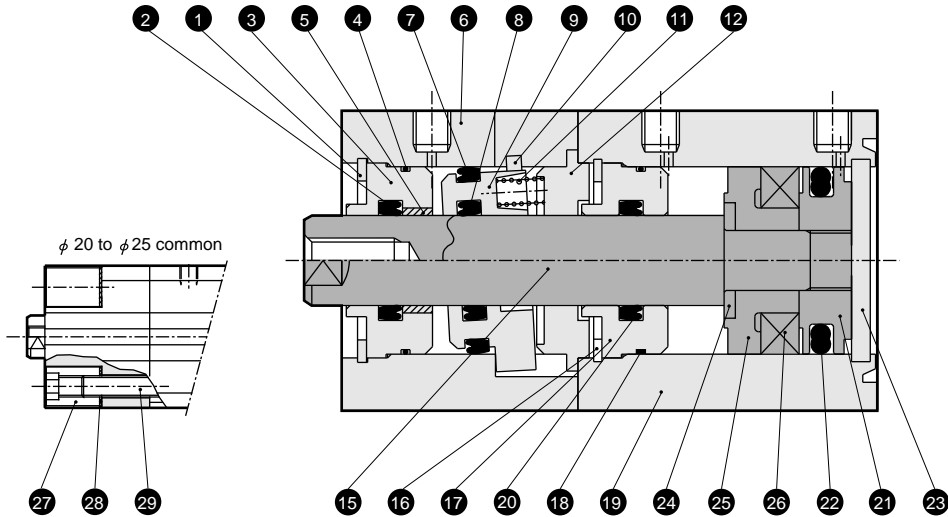
Ending

Position locking compact cylinder
With brake

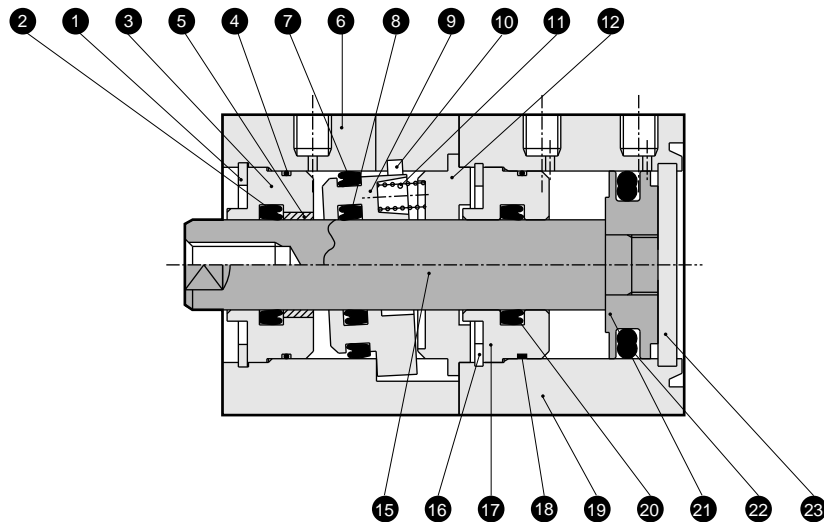
Internal structure and parts list ($\phi 20$, $\phi 25$)

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

- USSD-L-20, 25-F
(Double acting with switch forward lock: F)



- USSD-20, 25-F
(Double acting forward lock: F)

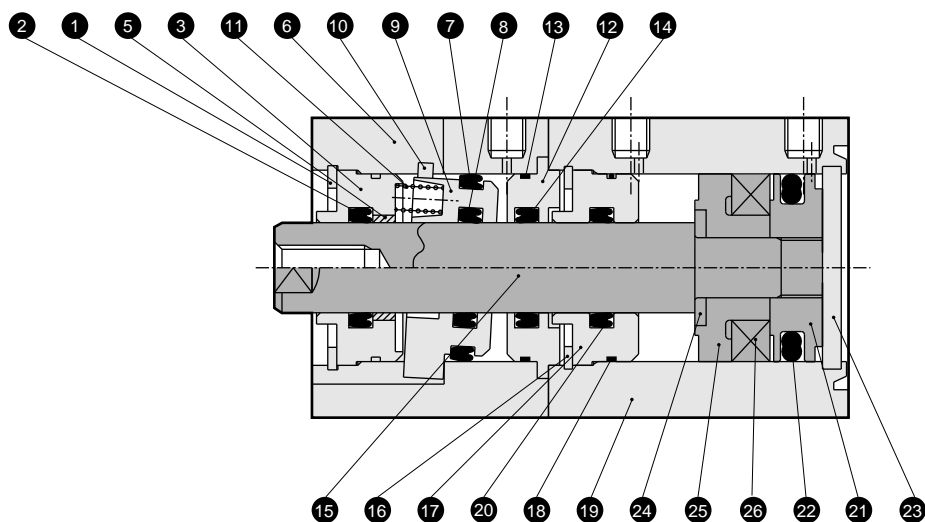


Parts list

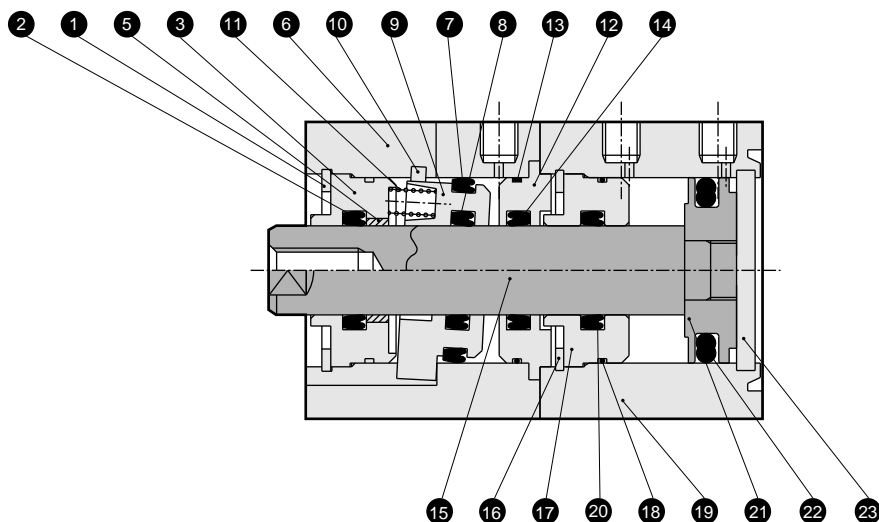
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	C type snap ring (2)	Steel	Phosphoric acid salt membrane	9	Lock metal	Special steel	Phosphoric acid salt membrane
2	Rod packing seal (2)	Nitrile rubber		10	Release lever	Steel	Blackening
3	Rod bushing (2)	Special aluminum	Alumite	11	Spring	Steel	Blackening
4	Rod metal gasket (2)	Nitrile rubber		12	Joint	Aluminum alloy	
5	Bush (2)	DU dry bearing		13	Rod metal gasket (3)	Nitrile rubber	(B type only)
6	Lock main body	Aluminum alloy	Hard alumite	14	Rod packing seal (4)	Nitrile rubber	(B type only)
7	Piston packing seal (2)	Nitrile rubber		15	Piston rod	Stainless steel	Industrial chrome plating
8	Rod packing seal (3)	Nitrile rubber		16	C type snap ring (1)	Steel	Phosphoric acid salt membrane

Internal structure and parts list (φ 20, φ 25)

- USSD-L-20, 25-B
(Double acting with switch backward lock: B)



- USSD-20, 25-B
(Double acting backward lock: B)



SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC

Ending

Parts list

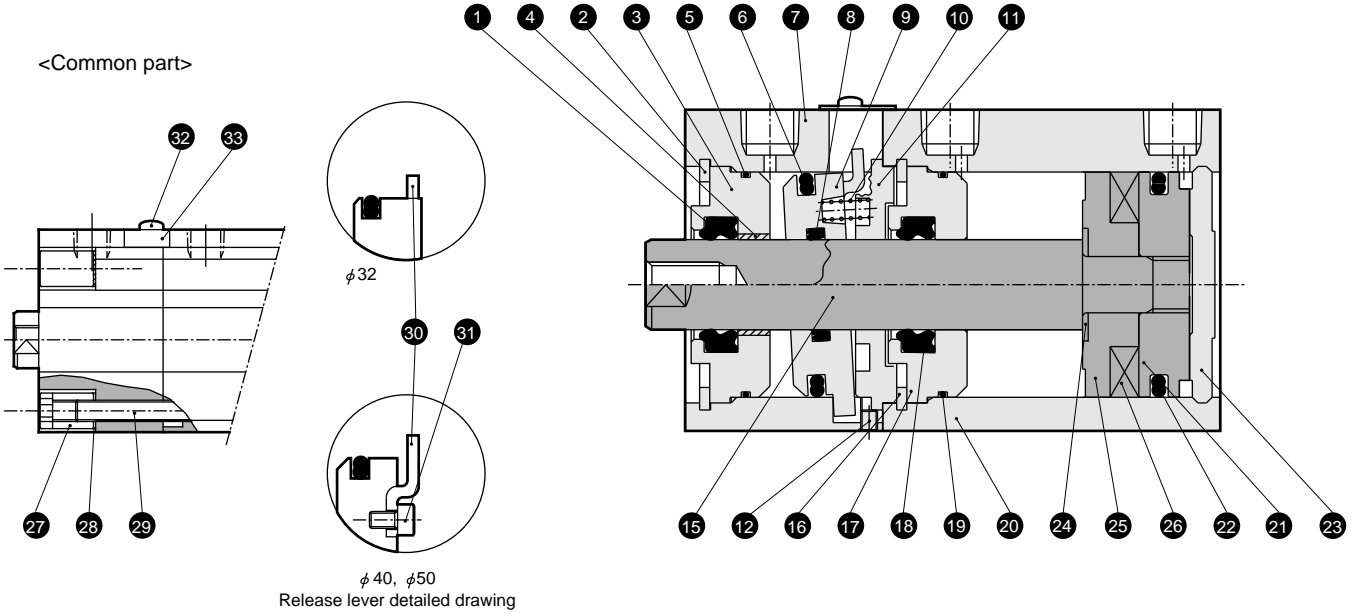
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
17	Rod bushing (1)	Special aluminum	Alumite	24	Spacer washer	Stainless steel	Only for types with switch
18	Rod metal gasket (1)	Nitrile rubber		25	Spacer	Special plastic	Only for types with switch
19	Cylinder main body	Aluminum alloy	Hard alumite	26	Piston magnet	Plastic magnet	Only for types with switch
20	Rod packing seal (1)	Nitrile rubber		27	Round nut	Steel	Zinc chromate
21	Piston	Stainless steel		28	Conical spring washer	Steel	Blackening
22	Piston packing seal (1)	Nitrile rubber		29	Hexagon socket set screw	Steel	Blackening
23	Cover	Stainless steel					

Position locking compact cylinder
With brake

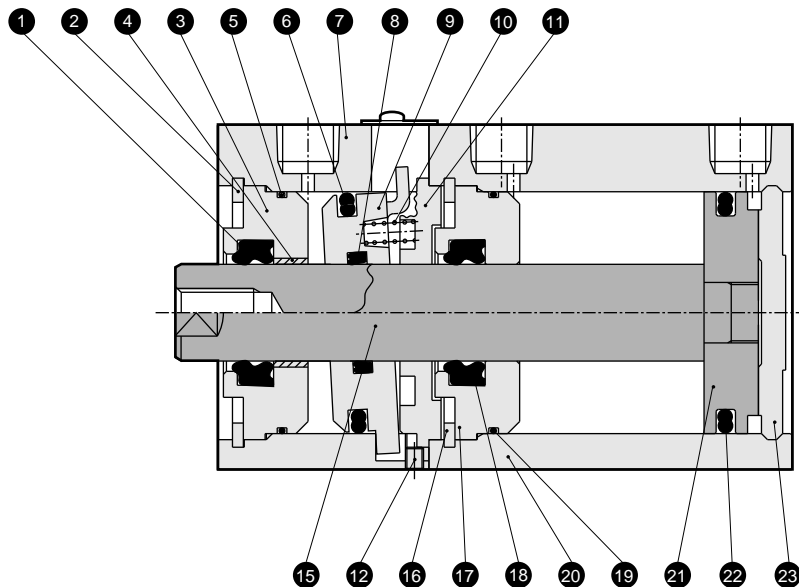
Internal structure and parts list (φ 32 to φ 50)

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

- USSD-L-32 to 50-F
(Double acting with switch forward lock: F)



- USSD-32 to 50-F
(Double acting forward lock: F)

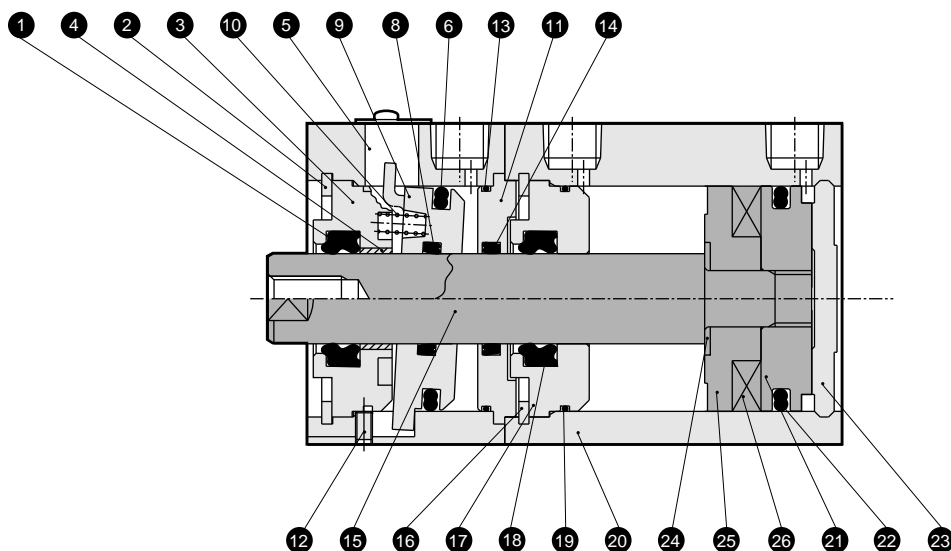


Parts list

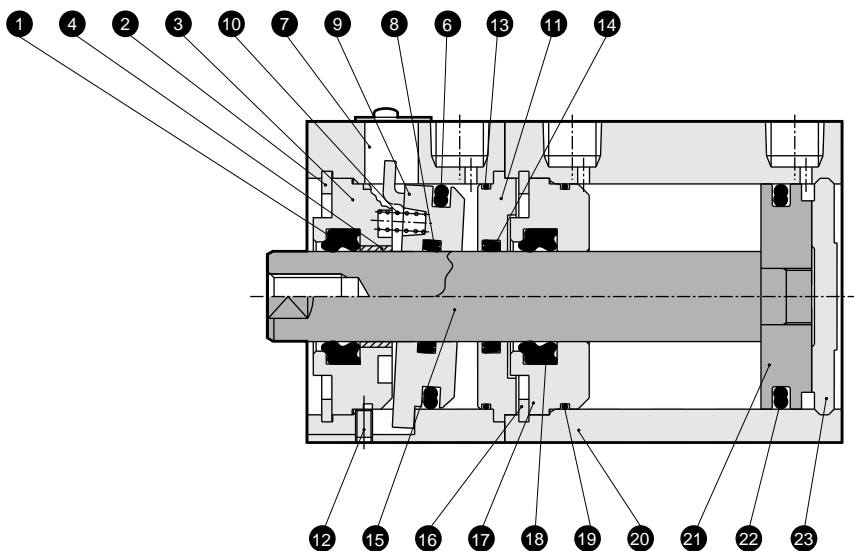
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Rod packing seal (2)	Nitrile rubber		9	Lock metal	Special steel	Phosphoric acid salt membrane
2	C type snap ring (2)	Steel	Phosphoric acid salt membrane	10	Spring	Steel	Blackening
3	Rod bushing (2)	Aluminum alloy	Alumite	11	Joint	Aluminum alloy	
4	Bush (2)	DU dry bearing		12	Hexagon socket set screw	Steel	Blackening (φ 40 to φ 50)
5	Rod metal gasket (2)	Nitrile rubber		13	Rod metal gasket (3)	Nitrile rubber	(B type only)
6	Piston packing seal (2)	Nitrile rubber		14	Rod packing seal (4)	Nitrile rubber	(B type only)
7	Lock main body	Aluminum alloy	Hard alumite	15	Piston rod	Steel	Industrial chrome plating
8	Rod packing seal (3)	Nitrile rubber		16	C type snap ring (1)	Steel	Phosphoric acid salt membrane

Internal structure and parts list (φ 32 to φ 50)

- USSD-L-32 to 50-B
(Double acting with switch backward lock: B)



- USSD-32 to 50-B
(Double acting backward lock: B)



Parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
17	Rod bushing (1)	Aluminum alloy	Alumite	25	Spacer	Special plastic	Only for types with switch
18	Rod packing seal (1)	Nitrile rubber		26	Piston magnet	Plastic magnet	Only for types with switch
19	Rod metal gasket (1)	Nitrile rubber		27	Round nut	Steel	Zinc chromate
20	Cylinder main body	Aluminum alloy	Hard alumite	28	Conical spring washer	Steel	Blackening
21	Piston	Aluminum alloy		29	Hexagon socket set screw	Steel	Blackening
22	Piston packing seal (1)	Nitrile rubber		30	Release lever	Steel	φ32 Blackening φ40 to 50 Galvanizing
23	Cover	Aluminum alloy		31	Hexagon socket bolt	Steel	φ40 to φ50
24	Spacer washer	Stainless steel	Only for types with switch	32	Cross headed round machine screw	Steel	
				33	Dust cover	Stainless steel	

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC

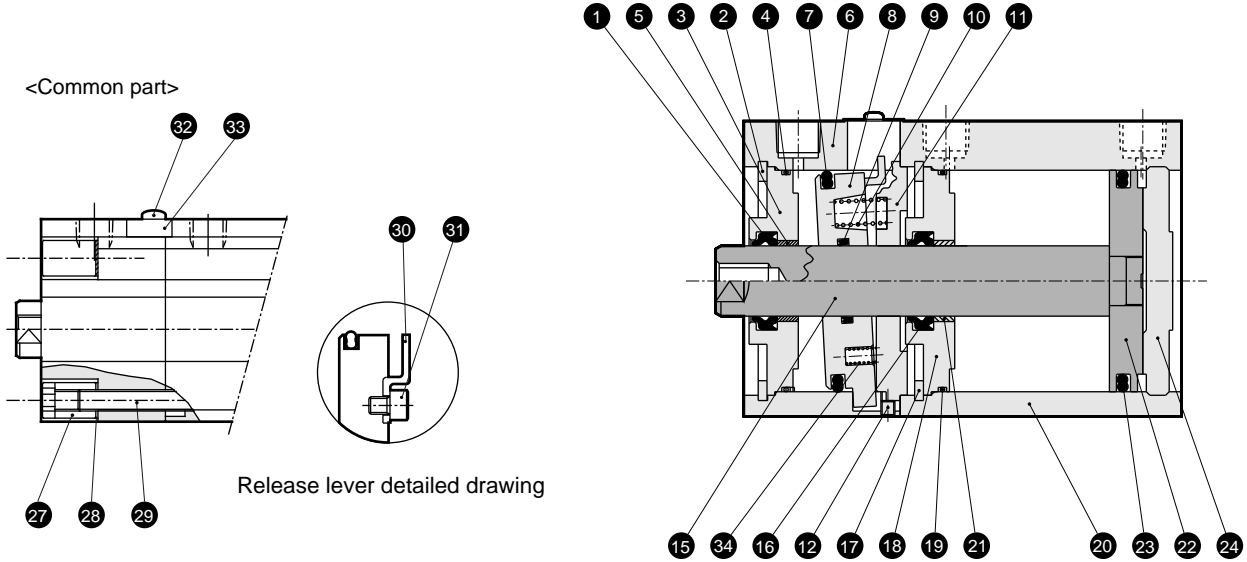
Ending

Position locking compact cylinder
With brake

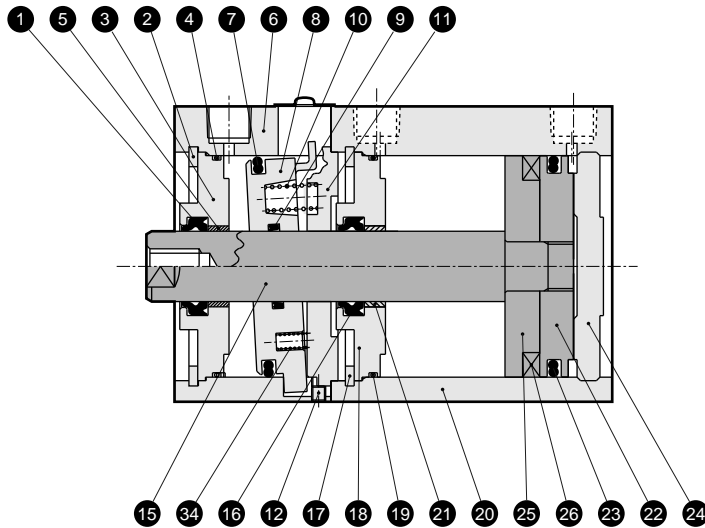
Internal structure and parts list (φ 63 to φ 100)

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

- USSD-L-63 to 100-F
(Double acting with switch forward lock: F)



- USSD-63 to 100-F
(Double acting forward lock: F)

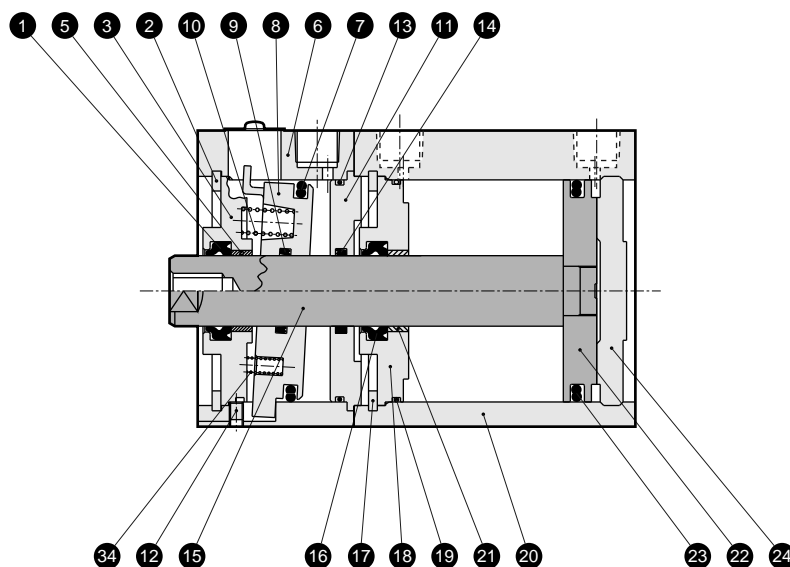


Parts list

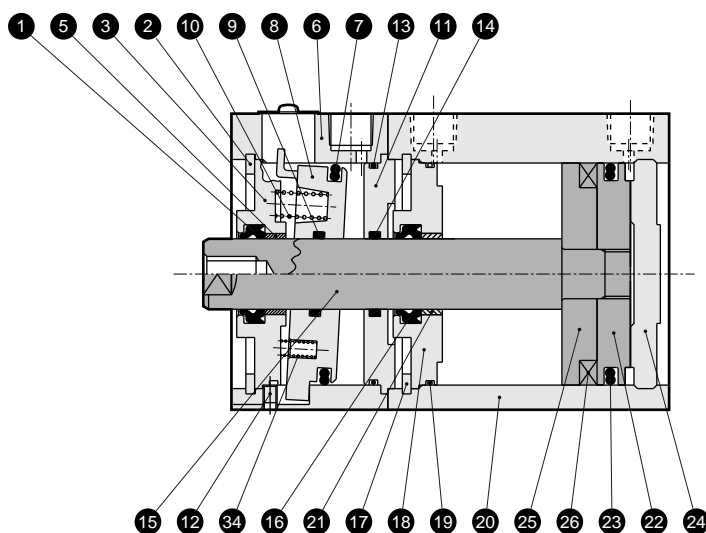
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Rod packing seal (2)	Nitrile rubber		9	Rod packing seal (3)	Nitrile rubber	
2	C type snap ring (2)	Steel	Phosphoric acid salt membrane	10	Spring (1)	Steel	Blackening
3	Rod bushing (2)	Aluminum alloy	Alumite	11	Joint	Aluminum alloy	
4	Rod metal gasket (2)	Nitrile rubber		12	Hexagon socket head set screw	Steel	Blackening
5	Bush (2)	DU dry bearing		13	Rod metal gasket (3)	Nitrile rubber	(B type only)
6	Lock main body	Aluminum alloy	Hard alumite	14	Rod packing seal (4)	Nitrile rubber	(B type only)
7	Piston packing seal (2)	Nitrile rubber		15	Piston rod	Steel	Industrial chrome plating
8	Lock metal	Special steel	Phosphoric acid salt membrane	16	Rod packing seal (1)	Nitrile rubber	

Internal structure and parts list (φ 63 to φ 100)

- USSD-L- φ 63 to 100-B
(Double acting with switch backward lock: B)



- USSD- φ 63 to 100-B
(Double acting backward lock: B)



SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC

Ending

Parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
17	C type snap ring (1)	Steel	Phosphate coating	26	Piston magnet	Plastic magnet	Only for types with switch
18	Rod bushing (1)	Aluminum alloy	Alumite	27	Round nut	Steel	Zinc chromate
19	Rod metal gasket (1)	Nitrile rubber		28	Conical spring washer	Steel	Blackening
20	Cylinder main body	Aluminum alloy	Hard alumite	29	Hexagon socket head set screw	Steel	Blackening
21	Bush (1)	DU dry bearing		30	Release lever	Steel	Zinc chromate
22	Piston	Aluminum alloy	Chromate	31	Hexagon socket head cap bolt	Steel	Blackening
23	Piston packing seal (1)	Nitrile rubber		32	Cross headed round machine screw	Steel	
24	Cover	Aluminum alloy	Chromate	33	Dust cover	Stainless steel	
25	Spacer	Aluminum alloy	Chromate (only with switch)	34	Spring (2)	Steel	Blackening (only φ80, φ100)

Position locking compact cylinder
With brake

USSD-K Series

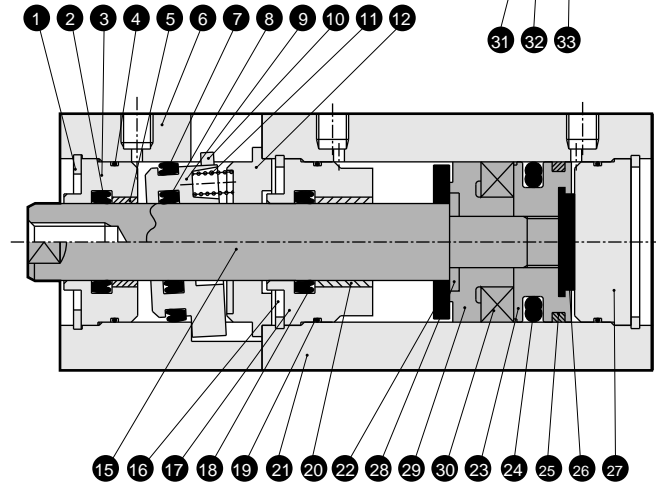
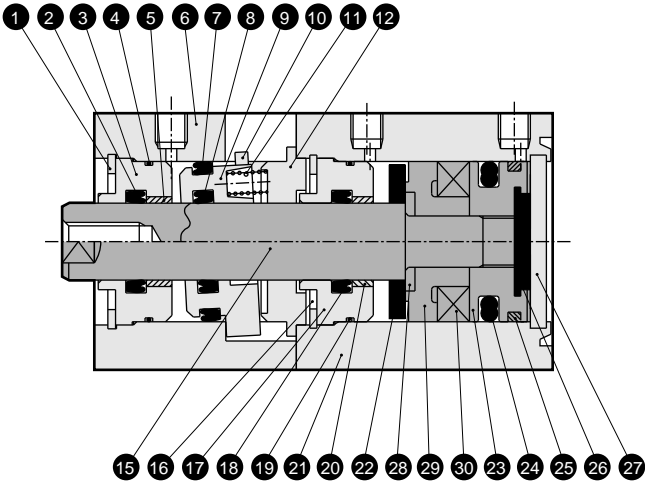
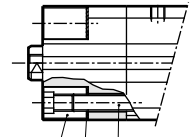
Internal structure and parts list (high load type ϕ 20, ϕ 25)

● USSD-KL-20, 25-F (Internal structure differs depending on the stroke length.)
(Double acting high load type with switch forward lock: F)

ϕ 20: 100 mm stroke or less
 ϕ 25: 150 mm stroke or less

ϕ 20: 100 to 200 mm stroke
 ϕ 25: 150 to 300 mm stroke

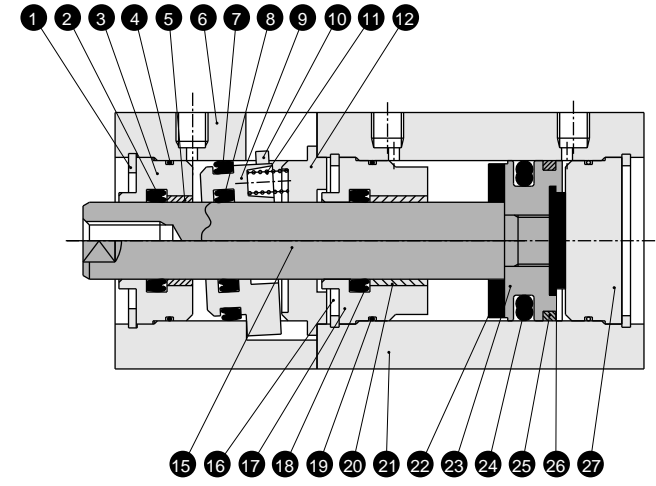
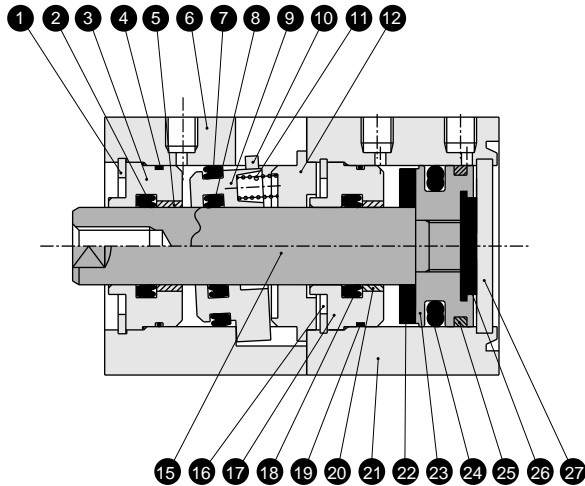
ϕ 20 to ϕ 25 common



● USSD-K-20, 25-F (Internal structure differs depending on the stroke length.)
(Double acting high load type forward lock: F)

ϕ 20: 100 mm stroke or less
 ϕ 25: 150 mm stroke or less

ϕ 20: 100 to 200 mm stroke
 ϕ 25: 150 to 300 mm stroke



Parts list

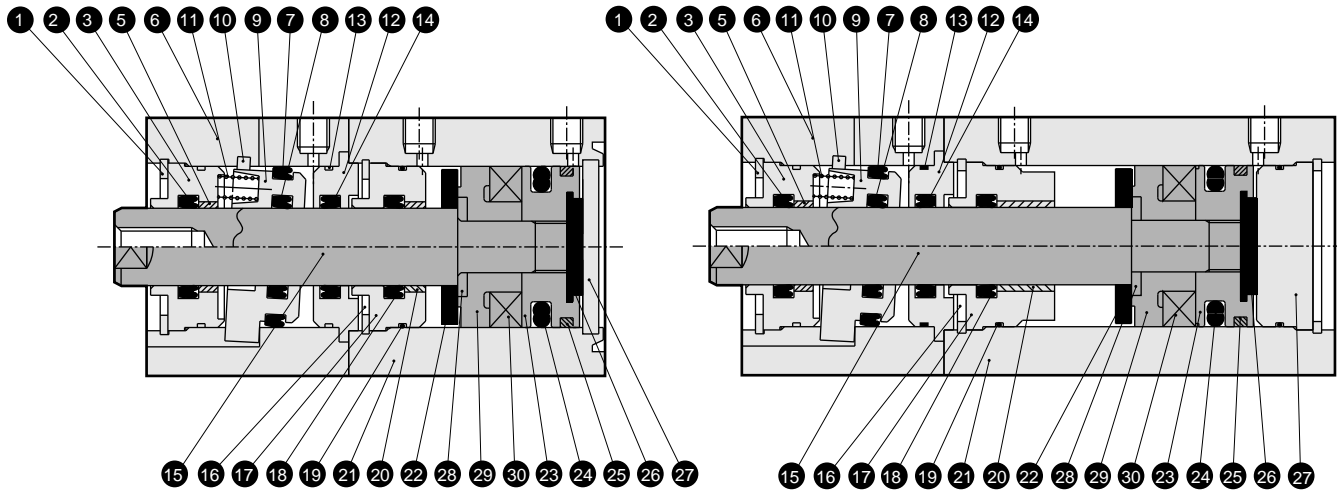
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	C type snap ring (2)	Steel	Phosphoric acid salt membrane	10	Release lever	Steel	Blackening
2	Rod packing seal (2)	Nitrile rubber		11	Spring	Steel	Blackening
3	Rod bushing (2)	Special aluminum	Alumite	12	Joint	Aluminum alloy	
4	Rod metal gasket (2)	Nitrile rubber		13	Rod metal gasket (3)	Nitrile rubber	(B type only)
5	Bush (2)	DU dry bearing		14	Rod packing seal (4)	Nitrile rubber	(B type only)
6	Lock main body	Aluminum alloy	Hard alumite	15	Piston rod	Stainless steel	Industrial chrome plating
7	Piston packing seal (2)	Nitrile rubber		16	C type snap ring (1)	Steel	Phosphoric acid salt membrane
8	Rod packing seal (3)	Nitrile rubber		17	Rod bushing (1)	Special aluminum	Alumite
9	Lock metal	Special steel	Phosphoric acid salt membrane	18	Rod packing seal (1)	Nitrile rubber	

Internal structure and parts list (high load type φ 20, φ 25)

- USSD-KL-20, 25-B (Internal structure differs depending on the stroke length.)
(Double acting high load type with switch backward lock: B)

φ 20: 100 mm stroke or less
φ 25: 150 mm stroke or less

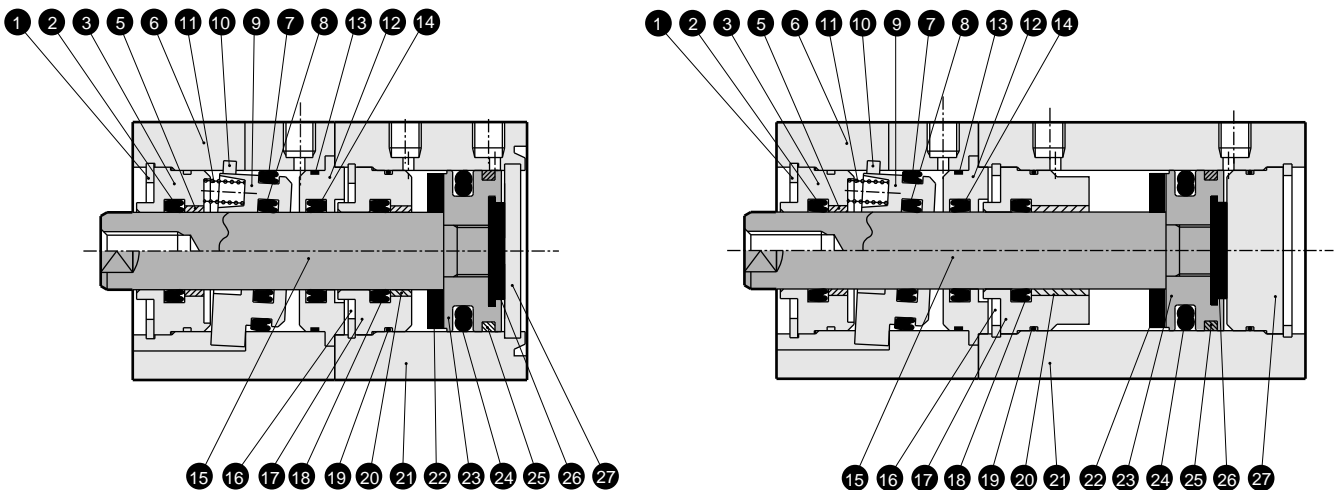
φ 20: 100 to 200 mm stroke
φ 25: 150 to 300 mm stroke



- USSD-K-20, 25-B (Internal structure differs depending on the stroke length.)
(Double acting high load type backward lock: B)

φ 20: 100 mm stroke or less
φ 25: 150 mm stroke or less

φ 20: 100 to 200 mm stroke
φ 25: 150 to 300 mm stroke



Parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
19	Rod metal gasket (1)	Nitrile rubber		27	Cover	Stainless steel	(Note 1)
20	Bush (1)	DU dry bearing		28	Spacer washer	Stainless steel	Only for types with switch
21	Cylinder main body	Aluminum alloy	Hard alumite	29	Spacer	Special plastic	Only for types with switch
22	Cushion rubber (R)	Urethane rubber		30	Piston magnet	Plastic magnet	
23	Piston	Stainless steel		31	Round nut	Steel	Zinc chromate
24	Piston packing seal (1)	Nitrile rubber		32	Conical spring washer	Steel	Blackening
25	Wear ring	Acetar resin		33	Hexagon socket set screw	Steel	Blackening
26	Cushion rubber (H)	Urethane rubber					

Note 1: For long stroke type cover, material: aluminum, remarks: alumite.

- SCP*2
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS
- CKV2
- CA/OV2
- SSD
- CAT
- MDC2
- MVC
- SMD2
- MSD*
- FC*
- STK
- ULK*
- JSK/M2
- JSG
- JSC3
- USSD**
- USC
- JSB3
- LMB
- STG
- STS/L
- LCS
- LCG
- LCM
- LCT
- LCY
- STR2
- UCA2
- HCM
- HCA
- SRL2
- SRG
- SRM
- SRT
- MRL2
- MRG2
- SM-25
- CAC3
- UCAC
- RCC2
- MFC
- SHC
- GLC

Ending

Position locking compact cylinder
With brake

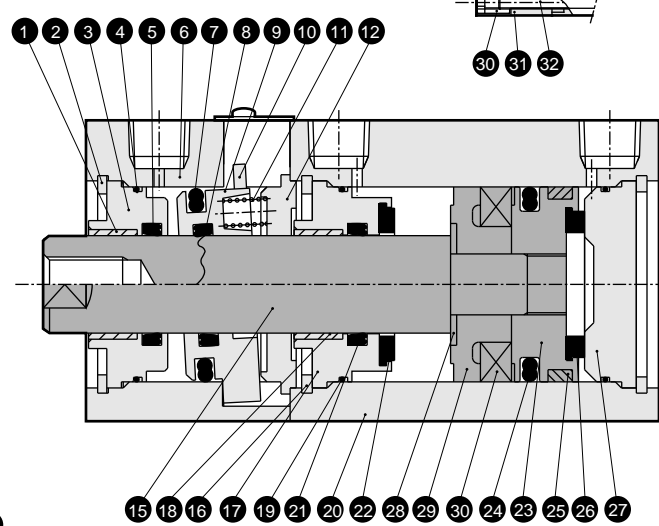
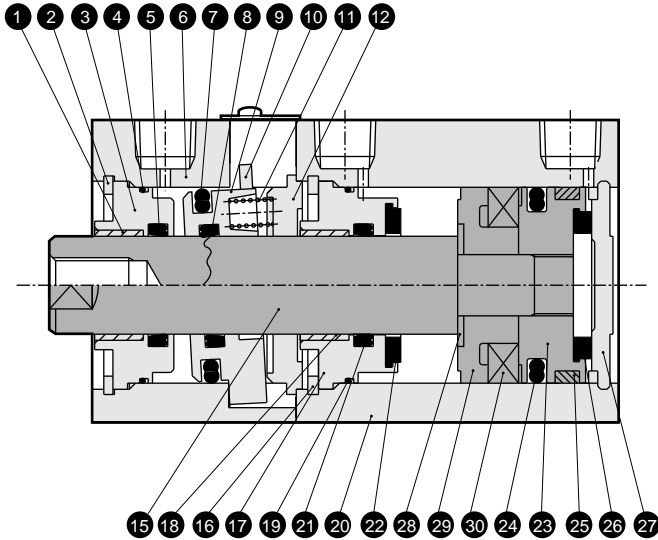
USSD-K Series

Internal structure and parts list (high load type $\phi 32$)

● USSD-KL-32-F (Internal structure differs depending on the stroke length.)
(Double acting high load type with switch forward lock: F)

150 mm stroke or less

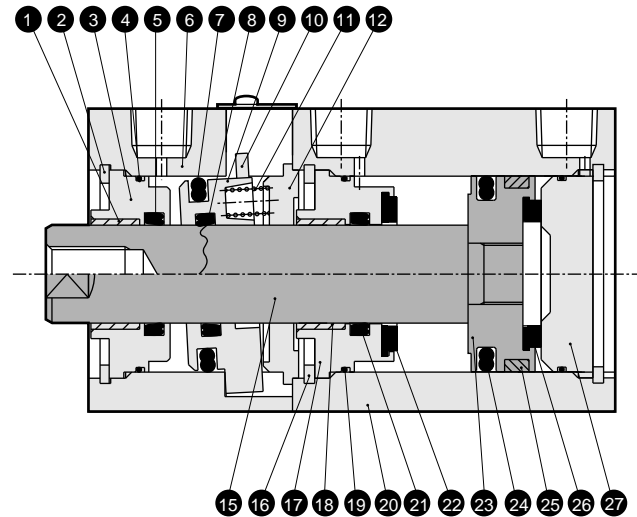
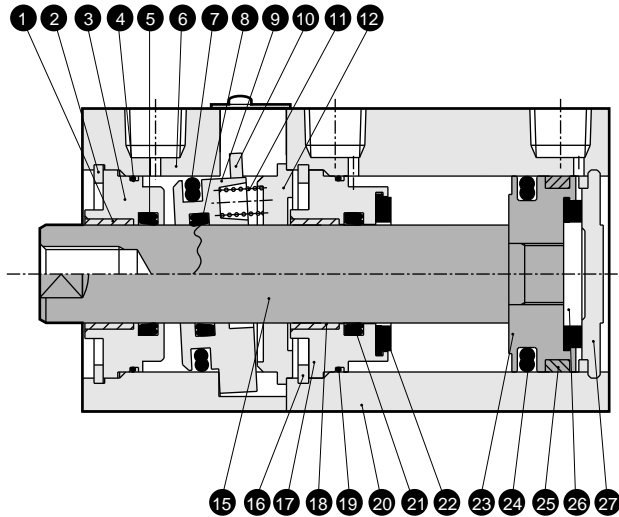
150 to 300 mm stroke



● USSD-K-32-F (Internal structure differs depending on the stroke length.)
(Double acting high load type forward lock: F)

150 mm stroke or less

150 to 300 mm stroke



Parts list

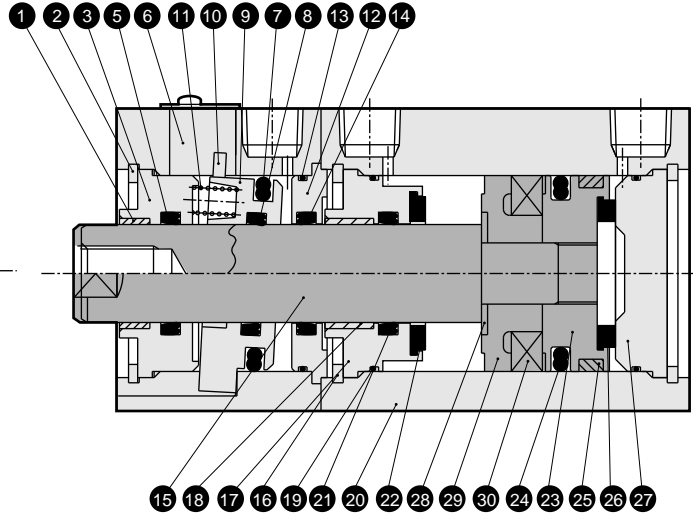
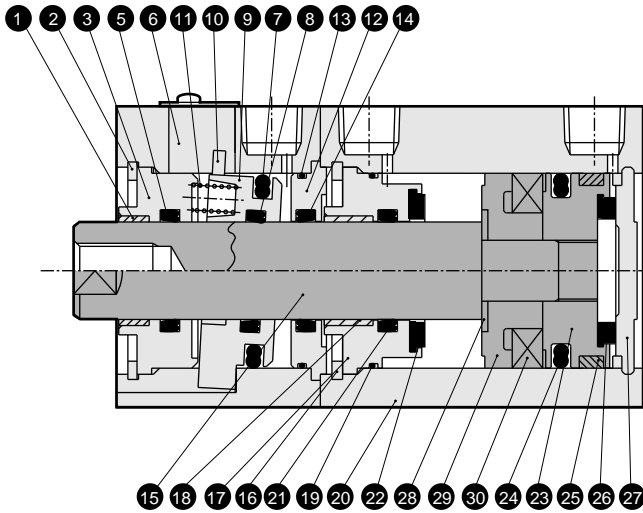
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Bush (2)	DU dry bearing		10	Release lever	Steel	Blackening
2	C type snap ring (2)	Steel		11	Spring	Steel	Blackening
3	Rod bushing (2)	Special aluminum	Alumite	12	Joint	Aluminum alloy	
4	Rod metal gasket (2)	Nitrile rubber		13	Rod metal gasket (3)	Nitrile rubber	(B type only)
5	Rod packing seal (2)	Nitrile rubber		14	Rod packing seal (4)	Nitrile rubber	(B type only)
6	Lock main body	Aluminum alloy	Hard alumite	15	Piston rod	Stainless steel	Industrial chrome plating
7	Piston packing seal (2)	Nitrile rubber		16	C type snap ring (1)	Steel	Phosphoric acid salt membrane
8	Rod packing seal (3)	Nitrile rubber		17	Rod bushing (1)	Special aluminum	Alumite
9	Lock metal	Special steel	Phosphoric acid salt membrane	18	Bush (1)	DU dry bearing	

Internal structure drawing and parts list (high load type φ 32)

- USSD-KL-32-B (Internal structure differs depending on the stroke length.)
(Double acting high load type with switch backward lock: B)

150 mm stroke or less

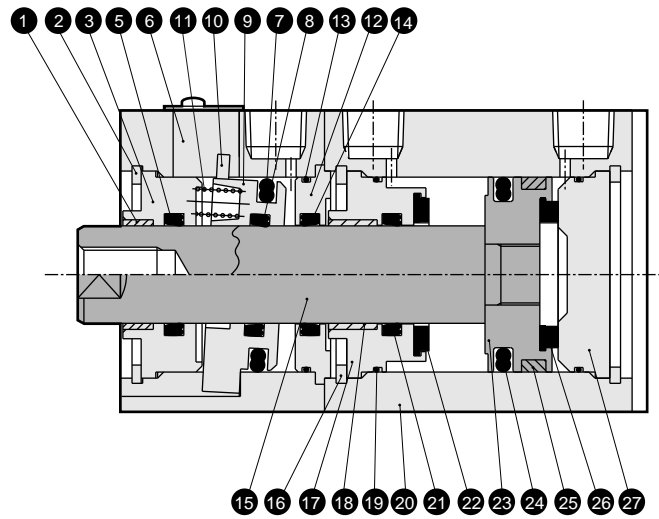
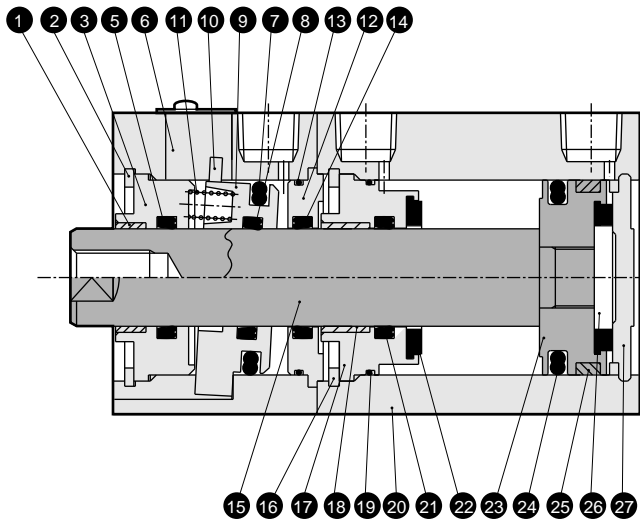
150 to 300 mm stroke



- USSD-K-32-B (Internal structure differs depending on the stroke length.)
(Double acting high load type backward lock: B)

150 mm stroke or less

150 to 300 mm stroke



Parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
19	Rod metal gasket (1)	Nitrile rubber		28	Spacer washer	Stainless steel	Only for types with switch
20	Cylinder main body	Aluminum alloy	Hard alumite	29	Spacer	Special plastic	Only for types with switch
21	Rod packing seal (1)	Nitrile rubber		30	Piston magnet	Plastic magnet	Only for types with switch
22	Cushion rubber (R)	Urethane rubber		31	Round nut	Steel	Zinc chromate
23	Piston	Stainless steel		32	Conical spring washer	Steel	Blackening
24	Piston packing seal (1)	Nitrile rubber		33	Hexagon socket set screw	Steel	Blackening
25	Wear ring	Acetar resin		34	Cross headed round machine screw	Steel	
26	Cushion rubber (H)	Urethane rubber		35	Dust cover	Stainless steel	
27	Cover	Aluminum alloy	Chromate (Note 1)				

Note 1: For long stroke type cover, alumite is used.

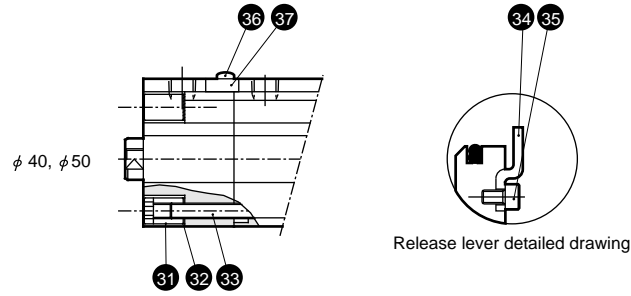
SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Position locking compact cylinder
With brake

USSD-K Series

Internal structure and parts list (high load type $\phi 40$, $\phi 50$)

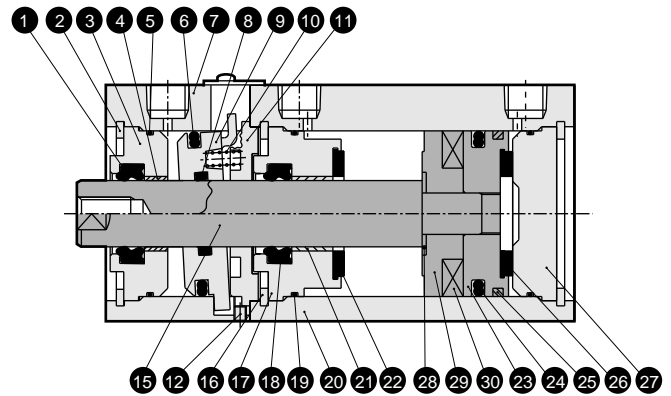
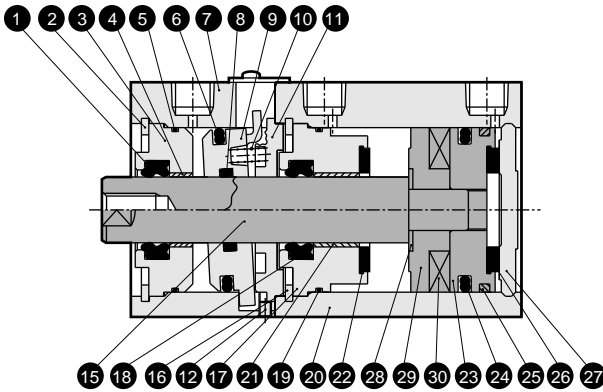
<Common part>



- USSD-KL-40, 50-F (Internal structure differs depending on the stroke length.)
(Double acting high load type with switch forward lock: F)

$\phi 40$, $\phi 50$: 150 mm stroke or less

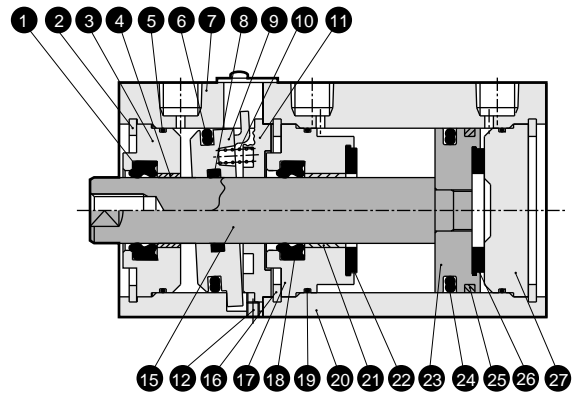
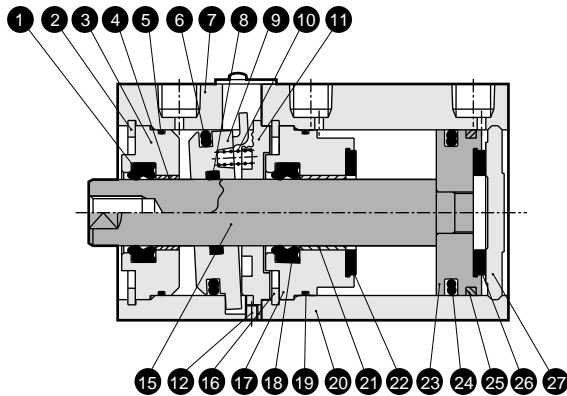
$\phi 40$, $\phi 50$: 150 to 300 mm stroke



- USSD-K-40, 50-F (Internal structure differs depending on the stroke length.)
(Double acting high load type forward lock: F)

$\phi 40$, $\phi 50$: 150 mm stroke or less

$\phi 40$, $\phi 50$: 150 to 300 mm stroke



Parts list

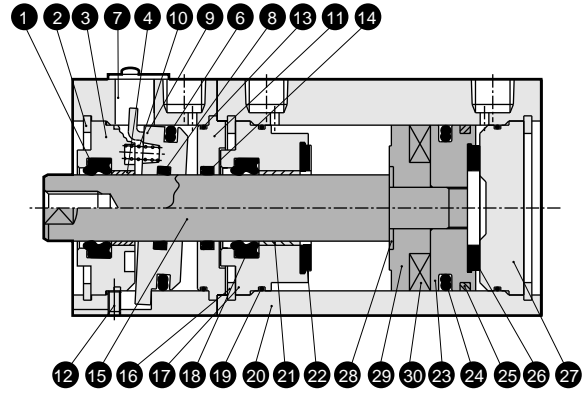
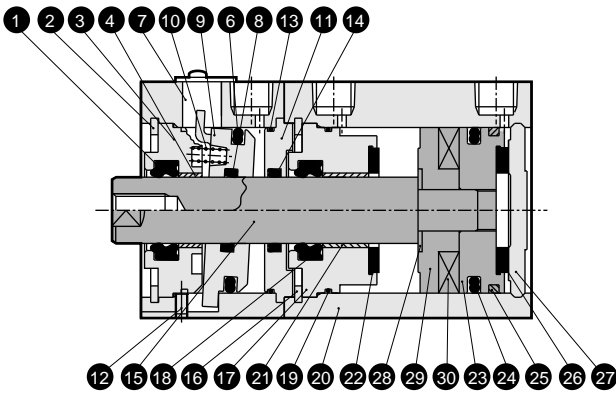
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Rod packing seal (2)	Nitrile rubber		10	Spring	Steel	Blackening
2	C type snap ring (2)	Steel	Phosphoric acid salt membrane	11	Joint	Aluminum alloy	
3	Rod bushing (2)	Aluminum alloy	Alumite	12	Hexagon socket set screw	Steel	Blackening
4	Bush (2)	DU dry bearing		13	Rod metal gasket (3)	Nitrile rubber	(B type only)
5	Rod metal gasket (2)	Nitrile rubber		14	Rod packing seal (4)	Nitrile rubber	(B type only)
6	Piston packing seal (2)	Nitrile rubber		15	Piston rod	Steel	Industrial chrome plating
7	Lock main body	Aluminum alloy	Hard alumite	16	C type snap ring (1)	Steel	Phosphoric acid salt membrane
8	Rod packing seal (3)	Nitrile rubber		17	Rod bushing (1)	Aluminum alloy	Alumite
9	Lock metal	Special steel	Phosphoric acid salt membrane	18	Rod packing seal (1)	Nitrile rubber	

Internal structure and parts list (high load type φ 40, φ 50)

- USSD-KL-40, 50-B (Internal structure differs depending on the stroke length.)
(Double acting high load type with switch backward lock: B)

φ 40, φ 50: 150 mm stroke or less

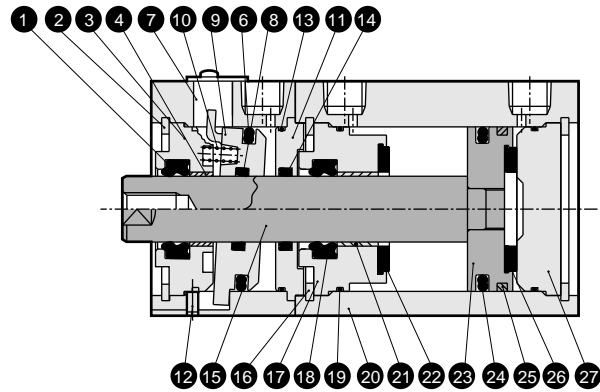
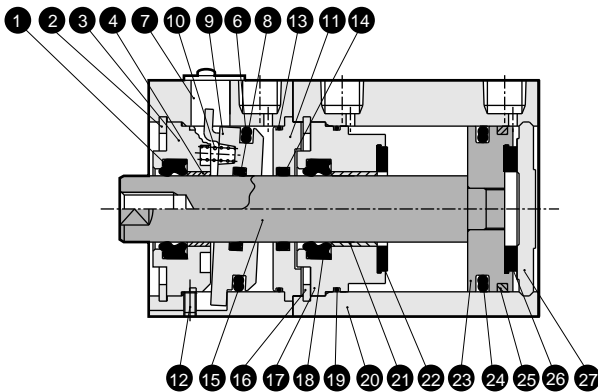
150 to 300 mm stroke



- USSD-K-40, 50-B (Internal structure differs depending on the stroke length.)
(Double acting high load type backward lock: B)

φ 40, φ 50: 150 mm stroke or less

150 to 300 mm stroke



Parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
19	Rod metal gasket (1)	Nitrile rubber		29	Spacer	Special plastic	Only for types with switch
20	Cylinder main body	Aluminum alloy	Hard alumite	30	Piston magnet	Plastic magnet	Only for types with switch
21	Bush (1)	DU dry bearing		31	Round nut	Steel	Zinc chromate
22	Cushion rubber (R)	Urethane rubber		32	Conical spring washer	Steel	Blackening
23	Piston	Aluminum alloy		33	Hexagon socket set screw	Steel	Blackening
24	Piston packing seal (1)	Nitrile rubber		34	Release lever	Steel	Galvanizing
25	Wear ring	Acetar resin		35	Hexagon socket bolt	Steel	Blackening
26	Cushion rubber (H)	Urethane rubber		36	Cross headed round machine screw	Steel	
27	Cover	Aluminum alloy	Chromate (Note 1)	37	Dust cover	Stainless steel	
28	Spacer washer	Stainless steel	Only for types with switch				

Note 1: For long stroke type cover, alumite is used.

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
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MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC

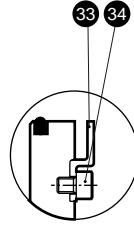
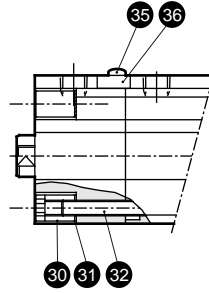
Ending

Position locking compact cylinder
With brake

USSD-K Series

Internal structure and parts list (high load type ϕ 63 to ϕ 100)

<Common part>

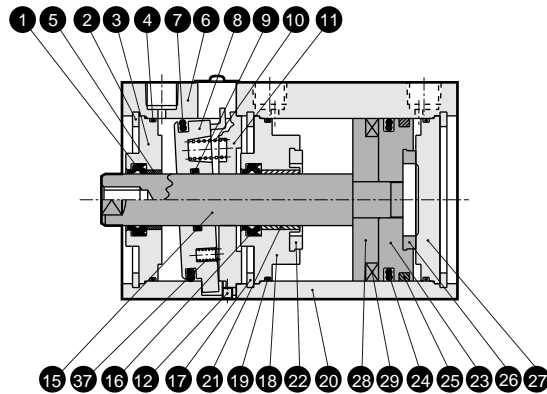
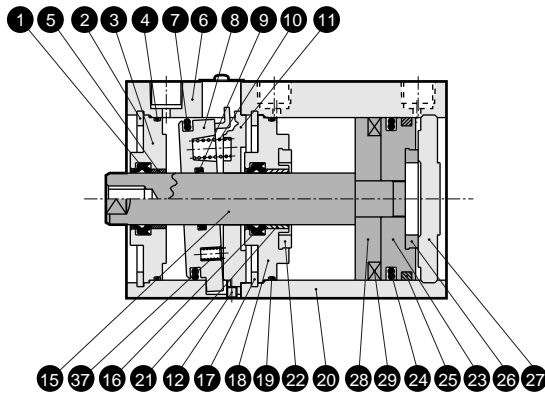


Release lever detailed drawing

● USSD-KL-63 to 100-F (Internal structure differs depending on the stroke length.)
(Double acting high load type with switch forward lock: F)

200 mm stroke or less

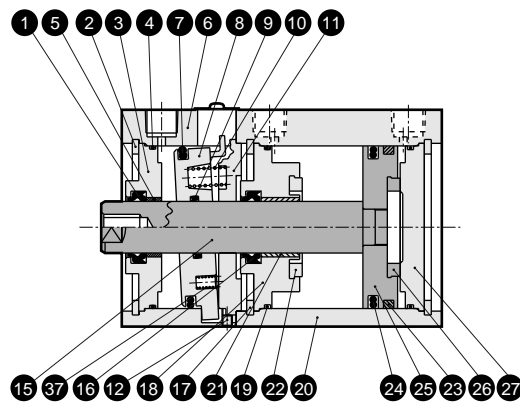
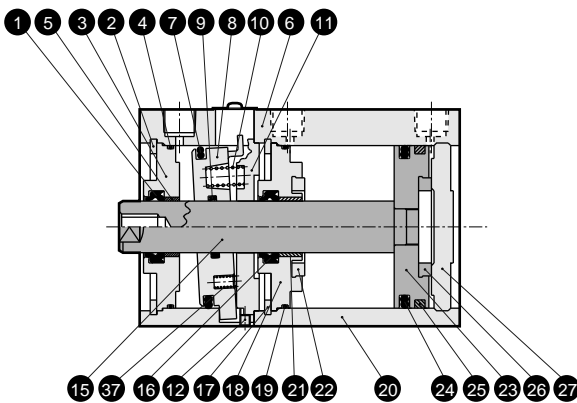
200 to 300 mm stroke



● USSD-K-63 to 100-F (Internal structure differs depending on the stroke length.)
(Double acting high load type forward lock: F)

200 mm stroke or less

200 to 300 mm stroke



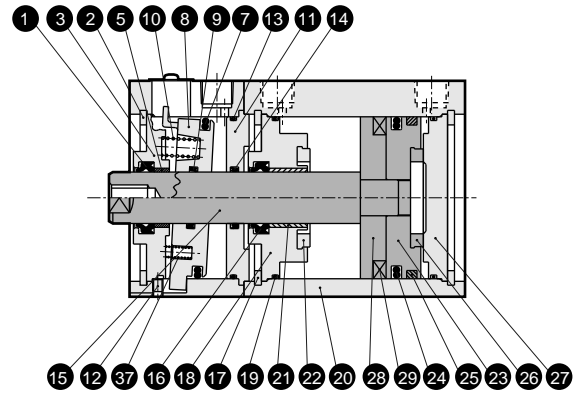
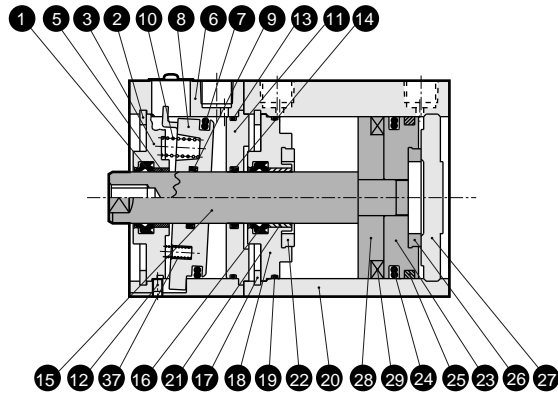
Parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Rod packing seal (2)	Nitrile rubber		10	Spring (1)	Steel	Blackening
2	C type snap ring (2)	Steel	Phosphoric acid salt membrane	11	Joint	Aluminum alloy	
3	Rod bushing (2)	Aluminum alloy	Alumite	12	Hexagon socket head set screw	Steel	Blackening
4	Rod metal gasket (2)	Nitrile rubber		13	Rod metal gasket (3)	Nitrile rubber	(B type only)
5	Bush (2)	DU dry bearing		14	Rod packing seal (4)	Nitrile rubber	(B type only)
6	Lock main body	Aluminum alloy	Hard alumite	15	Piston rod	Steel	Industrial chrome plating
7	Piston packing seal (2)	Nitrile rubber		16	Rod packing seal (1)	Nitrile rubber	
8	Lock metal	Special steel	Phosphoric acid salt membrane	17	C type snap ring (1)	Steel	Phosphoric acid salt membrane
9	Rod packing seal (3)	Nitrile rubber		18	Rod bushing (1)	Aluminum alloy	Alumite

Internal structure and parts list (high load type ϕ 63 to ϕ 100)

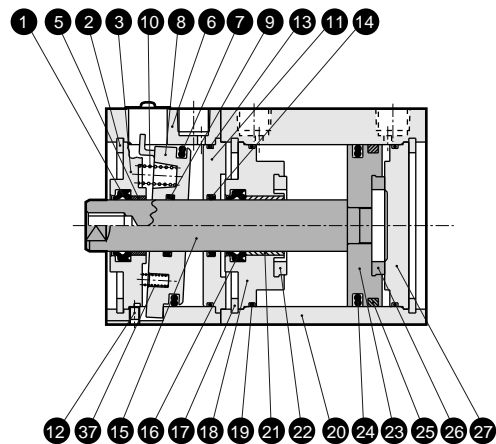
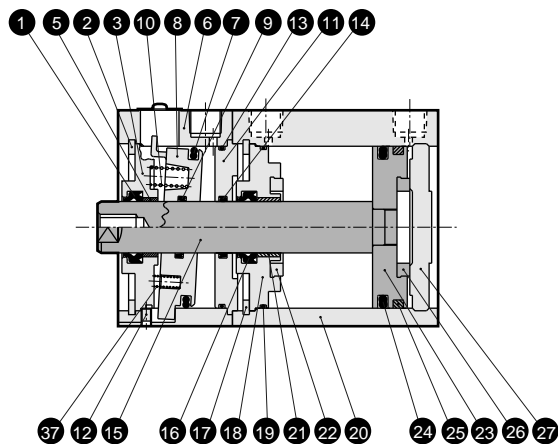
- USSD-KL-63 to 100-B (Internal structure differs depending on the stroke length.)
(Double acting high load type with switch backward lock: B)
200 mm stroke or less

200 to 300 mm stroke



- USSD-K-63 to 100-B (Internal structure differs depending on the stroke length.)
(Double acting high load type backward lock: B)
200 mm stroke or less

200 to 300 mm stroke



Parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
19	Rod metal gasket (1)	Nitrile rubber		28	Spacer	Aluminum alloy	Chromate (only with switch)
20	Cylinder main body	Aluminum alloy	Hard alumite	29	Piston magnet	Plastic magnet	Only for types with switch
21	Bush (1)	DU dry bearing		30	Round nut	Steel	Zinc chromate
22	Cushion rubber (R)	Urethane rubber		31	Conical spring washer	Steel	Blackening
23	Piston	Aluminum alloy	Chromate	32	Hexagon socket head set screw	Steel	Blackening
24	Piston packing seal (1)	Nitrile rubber		33	Release lever	Steel	Galvanizing
25	Wear ring	Acetar resin		34	Hexagon socket head cap bolt	Steel	Blackening
26	Cushion rubber (H)	Urethane rubber		35	Cross headed round machine screw	Steel	
27	Cover	Aluminum alloy	Chromate (Note 1)	36	Dust cover	Stainless steel	
				37	Spring (2)	Steel	Blackening (only ϕ 80, ϕ 100)

Note 1: For long stroke type cover, alumite is used.

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC

Ending

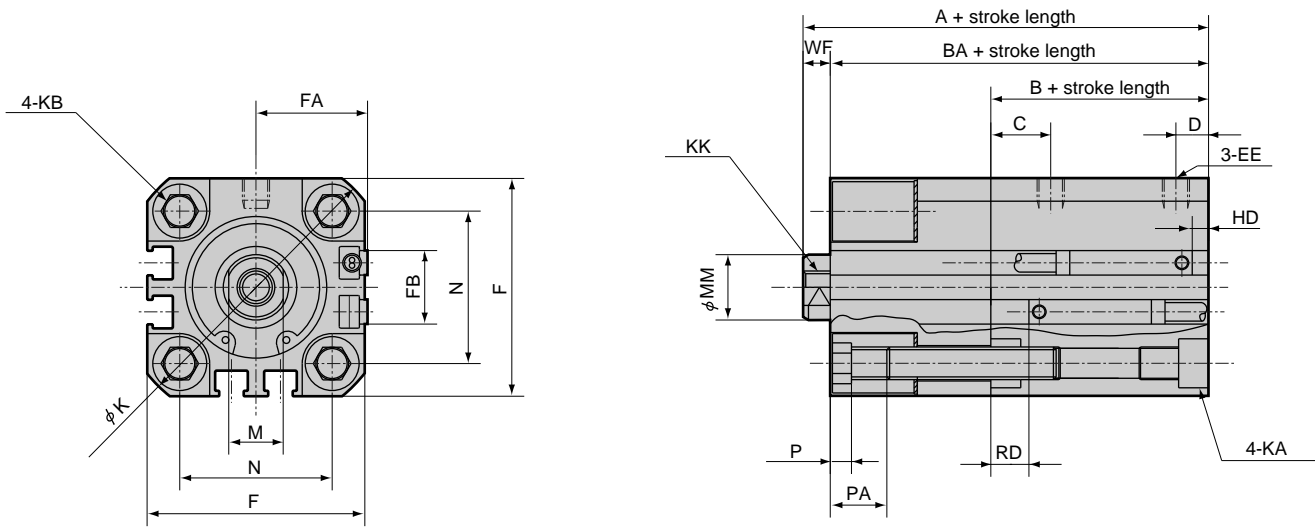
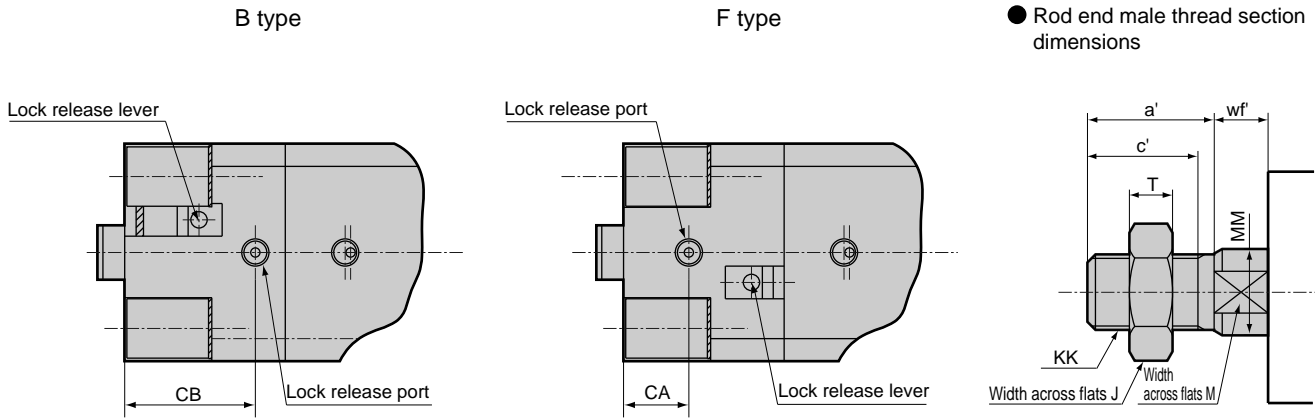
Position locking compact cylinder
With brake

USSD Series

Dimensions ($\phi 20$, $\phi 25$)



- USSD-20, 25
- USSD-L-20, 25 (with switch T0H/V, T5H/V, T2H/V, T3H/V)



Symbol	Without switch			Common dimension with switch											
	A Note 1	B Note 1	BA Note 1	A Note 1	B Note 1	BA Note 1	C	CA	CB	D	EE	F	FA	FB	
$\phi 20$	51	19.5	46.5	61	29.5	56.5	8	10	22	5.5	M5	36	18.5	12.5	
$\phi 25$	59	22.5	54	69	32.5	64	11	12	26	6	M5	40	20.5	13.5	
Symbol	Common dimension with switch														
	KB	K	KA		KK	M	MM	N	WF	P	PA				
$\phi 20$	M6	47	9 spot face depth 5.5 M6 depth 11		M5 depth 7	8	10	25.5	4.5	3.5	10				
$\phi 25$	M6	51	9 spot face depth 5.5 M6 depth 11		M6 depth 12	10	12	28	5	3.5	10				
Symbol	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V												
	HD	RD	HD	RD											
$\phi 20$	3	6.5	3	6.5											
$\phi 25$	3	9.5	3	9.5											

Note 1: When calculating custom stroke dimensions of A + stroke length, B + stroke length and BA + stroke length, the length is calculated by inputting the following standard stroke length increment but not inputting custom stroke length.

(E.g.) For 7 mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

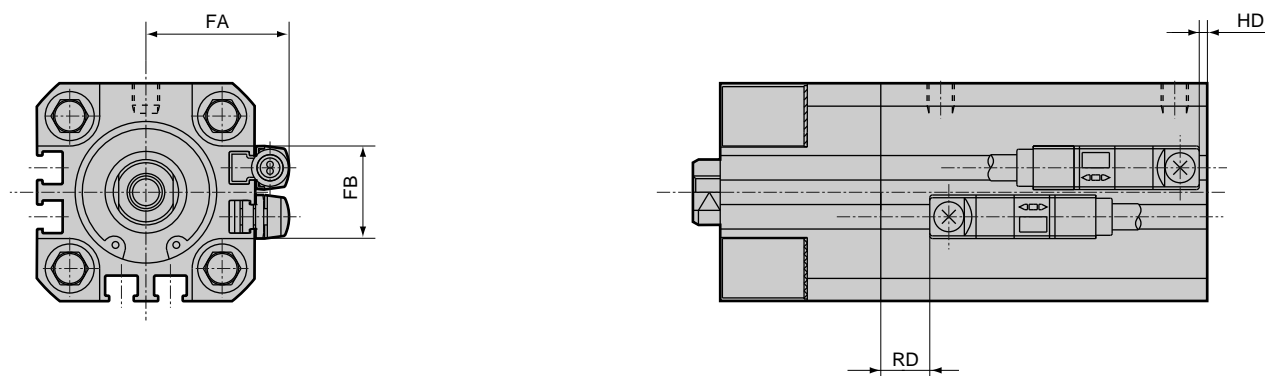
Note 2: For a cylinder with 5 stroke, HD, RD dimensions are different from these dimensions depending on the settings.

Rod end male thread section dimension								
Symbol	a'	c'	J	KK	M	MM	T	wf'
$\phi 20$	14	12	13	M8	8	10	5	4.5
$\phi 25$	17.5	15	17	M10 x 1.25	10	12	6	5

Dimensions ($\phi 20$, $\phi 25$)

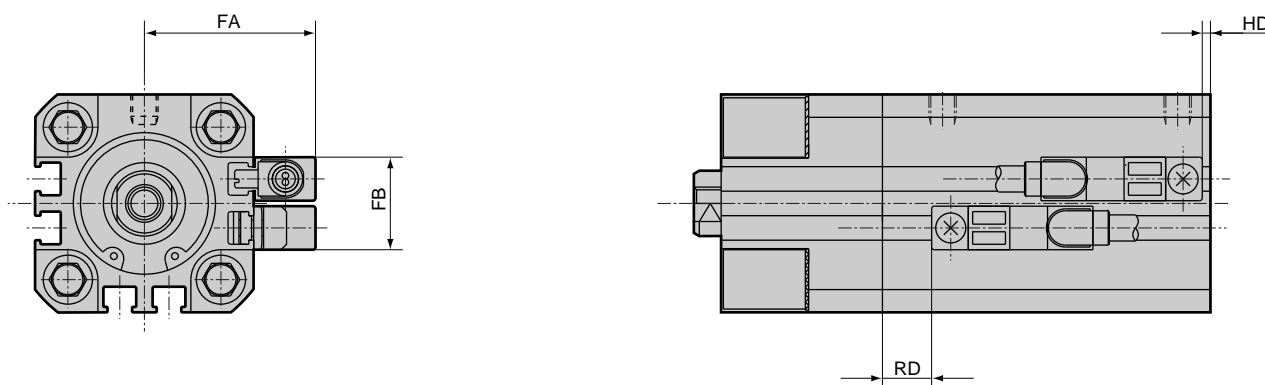


- USSD-L-20, 25 (2 color indicator, off-delay type T2Y H/V, T3Y H/V, T2J H/V, T8 H/V)



Symbol Bore size (mm)	FA	FB	T2Y H/V, T3Y H/V, T2J H/V	
			RD	HD
$\phi 20$	24.3	16	5	1.5
$\phi 25$	26.3	17	8	1.5

- USSD-L-20, 25 (2 color indicator (with preventive maintenance output), strong magnetic field, with T1* switch T2YF H/V, T3YF H/V, T2YM H/V, T3YMH/V, T2YD, T2YDT, T1 H/V)



Symbol Bore size (mm)	FA	FB	RD	HD
$\phi 25$	31.3	17	8	1.5

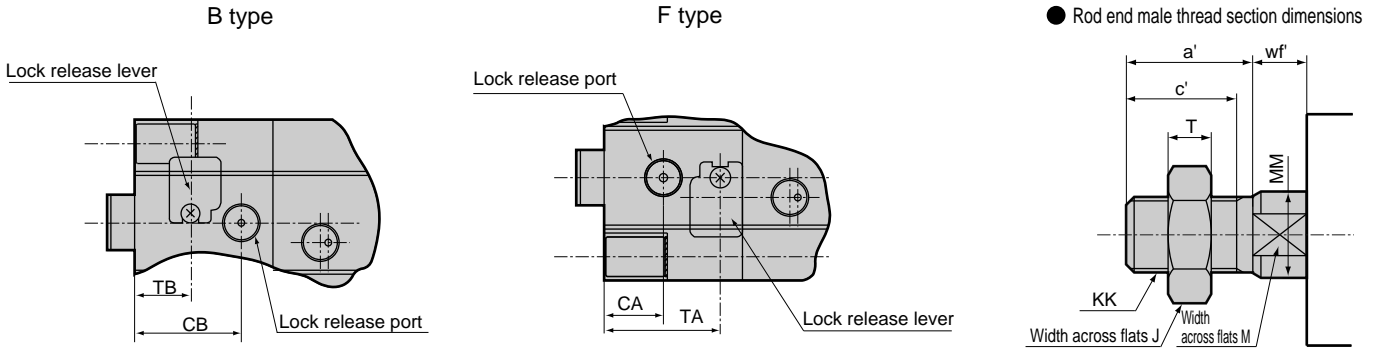
- SCP*2
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS
- CKV2
- CA/OV2
- SSD
- CAT
- MDC2
- MVC
- SMD2
- MSD*
- FC*
- STK
- ULK***
- JSK/M2
- JSG
- JSC3
- USSD**
- USC
- JSB3
- LMB
- STG
- STS/L
- LCS
- LCG
- LCM
- LCT
- LCY
- STR2
- UCA2
- HCM
- HCA
- SRL2
- SRG
- SRM
- SRT
- MRL2
- MRG2
- SM-25
- CAC3
- UCAC
- RCC2
- MFC
- SHC
- GLC
- Ending

Position locking compact cylinder
With brake

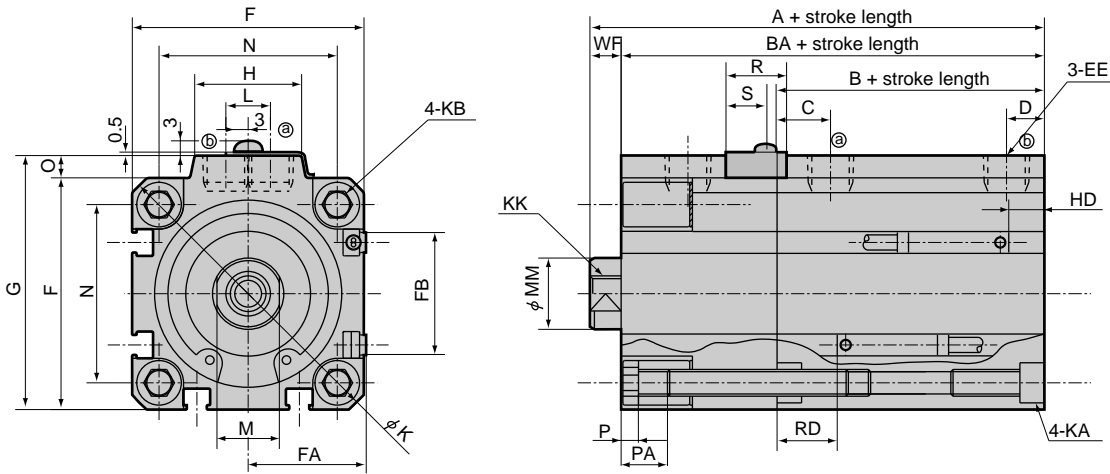


Dimensions (φ 32 to φ 63)

- USSD-32 to 63
- USSD-L-32 to 63 (with switch T0H/V, T5H/V, T2H/V, T3H/V)



Note) The following diagram is F type.



Symbol	Without switch			Common dimension with switch												
	A Note 1	B Note 1	BA Note 1	A Note 1	B Note 1	BA Note 1	C	CA	CB	D	EE	F	FA	FB	G	
φ 32	63.5	23	56.5	73.5	33	66.5	8	12	25.5	8	RC1/8	45	23	20.5	49.5	
φ 40	71.5	29.5	64.5	81.5	39.5	74.5	12	15	27	8.5	RC1/8	52	26.5	27.5	57	
φ 50	77.5	30.5	69.5	87.5	40.5	79.5	10.5	15	30	10.5	RC1/4	64	32.5	28.5	71	
φ 63	88.5	36	80.5	98.5	46	90.5	13	15.5	34	11	RC1/4	77	39	28.5	84	

Symbol	Common dimension with switch															
	H	KB	K	KA		KK	L	M	MM	N	O	WF	P	PA		
φ 32	24	M6	60	9 spot face depth 5.5 M6 depth 11		M8 depth 13	10	14	16	34	4.5	7	3.5	10		
φ 40	24	M6	69	9 spot face depth 5.5 M6 depth 11		M8 depth 13	10	14	16	40	5	7	3.5	10		
φ 50	33	M8	86	11 spot face depth 6.5 M8 depth 13		M10 depth 15	15	17	20	50	7	8	4	12.5		
φ 63	33	M10	103	14 spot face depth 9 M10 depth 25		M10 depth 15	15	17	20	60	7	8	4	13.5		

Symbol	Reed T0H/T0V, T5H/T5V				Proximity T2H/T2V, T3H/T3V			
	R	S	TA	TB	HD Note 2	RD Note 2	HD Note 2	RD Note 2
φ 32	14	9	29.5	12.4	3.5	9	3.5	9
φ 40	12	6	30.3	14.7	7.0	12.0	7.0	12.0
φ 50	14	7	33	15.7	7.5	12.5	7.5	12.5
φ 63	17	8.5	37	16.2	12.5	13.0	12.5	13.0

Note 1: When calculating custom stroke dimensions of A + stroke length, B + stroke length and BA + stroke length, the length is calculated by inputting the following standard stroke length increment but not inputting custom stroke length.

(E.g.) For 7 mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

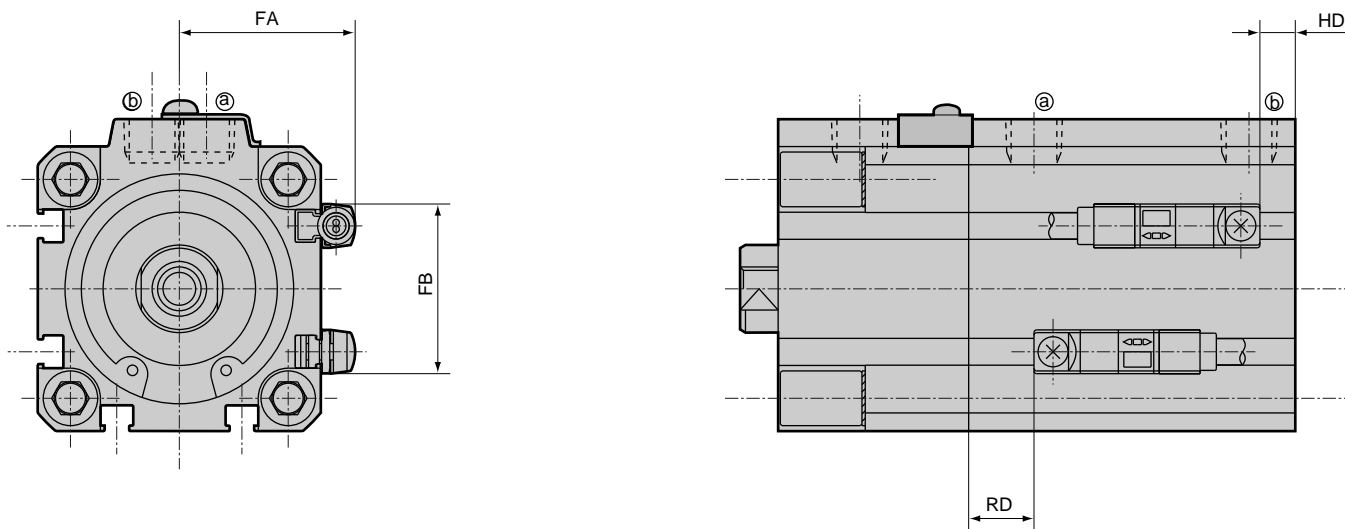
Note 2: For a cylinder with 5 stroke, HD, RD dimensions are different from these dimensions depending on the settings.

Rod end male thread section dimension								
Symbol	a'	c'	J	KK	M	MM	T	wf'
φ 32	23.5	20.5	22	M14 x 1.5	14	16	8	5
φ 40	23.5	20.5	22	M14 x 1.5	14	16	8	5
φ 50	28.5	26	27	M18 x 1.5	17	20	11	5
φ 63	28.5	26	27	M18 x 1.5	17	20	11	5

Dimensions (ϕ 32 to ϕ 63)



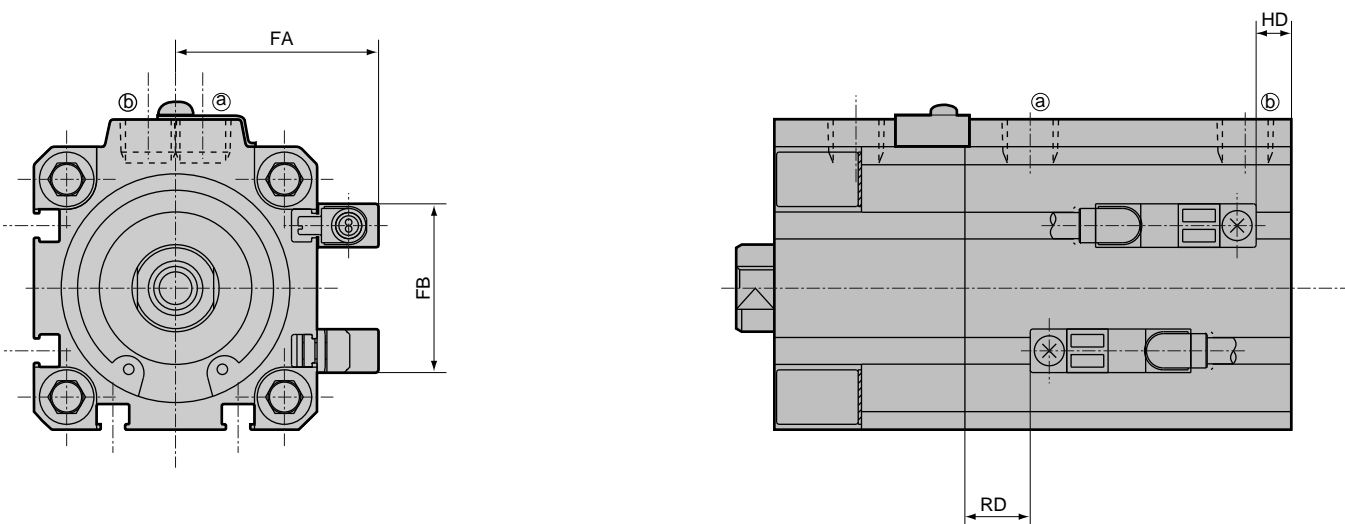
- USSD-L-32 to 63 (2 color indicator, off-delay type, with T8* switch T2YH/V, T3YH/V, T2JH/V, T8H/V)



Note) The figure above is F type.

Symbol Bore size (mm)	FA	FB	T2Y H/V, T3Y H/V, T2J H/V		T8 H/V	
			RD	HD	RD	HD
ϕ 32	28.8	24	7.5	2	-	-
ϕ 40	32.3	31	10.5	5.5	6	1
ϕ 50	38.3	32	11	6	6.5	1.5
ϕ 63	44.8	32	11.5	11	7	6.5

- USSD-L-32 to 63 (2 color indicator (with preventive maintenance output), strong magnetic field, with T1* switch T2YF H/V, T3YF H/V, T2YM H/V, T3YM H/V, T2YD, T2YDT, T1 H/V)



Note) The figure above is F type.

Symbol Bore size (mm)	FA	FB	RD	HD
ϕ 32	33.8	24	7.5	2
ϕ 40	37.3	31	10.5	5.5
ϕ 50	43.3	32	11	6
ϕ 63	49.8	32	11.5	11

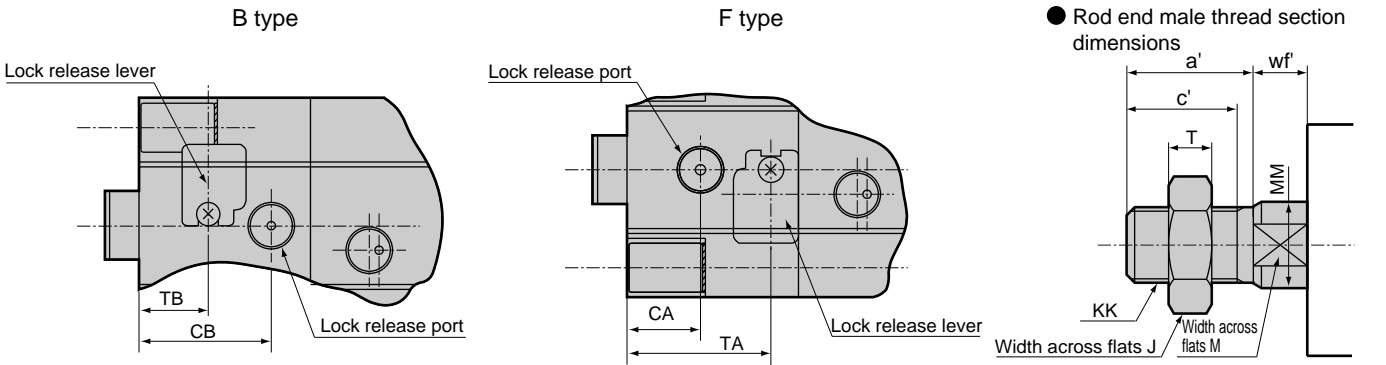
- SCP*2
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS
- CKV2
- CA/OV2
- SSD
- CAT
- MDC2
- MVC
- SMD2
- MSD*
- FC*
- STK
- ULK*
- JSK/M2
- JSG
- JSC3
- USSD**
- USC
- JSB3
- LMB
- STG
- STS/L
- LCS
- LCG
- LCM
- LCT
- LCY
- STR2
- UCA2
- HCM
- HCA
- SRL2
- SRG
- SRM
- SRT
- MRL2
- MRG2
- SM-25
- CAC3
- UCAC
- RCC2
- MFC
- SHC
- GLC
- Ending

Position locking compact cylinder
With brake

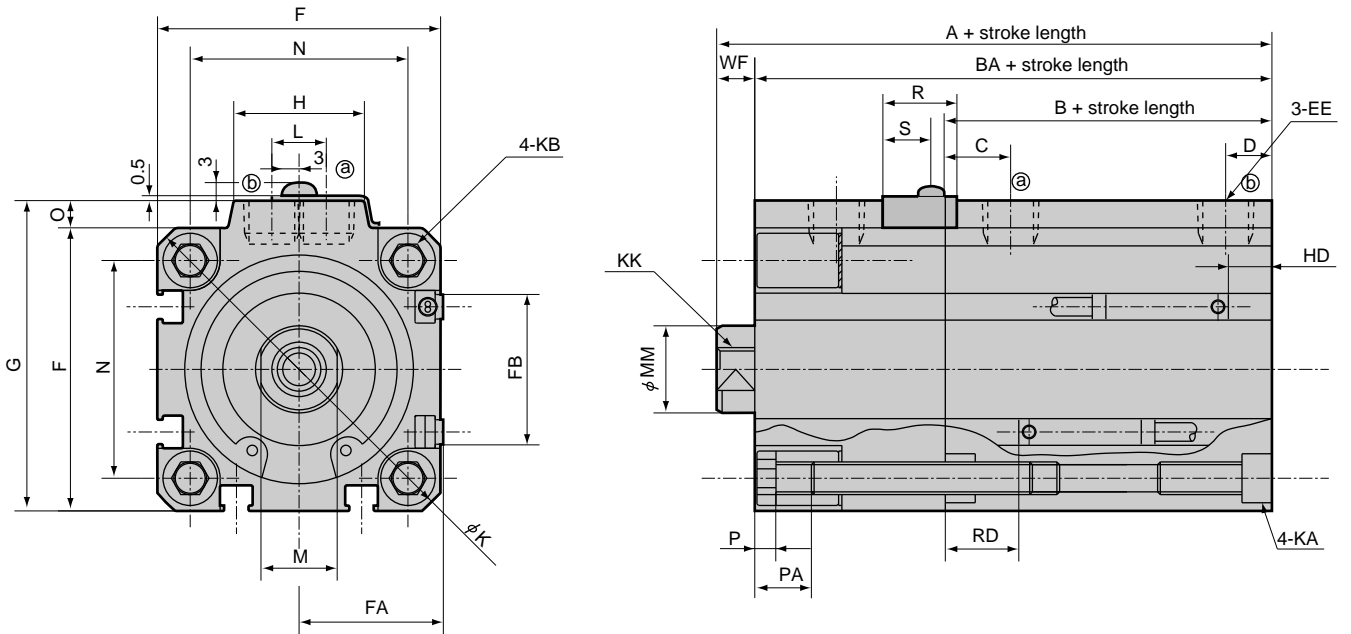


Dimensions (φ 80 to φ 100)

- USSD-80 to 100
- USSD-L-80 to 100 (with switch T0H/V, T5H/V, T2H/V, T3H/V)



Note) The following diagram is F type.



Symbol	Without switch			Common dimension with switch												
	A Note 1	B Note 1	BA Note 1	A Note 1	B Note 1	BA Note 1	C	CA	CB	D	EE	F	FA	FB	G	
φ 80	106.5	43.5	96.5	116.5	53.5	106.5	16	18.5	41.5	13	Rc3/8	98	49.5	28.5	104	
φ 100	126	53	115	136	63	125	23	24	50	15	Rc3/8	117	59	28.5	123.5	
Symbol	Common dimension with switch															
	H	KB	K	KA			KK	L	M	MM	N	O	WF	P	PA	
φ 80	38	M12	132	17.5 spot face depth 11 M12 depth 28			M16 depth 21	15	22	25	77	6	10	5	16	
φ 100	38	M12	156	17.5 spot face depth 11 M12 depth 28			M20 depth 27	15	27	30	94	6.5	11	5	16	
Symbol	R	S	TA	TB	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V									
					HD Note 2	RD Note 2	HD Note 2	RD Note 2								
φ 80	19	9.5	44	18	17.5	15.5	17.5	15.5								
φ 100	23	11.5	51	22.5	23	19.5	23	19.5								

Note 1: When calculating custom stroke dimensions of A + stroke length, B + stroke length and BA + stroke length, the length is calculated by inputting the following standard stroke length increment but not inputting custom stroke length.

(E.g.) For 7 mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

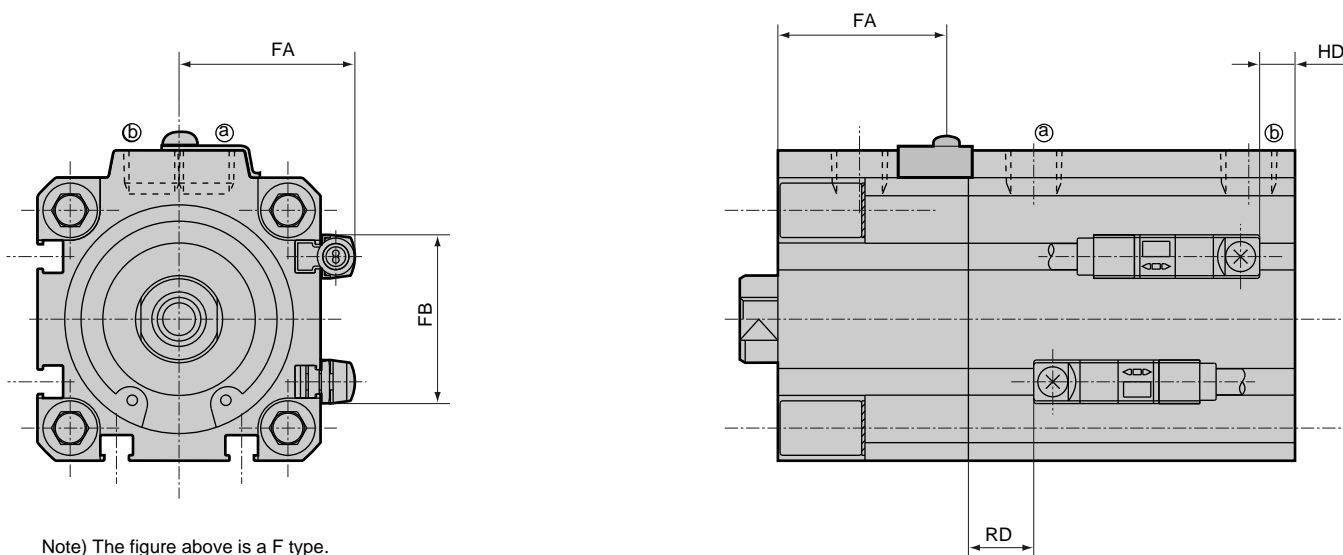
Note 2: For a cylinder with 5 stroke, HD, RD dimensions are different from these dimensions depending on the settings.

Rod end male thread section dimension								
Symbol	a'	c'	J	KK	M	MM	T	wf'
φ 80	35.5	32.5	32	M22 x 1.5	22	25	13	8
φ 100	35.5	32.5	41	M26 x 1.5	27	30	16	7

Dimensions (ϕ 80 to ϕ 100)



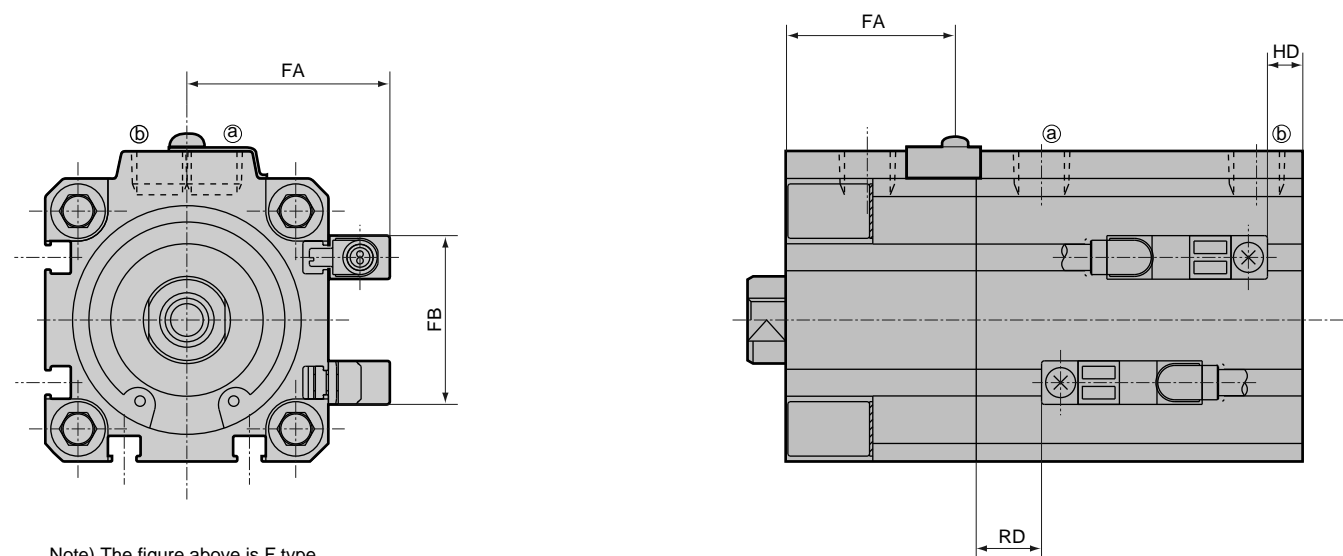
- USSD-L-80 to 100 (2 color indicator, off-delay type, with T8* switch T2Y H/V, T3Y H/V, T2J H/V, T8 H/V)



Note) The figure above is a F type.

Symbol Bore size (mm)	FA	FB	T2Y H/V, T3Y H/V, T2J H/V		T8H/V	
			RD	HD	RD	HD
ϕ 80	55.3	32	14	16	9.5	11.5
ϕ 100	64.8	32	18	21.5	13.5	7

- USSD-L-80 to 100 (2 color indicator (with preventive maintenance output), with T1* switch T2YF H/V, T3YF H/V, T2YM H/V, T3YM H/V T1 H/V)



Note) The figure above is F type.

Symbol Bore size (mm)	FA	FB	RD	HD
ϕ 80	60.3	32	14	16
ϕ 100	69.8	32	18	21.5

- SCP*2
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS
- CKV2
- CA/OV2
- SSD
- CAT
- MDC2
- MVC
- SMD2
- MSD*
- FC*
- STK
- ULK*
- JSK/M2
- JSG
- JSC3
- USSD**
- USC
- JSB3
- LMB
- STG
- STS/L
- LCS
- LCG
- LCM
- LCT
- LCY
- STR2
- UCA2
- HCM
- HCA
- SRL2
- SRG
- SRM
- SRT
- MRL2
- MRG2
- SM-25
- CAC3
- UCAC
- RCC2
- MFC
- SHC
- GLC
- Ending

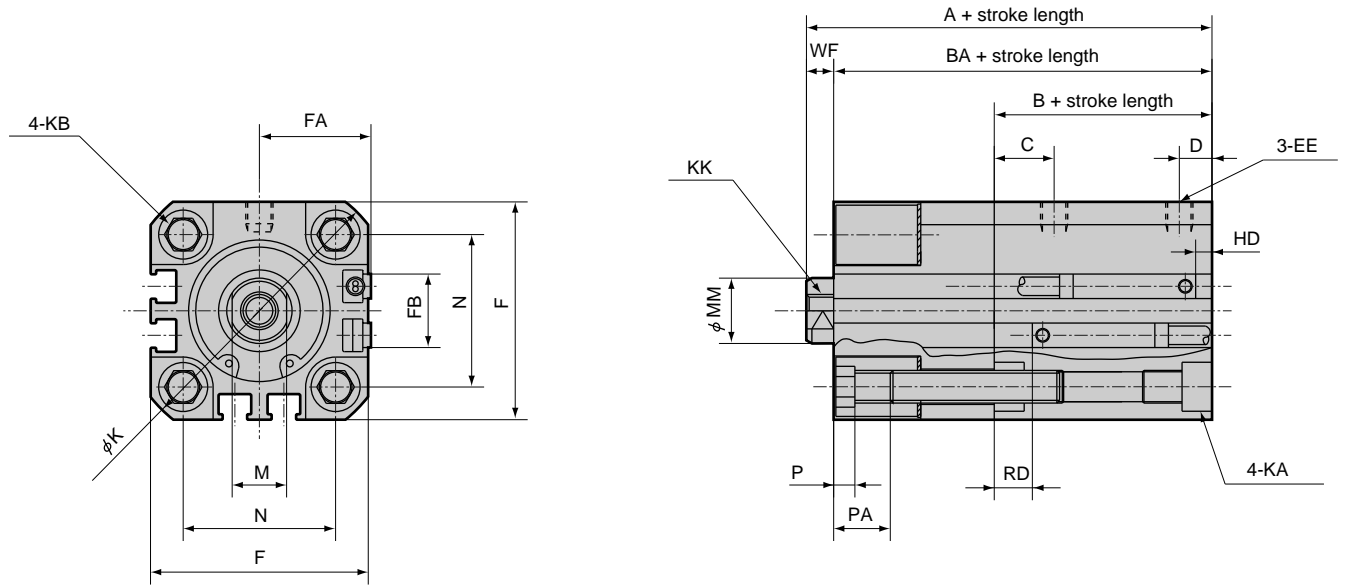
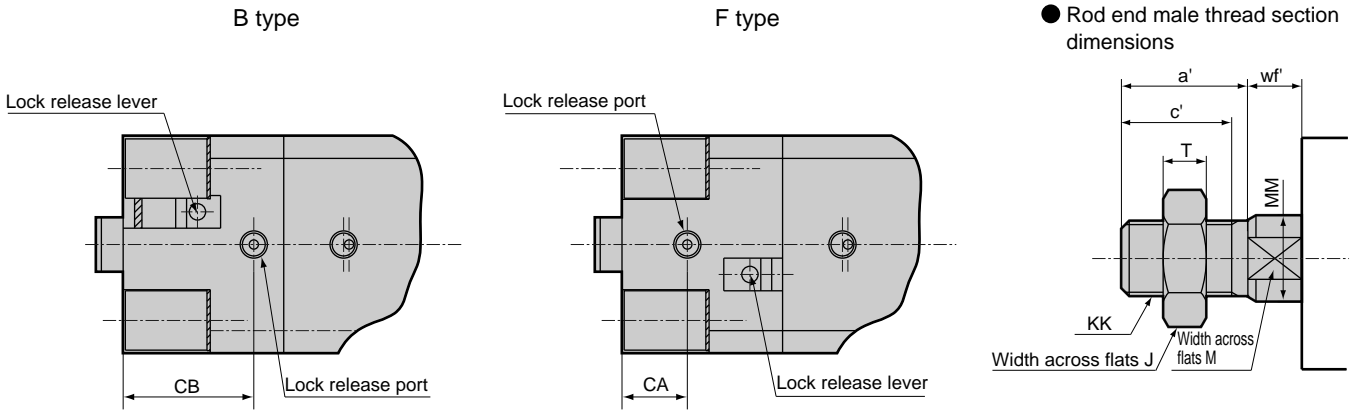
Position locking compact cylinder
With brake

USSD-K Series



Dimensions (high load type $\phi 20$, $\phi 25$)

- USSD-K-20, 25
- USSD-KL-20, 25 (with switch)



Symbol	Without switch			Common dimension with switch										
	A ^{Note 1} Note 2	B ^{Note 1} Note 2	BA ^{Note 1} Note 2	A ^{Note 1} Note 2	B ^{Note 1} Note 2	BA ^{Note 1} Note 2	C	CA	CB	D	EE	F	FA	FB
$\phi 20$	56 (67.5)	24.5 (36)	51.5 (63)	66 (77.5)	34.5 (46)	61.5 (73)	8	10	22	5.5 (8)	M5	36	18.5	12.5
$\phi 25$	64 (77.5)	27.5 (41)	59 (72.5)	74 (87.5)	37.5 (51)	69 (82.5)	11	12	26	6 (11)	M5	40	20.5	13.5
Symbol	Common dimension with switch													
	KB	K	KA		KK	M	MM	N	WF	P	PA			
$\phi 20$	M6	47	9 spot face depth 5.5 M6 depth 11		M5 depth 7	8	10	25.5	4.5	3.5	10			
$\phi 25$	M6	51	9 spot face depth 5.5 M6 depth 11		M6 depth 7	10	12	28	5	3.5	10			
Symbol	Reed T0H/T0V, T5H/T5V				Proximity T2H/T2V, T3H/T3V									
	HD ^{Note 2} Note 3	RD ^{Note 2} Note 3	HD ^{Note 2} Note 3	RD ^{Note 2} Note 3	HD ^{Note 2} Note 3	RD ^{Note 2} Note 3	HD ^{Note 2} Note 3	RD ^{Note 2} Note 3						
$\phi 20$	6.0 (12.5)	8.5 (13.5)	6 (12.5)	8.5 (13.5)										
$\phi 25$	5.5 (14)	12 (17)	5.5 (14)	12 (17)										

Note 1: When calculating custom stroke dimensions of A + stroke length, B + stroke length and BA + stroke length, the length is calculated by inputting the following standard stroke length increment but not inputting custom stroke length.

(E.g.) For 7 mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

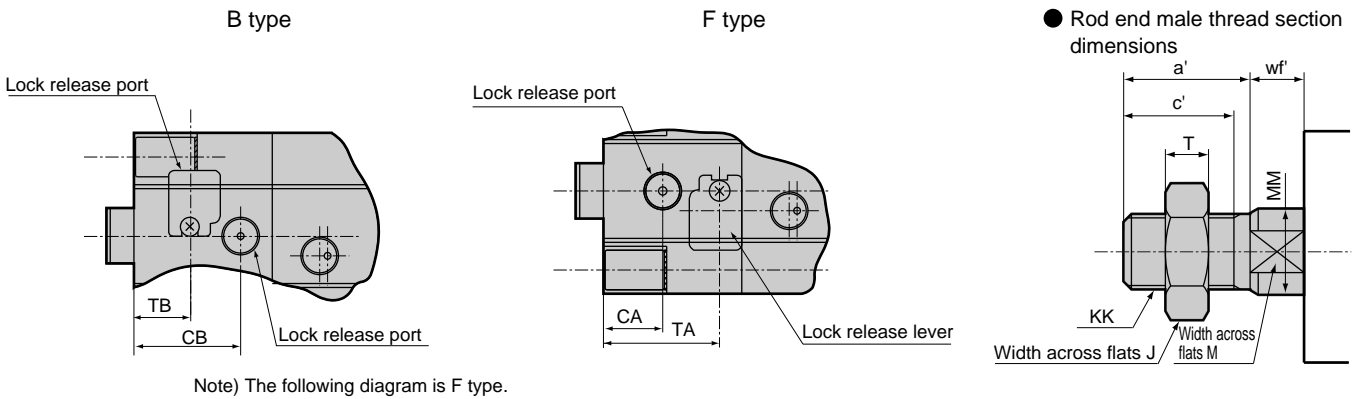
Note 2: When exceeding 100 mm stroke for $\phi 20$, 150 mm stroke for $\phi 25$, refer to the value in () for dimensions A, B, BA, D, HD, RD.

Note 3: For a cylinder with 5 stroke, HD, RD dimensions are different from these dimensions depending on the settings.

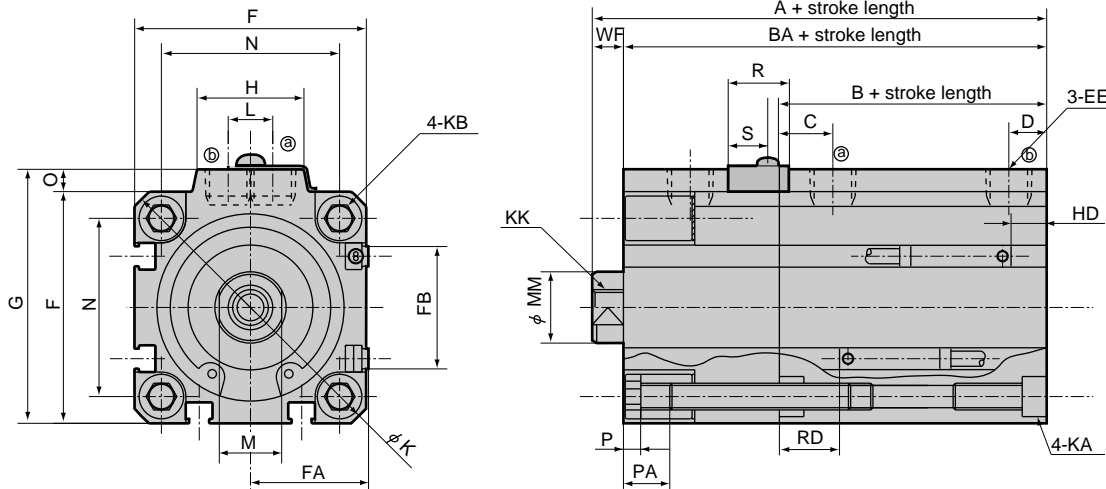
Rod end male thread section dimension								
Symbol	a'	c'	J	KK	M	MM	T	wf'
$\phi 20$	14	12	13	M8	8	10	5	4.5
$\phi 25$	17.5	15	17	M10 x 1.25	10	12	6	5

Dimensions (high load type φ 32 to φ 63)

- USSD-K-32 to 63
- USSD-KL-32 to 63 (with switch)



Note) The following diagram is F type.



Symbol	Without switch			Common dimension with switch												
	A Note 1	B Note 1	BA Note 1	A Note 1	B Note 1	BA Note 1	C	CA	CB	D	EE	F	FA	FB	G	
φ 32	73.5 (81)	33 (40.5)	66.5 (74)	83.5 (91)	43 (50.5)	76.5 (84)	8	12	25.5	8	RC1/8	45	23	20.5	49.5	
φ 40	81.5 (91)	39.5 (49)	74.5 (84)	91.5 (101)	49.5 (59)	84.5 (94)	12	15	27	8.5 (12)	RC1/8	52	26.5	27.5	57	
φ 50	87.5 (101)	40.5 (54)	79.5 (93)	97.5 (111)	50.5 (64)	89.5 (103)	10.5	15	30	10.5	RC1/4	64	32.5	28.5	71	
φ 63	98.5 (108.5)	46 (56)	90.5 (100.5)	108.5 (118.5)	56 (66)	100.5 (110.5)	13	15.5	34	11 (13)	RC1/4	77	39	28.5	84	
Symbol	Common dimension with switch										N	O	WF	P	PA	
	H	KB	K	KA		KK	L	M	MM	RD						
φ 32	24	M6	60	9 spot face depth 5.5	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7	3.5	10		
φ 40	24	M6	69	9 spot face depth 5.5	M6 depth 11	M8 depth 13	10	14	16	40	5	7	3.5	10		
φ 50	33	M8	86	11 spot face depth 6.5	M8 depth 13	M10 depth 15	15	17	20	50	7	8	4	12.5		
φ 63	33	M10	103	14 spot face depth 9	M10 depth 25	M10 depth 15	15	17	20	60	7	8	4	13.5		
Symbol	R	S	TA	TB	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V									
					HD Note 2	RD Note 2	HD Note 2	RD Note 2								
φ 32	9	14	29.5	12.4	8.5 (16)	14 (14)	8.5 (16)	14 (14)								
φ 40	6	12	30.3	14.7	9.5 (19)	19.5 (19.5)	9.5 (19)	19.5 (19.5)								
φ 50	7	14	33	15.7	10 (19)	20 (25)	10 (19)	20 (25)								
φ 63	8.5	17	37	16.2	17.5 (23)	18 (23)	17.5 (23)	18 (23)								

Note 1: When calculating custom stroke dimensions of A + stroke length, B + stroke length and BA + stroke length, the length is calculated by inputting the following standard stroke length increment but not inputting custom stroke length.

(E.g.) For 7 mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

Note 2: When exceeding 150 mm stroke for φ 32 to φ 50, 200 mm stroke for φ 63, refer to the value in () for dimensions A, B, BA, D, HD, RD.

Note 3: For a cylinder with 5 stroke, HD, RD dimensions are different from these dimensions depending on the settings.

Rod end male thread section dimension								
Symbol	a'	c'	J	KK	M	MM	T	wf'
φ 32	23.5	20.5	22	M14 x 1.5	14	16	8	5
φ 40	23.5	20.5	22	M14 x 1.5	14	16	8	5
φ 50	28.5	26	27	M18 x 1.5	17	20	11	5
φ 63	28.5	26	27	M18 x 1.5	17	20	11	5

- SCP*2
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS
- CKV2
- CA/OV2
- SSD
- CAT
- MDC2
- MVC
- SMD2
- MSD*
- FC*
- STK
- ULK*
- JSK/M2
- JSG
- JSC3
- USSD**
- USC
- JSB3
- LMB
- STG
- STS/L
- LCS
- LCG
- LCM
- LCT
- LCY
- STR2
- UCA2
- HCM
- HCA
- SRL2
- SRG
- SRM
- SRT
- MRL2
- MRG2
- SM-25
- CAC3
- UCAC
- RCC2
- MFC
- SHC
- GLC
- Ending

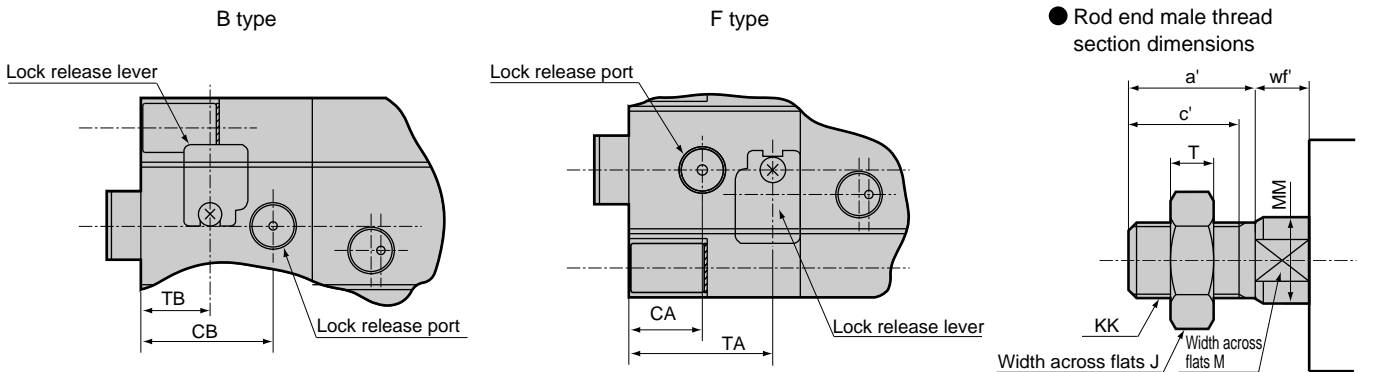
Position locking compact cylinder
With brake

USSD-K Series

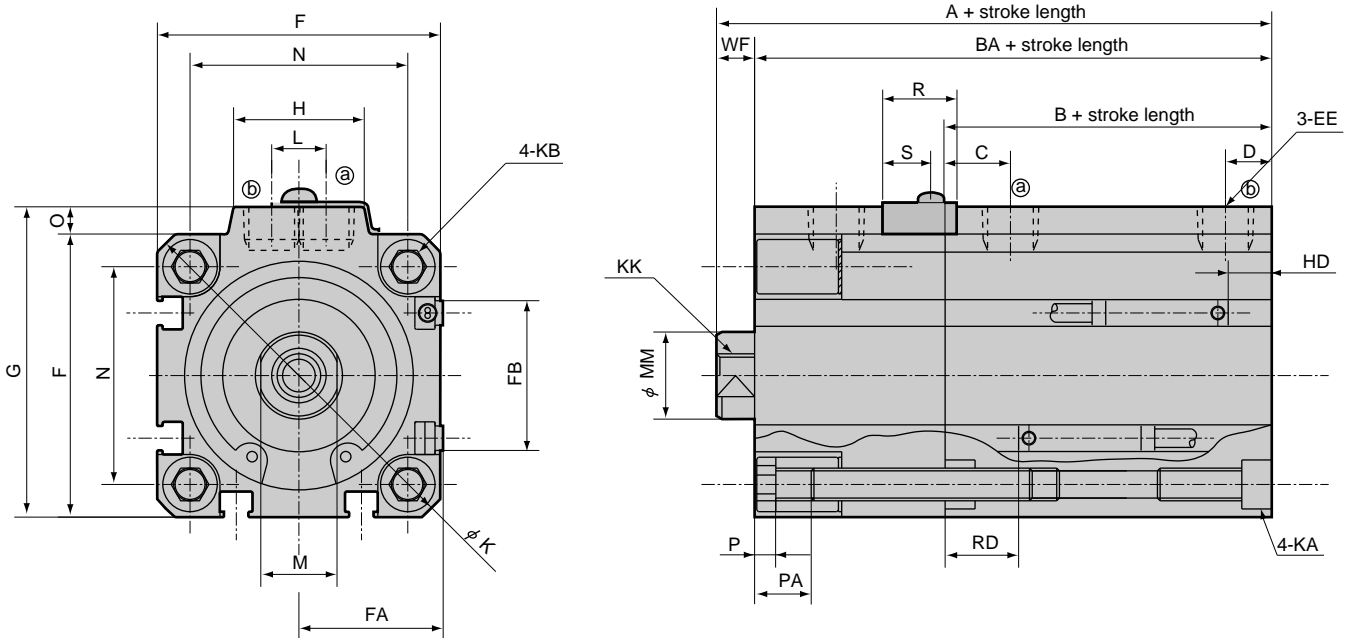
Dimensions (high load type ϕ 80 to ϕ 100)



- USSD-K-80 to 100
- USSD-KL-80 to 100 (with switch)



Note) The following diagram is F type.



Symbol	Without switch			Common dimension with switch												
	A Note 1	B Note 1	BA Note 1	A Note 1	B Note 1	BA Note 1	C	CA	CB	D	EE	F	FA	FB	G	
ϕ 80	116.5 (126.5)	53.5 (63.5)	106.5 (116.5)	126.5 (136.5)	63.5 (73.5)	116.5 (126.5)	16	18.5	41.5	13 (16)	Rc3/8	98	49.5	28.5	104	
ϕ 100	136 (136)	63 (73)	125 (135)	146 (156)	73 (83)	135 (145)	23	24	50	15 (23)	Rc3/8	117	59	28.5	123.5	

Symbol	Common dimension with switch															
	H	KB	K	KA	KK	L	M	MM	N	O	WF	P	PA			
ϕ 80	38	M12	132	17.5 spot face depth 11M12 depth 28	M16 depth 21	15	22	25	77	6	10	5	16			
ϕ 100	38	M12	156	17.5 spot face depth 11M12 depth 28	M20 depth 27	15	27	30	94	6.5	11	5	16			

Symbol	H	KB	K	R	S	TA	TB	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V	
								HD Note 2	RD Note 2	HD Note 2	RD Note 2
ϕ 80	33.5	19	9.5	19	9.5	44	18	22 (28)	20.5 (25.5)	22.5 (28)	20.5 (25.5)
ϕ 100	41.5	23	11.5	23	11.5	51	22.5	28 (33.5)	24.5 (29.5)	28 (33.5)	24.5 (29.5)

Note 1: When calculating custom stroke dimensions of A + stroke length, B + stroke length and BA + stroke length, the length is calculated by inputting the following standard stroke length increment but not inputting custom stroke length.

(E.g.) For 7 mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

Note 2: When exceeding 200 mm stroke, refer to the value in () for dimensions A, B, BA, D, HD, RD.

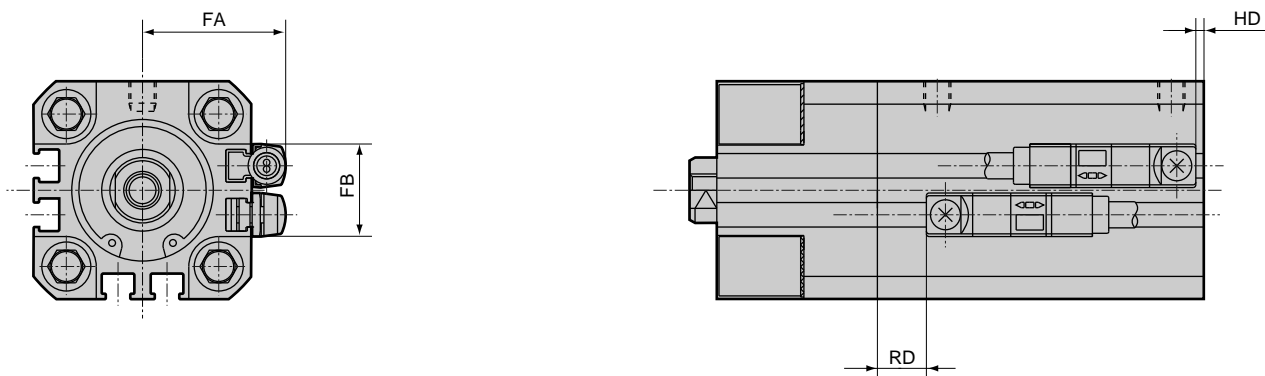
Note 3: For a cylinder with 5 stroke, HD, RD dimensions are different from these dimensions depending on the settings.

Rod end male thread section dimension								
Symbol	a'	c'	J	KK	M	MM	T	wf'
ϕ 80	35.5	32.5	32	M22 x 1.5	22	25	13	8
ϕ 100	35.5	32.5	41	M26 x 1.5	27	30	16	7

Dimensions (φ 20, φ 25)



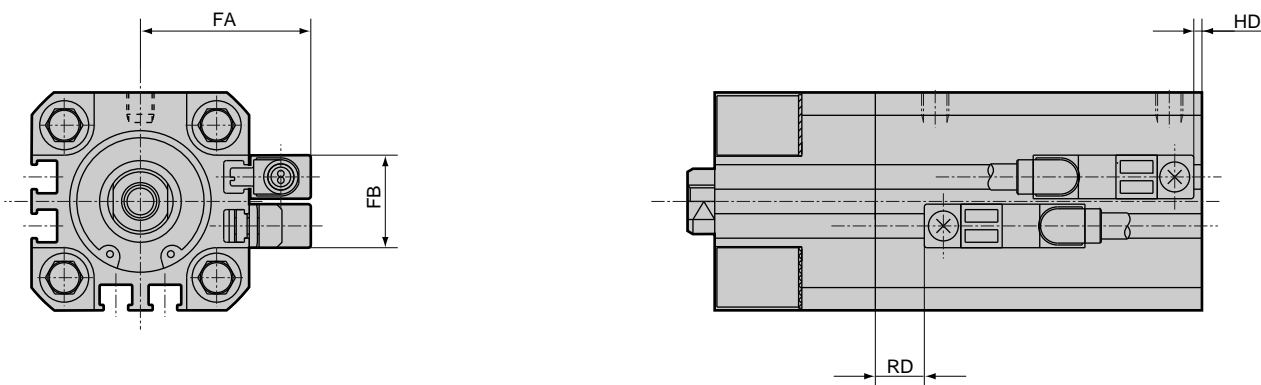
- USSD-KL-20, 25 (2 color indicator, off-delay type, with T8* switch T2Y H/V, T3Y H/V, T2J H/V, T8 H/V)



Note 1: When exceeding 100 mm stroke for φ 20, 150 mm stroke for φ 25, refer to the value in () for dimensions HD, RD.

Symbol Bore size (mm)	FA	FB	T2Y H/V, T3Y H/V, T2J H/V		T8 H/V	
			RD Note 1	HD Note 1	RD Note 1	HD Note 1
φ 20	24.3	16	7 (12)	4.5 (11)	2.5 (7.5)	0 (6.5)
φ 25	26.3	17	10.5 (15.5)	4 (12.5)	6 (11)	0 (8)

- USSD-KL-20, 25 (2 color indicator (with preventive maintenance output), with T1* switch T2YF H/V, T3YF H/V, T2YM H/V, T3YM H/V, T1 H/V)



Note 1: When exceeding 100 mm stroke for φ 20, 150 mm stroke for φ 25, refer to the value in () for dimensions HD, RD.

Symbol Bore size (mm)	FA	FB	RD Note 1	HD Note 1
φ 20	29.3	16	7 (12)	4.5 (11)
φ 25	31.3	17	10.5 (15.5)	4 (12.5)

- SCP*2
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS
- CKV2
- CA/OV2
- SSD
- CAT
- MDC2
- MVC
- SMD2
- MSD*
- FC*
- STK
- ULK*
- JSK/M2
- JSG
- JSC3
- USSD**
- USC
- JSB3
- LMB
- STG
- STS/L
- LCS
- LCG
- LCM
- LCT
- LCY
- STR2
- UCA2
- HCM
- HCA
- SRL2
- SRG
- SRM
- SRT
- MRL2
- MRG2
- SM-25
- CAC3
- UCAC
- RCC2
- MFC
- SHC
- GLC
- Ending

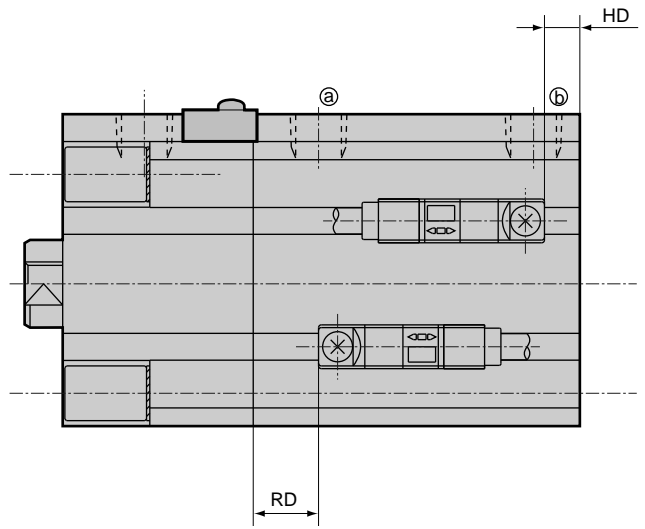
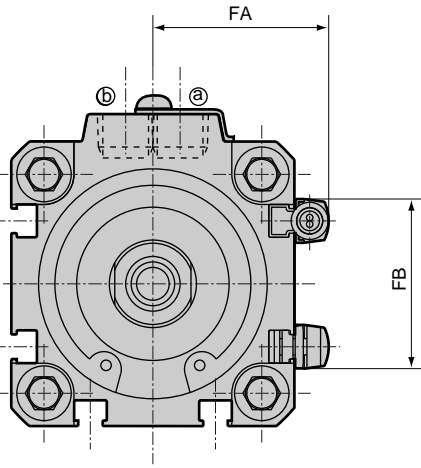
Position locking compact cylinder
With brake

USSD-K Series



Dimensions (φ32 to φ63)

- USSD-KL-32 to 63 (2 color indicator, off-delay type, with T8* switch T2Y H/V, T3Y H/V, T2J H/V, T8 H/V)

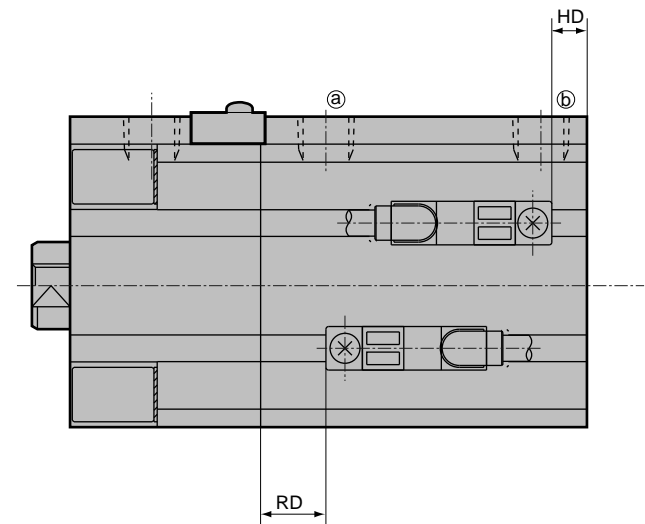
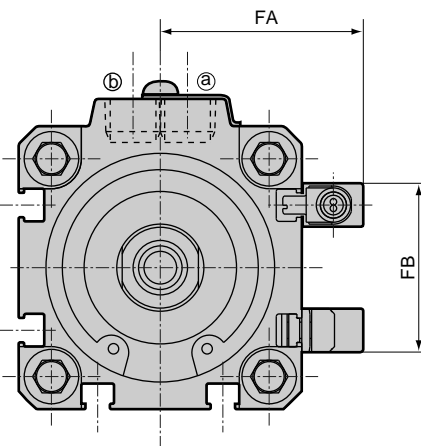


Note) The figure above is F type.

Note 1: When exceeding 150 mm stroke for φ32 to φ50, 200 mm stroke for φ63, refer to the value in () for dimensions HD, RD.

Symbol Bore size (mm)	FA	FB	T2Y H/V, T3Y H/V, T2J H/V		T8 H/V	
			RD Note 1	HD Note 1	RD Note 1	HD Note 1
φ 32	28.8	24	12.5 (12.5)	8 (14.5)	8 (8)	3.5 (10)
φ 40	32.3	31	18 (18)	8 (17.5)	13.5 (13.5)	3.5 (13)
φ 50	38.3	32	18.5 (23.5)	8.5 (17.5)	14 (19)	4 (13)
φ 63	44.8	32	16.5 (21.5)	16 (21.5)	12 (17)	11.5 (17)
φ 80	55.3	32	19 (24)	20.5 (26.5)	14.5 (19.5)	16 (22)
φ 100	64.8	32	23 (28)	26.5 (32)	18.5 (23.5)	22 (27.5)

- USSD-KL-32 to 63 (2 color indicator (with preventive maintenance output), strong magnetic field, with T1* switch T2YF H/V, T3YF H/V, T2YM H/V, T3YM H/V, T2YD, T2YDT, T1 H/V)



Note) The figure above is F type.

Note 1: When exceeding 150 mm stroke for φ32 to φ50, 200 mm stroke for φ63, refer to the value in () for dimensions HD, RD.

Symbol Bore size (mm)	FA	FB	RD Note 1	HD Note 1
φ 32	33.8	24	12.5 (12.5)	8 (14.5)
φ 40	37.3	31	18 (18)	8 (17.5)
φ 50	43.3	32	18.5 (23.5)	8.5 (17.5)
φ 63	49.8	32	16.5 (21.5)	16 (21.5)
φ 80	60.3	32	19 (24)	20.5 (26.5)
φ 100	69.8	32	23 (28)	26.5 (32)

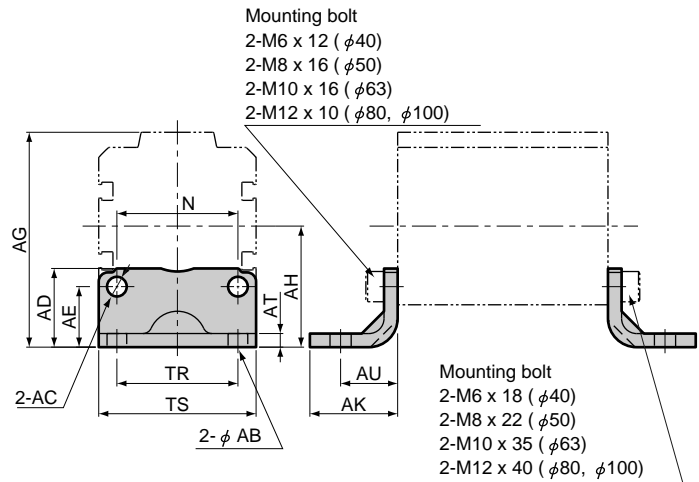
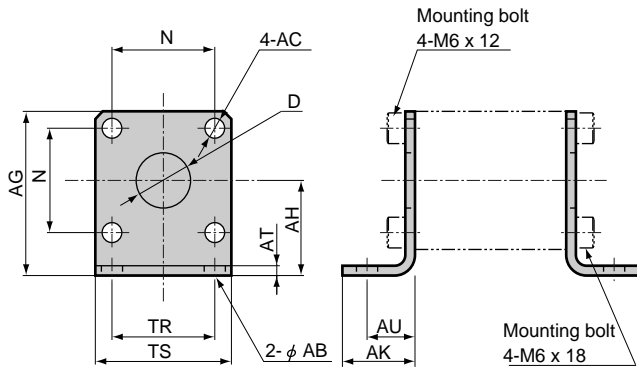
Dimensions (mounting bracket)



● Mounting bracket axial foot (LB)

φ 20, φ 25, φ 32

φ 40, φ 50, φ 63, φ 80, φ 100



* 8 hexagon socket head cap bolts for mounting are attached.

Model no.	Applicable bore size	AB	AC	AG	AH	AO	AT	AK	D	N	TR	TS	Weight (g)
USSD-LB-20	φ20	7	6.5	42	24	8	3.2	24	12	25.5	24	36	140
USSD-LB-25	φ25	7	6.5	46	26	8	3.2	24	14	28	28	40	150
USSD-LB-32	φ32	7	6.5	53.5	31	8	3.2	24	18	34	34	45	180

* 4 hexagon socket head cap bolts for mounting are attached.

Model no.	Applicable bore size	AB	AC	AD	AE	AG	AH	AK	AT	AU	N	R	TR	TS	Weight (g)
USSD-LB-40	φ40	7	6.5	26	20	71	40	29	4.5	19	40	15	40	52	170
USSD-LB-50	φ50	9	9	23	15	79	40	34	4.5	22	50	25	46	64	270
USSD-LB-63	φ63	11	11	33	21	96.5	51	40	4.5	25	60	23	60	77	420
USSD-LB-80	φ80	13	13	42	23	116.5	61.5	50	6	35	77	27	77	98	890
USSD-LB-100	φ100	13	13	48	22	134	69	50	6	35	94	36	94	117	1050

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Position locking compact cylinder
With brake

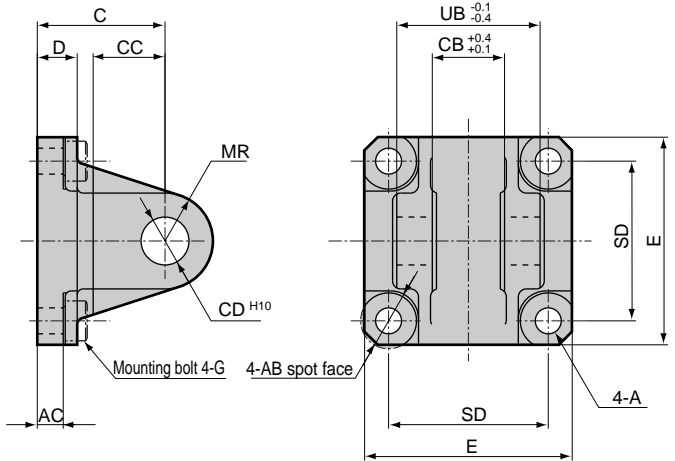
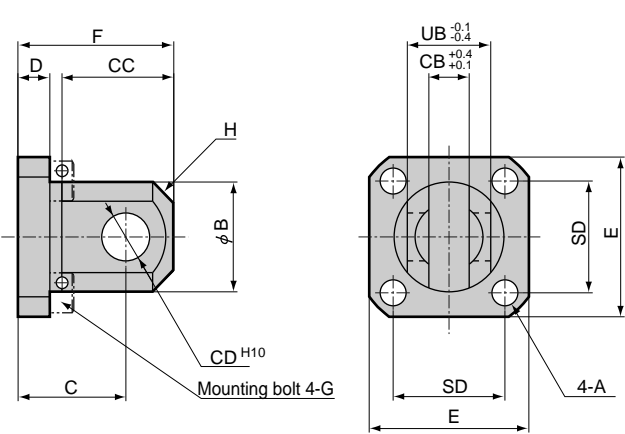
USSD/USSD-K Series

Dimensions (mounting bracket)

* A pin (including C ring) and a snap ring are attached.
 ● Mounting bracket clevis (CB) * For oscillation, a high load type cylinder is recommended.

φ 20, φ 25

φ 32, φ 40, φ 50, φ 63, φ 80, φ 100



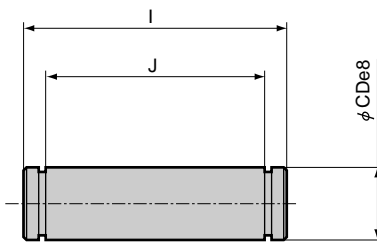
* 4 hexagon socket head cap bolts for mounting are attached.

Model no.	Applicable bore size	A	B	C	CB	CC	CD	D	E	F	G	H	SD	UB	Weight (g)
SSD-CB-20	φ 20	6.5	24	23	8	22	10	8	36	33	M6 x 22	C4	25.5	19	140
SSD-CB-25	φ 25	6.5	27.5	27	10	28	12	8	40	39	M6 x 22	C5	28	21	180

* 4 hexagon socket head cap bolts for mounting are attached.

Model no.	Applicable bore size	A	AB	AC	C	CB	CC	CD	D	E	G	MR	SD	UB	Weight (g)
SSD-CB-32	φ 32	6.5	13	9.5	30	10	16	12	10	45	M6 x 25	R12	34	21	230
SSD-CB-40	φ 40	6.5	14	6.5	32	18	18	12	10	52	M6 x 22	R12	40	36	290
SSD-CB-50	φ 50	9	16	6.5	32	18	18	12	10	64	M8 x 25	R12	50	36	390
SSD-CB-63	φ 63	11	20	7.5	37	20	24	14	10	77	M10 x 40	R16	60	40	630
SSD-CB-80	φ 80	14	20	10.5	52	28	30	20	14	98	M12 x 40	R20	77	56	1530
SSD-CB-100	φ 100	14	20	10.5	52	28	30	20	16	118	M12 x 40	R20	94	56	1900

● Clevis (CB) attached pin dimensions table



Model no.	Applicable bore size	I	J	CD	Weight (g)	Applicable snap ring
SSD-P-20	φ 20	25	20	10	17	E type 9
SSD-P-25	φ 25	27	22	12	25	E type 9
SSD-P-32	φ 32	27	22	12	25	E type 9
SSD-P-40	φ 40	43.5	36.2	12	39	Axis C type 12
SSD-P-50	φ 50	43.5	36.2	12	39	Axis C type 12
SSD-P-63	φ 63	47.5	40.2	14	58	Axis C type 12
SSD-P-80	φ 80	64	56.2	20	156	Axis C type 20
SSD-P-100	φ 100	64	56.2	20	156	Axis C type 20

SCP*2
 CMK2
 CMA2
 SCM
 SCG
 SCA2
 SCS
 CKV2
 CA/OV2
 SSD
 CAT
 MDC2
 MVC
 SMD2
 MSD*
 FC*
 STK
 ULK*
 JSK/M2
 JSG
 JSC3
USSD
 USC
 JSB3
 LMB
 STG
 STS/L
 LCS
 LCG
 LCM
 LCT
 LCY
 STR2
 UCA2
 HCM
 HCA
 SRL2
 SRG
 SRM
 SRT
 MRL2
 MRG2
 SM-25
 CAC3
 UCAC
 RCC2
 MFC
 SHC
 GLC
 Ending