With Brake with Lock

USSD

Super Compact Cylinder with Fall Prevention

ø20, ø25, ø32, ø40
ø50, ø63, ø80, ø100

CONTENTS

With Brake / With Lock
ULK□
JSK2/
JSM2
JSG
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Cylinder
Switch
Ending

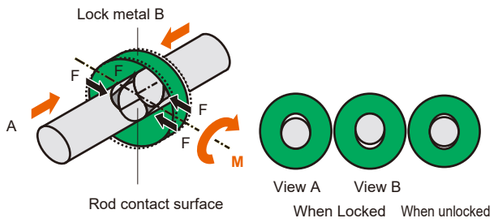
USSD Series

Space-saving, short-stroke type super compact cylinder equipped with fall prevention mechanism

Ensures safety of workpieces, etc., even during power outages or accidents

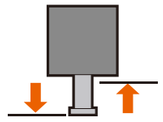
High wear resistance circular slit system

Adoption of fall prevention mechanism with excellent lifespan. By applying rotational force M to the lock metal, axial force F is generated, holding the rod.



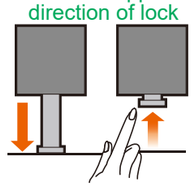
Lock Direction

2 types of lock direction



Selectable from either forward or reverse direction locking.

Free in the opposite direction of lock



In the reverse locking direction, the rod is free, allowing workpieces to be easily removed even if they are trapped.

Fall prevention is possible throughout the entire stroke

Stop position can be locked at any position during the entire stroke, including the stroke end, as long as the Piston Rod is stationary.

Safety

Ensures safety of workpieces etc. even during power outages or accidents.

Energy Saving

No power such as electricity or air is required while braking/locking.

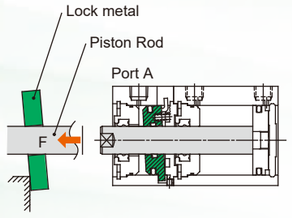
Easy Lock Release

Easy lock release with a flat-head screwdriver.

Lock in operation

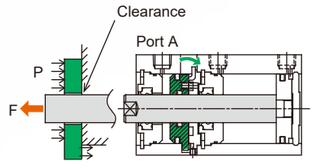
Lock release

Operation Explanation



Lock operation

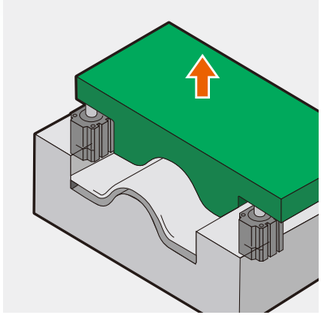
When Port A is exhausted, the spring force causes the lock metal to tilt and hold the piston rod.



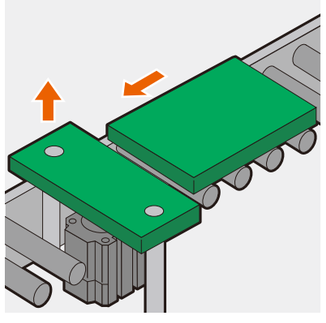
Lock release

When air is supplied to Port A, the lock metal stands upright, creating a clearance between it and the piston rod, allowing the rod to move freely.

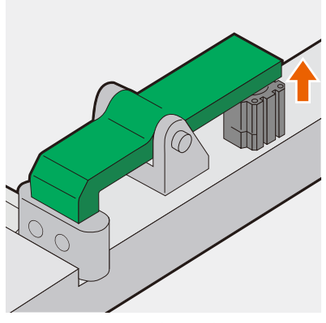
Application Example



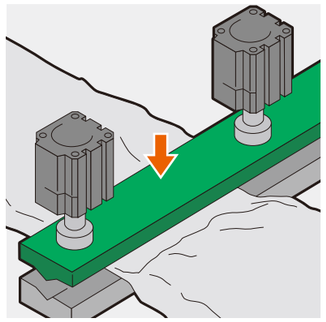
Safety mechanism during die lifting



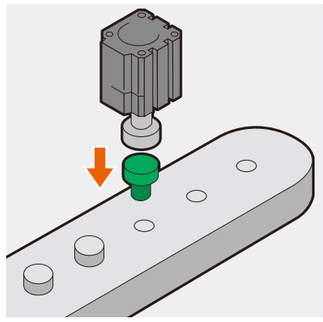
Prevention of stopper falling



Prevention of clamp fixture falling



Prevention of press fixture falling



Prevention of press-fit fixture falling

USSD Series Product System

Model Variation		Bore Size (mm)	Standard Stroke (mm)	Max. Stroke (mm)
Double Acting Type With Switch	USSD USSD-L	ø20	5 10 15 20 25 30 40 50 60 70 80 90 100	30
		ø25·ø32·ø40·ø50		50
		ø63·ø80·ø100		50
Double Acting, High Load Type With Switch	USSD-K USSD-KL	ø20		200
		ø25·ø32·ø40·ø50		300
		ø63·ø80·ø100		300

Variation Table

Super Compact Cylinder with Fall Prevention
USSD Series

●: Standard, ◎: Option, : Not available

Variation	Model No.	Bore Size (mm)	Standard Stroke (mm)						Stroke (mm)							Min Stroke (mm)	Max Stroke (mm)	Intermediate stroke (mm) increments	Option	Mounting Bracket		Switch	Page
																			Rod End male thread	Foot	Double Clevis		
			5	10	15	20	25	30		40	50	60	70	80	90	100				N	LB	CB		
Double Acting type with switch	USSD USSD-L	ø20	●	●	●	●	●	●									1	30	1	◎	◎	◎	◎	514
		ø25, ø32, ø40, ø50	●	●	●	●	●	●		●	●							50		◎	◎	◎		
		ø63, ø80, ø100	●	●		●		●		●	●							50		◎	◎	◎		
Double Acting, High Load Type with Switch	USSD-K USSD-KL	ø20	●	●	●	●	●	●		●	●						1	200	1	◎	◎	◎	◎	514
		ø25, ø32, ø40, ø50		●	●	●	●	●		●	●	●	●	●	●	●		300		◎	◎	◎		
		ø63, ø80, ø100		●		●		●		●	●	●	●	●	●	●		300		◎	◎	◎		

With Brake / With Lock
ULK□
JSK2/ JSM2
JSG
JSC3, JSC4
USSD
UFCD
USC
Cylinder Switch
Ending

Super Compact Cylinder with Fall Prevention

USSD, USSD-K Series

● Bore Size ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

RoHS

Model No. Notation

Without switch
(Without magnet for switch)

USSD-K - 20 - 5 - F ——— N - LB
1 2 3 4 7 8

With switch
(Built-in magnet for switch)

USSD-KL - 20 - 5 - F - T0H - R - N - LB

1 Model No. 2 Bore Size 3 Stroke 4 Lock Direction 5 Switch Model No. 6 Number of Switches 7 Option 8 Mounting bracket

1 Model No.

Code	Content
USSD	Double Acting type
USSD-L	Double Acting type, With switch
USSD-K	Double Acting, High Load Type
USSD-KL	Double Acting, High Load Type, With Switch

2 Bore Size (mm)

Code	Content
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

3 Stroke

● USSD

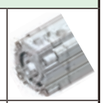
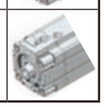
Bore Size	Stroke	Intermediate Stroke
ø20	**1 to 30**	in 1 mm increments
ø25 to ø50	**1 to 50**	
ø63 to ø100	**1 to 50**	

● USSD-K

Bore Size	Stroke	Intermediate Stroke
ø20	**1 to 200**	in 1 mm increments
ø25 to ø100	**1 to 300**	

Note: Refer to P. 516 for details on strokes .

4 Lock Direction

Code	Content	
F	Forward Direction Lock	
B	Reverse Direction Lock	

5 Switch Model No.

For switch details, refer to P. 1457. Switches are shipped with the product.

Contact	Indicator LED Special Function	Wiring (Output)	Load Voltage (V) AC	Load Voltage (V) DC	Load Current (mA) AC	Load Current (mA) DC	Lead wire *1 Straight	Lead wire *1 L-shape	
Solid State	1-Color	2-wire	85 to 265	—	5 to 100	-	**T1H□**	**T1V□**	
			-	10 to 30	—	5 to 20 *2	**T2H□**	**T2V□**	
		3-wire (NPN)	—	30 or less	—	100 or less	**T3H□**	**T3V□**	
		3-wire (PNP)	—		-		**T3PH□**	**T3PV□**	
	2-color	2-wire	—	24 ± 10%	—	5 to 20	**T2WH□**	**T2WV□**	
		3-wire (NPN)	—	30 or less	—	50 or less	**T3WH□**	**T3WV□**	
	1-color Off-Delay Type	2-wire	—	10 to 30	—	5 to 20 *2	**T2JH□**	**T2JV□**	
	1-color Flexible Lead Wire Type		—	10 to 30	—		**T2HR3**	**T2VR3**	
Contact	1-Color	2-wire	110	12/24	7 to 20	5 to 50	**T0H□**	**T0V□**	
	Without Indicator Lamp		110	5/12/24	20 or less	50 or less	**T5H□**	**T5V□**	
	1-color		110/220	12/24	7 to 20 / 7 to 10	5 to 50	**T8H□**	**T8V□**	

*1: Insert the code selected in the "Lead wire length" table into "□" of the switch Model No..
*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating Ambient Temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)
3:USSD-□L ❷ Bore Size ø20 to ø32 cannot be equipped with a T8 switch.
*4: Switches other than the Model No.s listed above are also available. (Custom Product) For details, refer to P. 1457.

***Lead wire length**

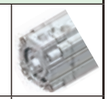
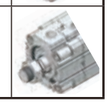
Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5m (Option)

Example) Lead wire length
1 m T0H
3 m T0H3
5 m T0H5

6 Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

7 Option

Code	Content	
Blank	Rod End female thread	
N	Rod End male thread	

8 Mounting bracket

Mounting bracket is included for shipment.

Code	Content	
LB	Axial foot	
CB	Double Clevis (Pin and Retaining Ring attached)	

About specifications of custom products

For details, please refer to P. 556.

Code	Content
-A2	With 2 rod nuts

Model No. Ex.)
USSD-..... **-A2**
USSD-K -..... **-A2**

Rechargeable Battery Compatible Specification

(Catalog No. CC-1226AA)

●Design compatible with rechargeable battery manufacturing process

USSD- ····· **-P4***

USSD-K- ····· **-P4***

*Please contact us for details.

Switch Single Unit Model No. Notation

SW - T0H
5 Switch Model

Common Specifications

Item		USSD/USSD-K							
Bore Size	mm	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Operation type		Double Acting Type							
Operating Fluid		Compressed Air							
Max Operating Pressure	MPa	1.0							
Min Operating Pressure	MPa	0.25 (no load) *1							
Proof Pressure	MPa	1.5							
Ambient Temperature	°C	-10 to 60 (however, no freezing)							
Port Size		M5		Rc1/8		Rc1/4		Rc3/8	
Stroke Tolerance	mm	USSD: $^{+1.0}_{0}$ USSD-K: $^{+2.0}_{0}$							
Operating Piston Speed	mm/s	50 to 500					50 to 300		
Cushion		USSD: None					USSD-K: Rubber Cushion		
Lubrication		Not required (When lubricating, use turbine oil Class 1 ISO VG32)							
Locking Force	N	150	235	386	603	943	1497	2413	3770
Allowable absorbed Energy	USSD	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56
	J USSD-K	0.157	0.157	0.402	0.628	0.98	1.56	2.51	7.92

*1: Depending on the non-operating conditions, the Piston Rod may start to move from 0.05 MPa, so please be careful about residual pressure and exhaust pressure.

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	*3	1							
	Max Stroke		ø20: 30 ø25 to ø100: 50							
	Intermediate Stroke	*2	1							
USSD-K	Standard Stroke	5	●							
		10	●	●	●	●	●	●	●	●
		15	●	●	●	●	●			
		20	●	●	●	●	●	●	●	●
		25	●	●	●	●	●			
		30	●	●	●	●	●	●	●	●
		40	●	●	●	●	●	●	●	●
		50	●	●	●	●	●	●	●	●
		60		●	●	●	●	●	●	●
		70		●	●	●	●	●	●	●
		80		●	●	●	●	●	●	●
		90		●	●	●	●	●	●	●
		100		●	●	●	●	●	●	●
	Min Stroke	*3	1							
	Max Stroke	*1	ø20: 200 ø25 to ø100: 300							
	Intermediate Stroke	*2	1							

*1: Strokes exceeding the Standard Stroke up to the Max Stroke can be manufactured in increments of 10. (Example) USSD-K-20: 60, 70, 80, 90, 100 .....
*2: Intermediate strokes can be manufactured in 1 mm increments. However, the overall length dimension will be the same as the dimension of the Standard Stroke above it. Intermediate strokes (e.g., 64 stroke) will have the same external dimensions as the stroke above them (e.g., 70 stroke).
*3: The minimum stroke can be manufactured from 1 mm, but please consider the stroke tolerance.
*4: Products less than 10 mm with 2-color indicator, off-delay type, strong magnetic field, or T1□, T8□ switch cannot be manufactured.
*5: USSD-K ø20: Over 100 to 200, ø25 to ø50: Over 150 to 300, ø63 to ø100: Over 200 to 300, some internal structures and total length dimensions differ.

USSD Cylinder Weight Table (Weight with switch is for when 2 cylinder switches are included)

Unit: g

Stroke mm	5		10		15		20		25		30		40		50	
Bore Size (mm)	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch
ø20	173	228	185	260	198	273	211	286	223	298	236	311	-	-	-	-
ø25	247	338	262	353	278	369	294	385	310	401	325	416	357	448	388	479
ø32	342	456	364	478	386	500	408	522	429	543	451	565	495	609	538	652
ø40	493	636	520	663	546	689	573	716	600	743	626	769	679	822	732	875
ø50	859	1053	901	1095	943	1137	985	1179	1027	1221	1070	1264	1154	1348	1238	1432
ø63	1342	1621	1397	1676	-	-	1507	1786	-	-	1617	1896	1728	2007	1838	2117
ø80	2591	3004	2678	3091	-	-	2851	3264	-	-	3024	3437	3198	3611	3371	3784
ø100	4219	4786	4333	4900	-	-	4560	5127	-	-	4788	5355	5015	5582	5243	5810

USSD-K Cylinder Weight Table (Weight with switch is for 2 cylinder switches)

Unit: g

Stroke mm	5		10		15		20		25		30		40		50		60		70		80	
Bore Size (mm)	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch
ø20	185	260	198	273	211	286	223	298	236	311	248	323	273	348	298	373	323	398	348	423	373	448
ø25	-	-	278	369	294	385	310	401	325	416	342	433	374	465	406	497	438	529	470	561	502	593
ø32	-	-	408	522	429	543	451	565	473	587	495	609	538	652	581	695	624	738	667	781	710	824
ø40	-	-	573	716	600	743	626	769	652	795	679	822	732	875	785	928	838	981	891	1034	944	1087
ø50	-	-	985	1179	1027	1221	1070	1264	1113	1307	1154	1348	1238	1432	1322	1516	1406	1600	1490	1684	1574	1768
ø63	-	-	1507	1786	-	-	1617	1896	-	-	1728	2007	1838	2117	1948	2227	2058	2337	2168	2447	2278	2557
ø80	-	-	2851	3264	-	-	3024	3437	-	-	3198	3611	3371	3784	3544	3957	3717	4130	3890	4303	4063	4476
ø100	-	-	4560	5127	-	-	4788	5355	-	-	5015	5582	5243	5810	5471	6038	5699	6266	5927	6494	6155	6722

Stroke mm	90		100		110		120		130		140		150		160		170		180		190	
Bore Size (mm)	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch
ø20	398	473	423	498	448	523	473	548	498	573	523	598	548	623	573	648	598	673	623	698	648	723
ø25	534	625	566	657	598	689	630	721	662	753	694	785	726	817	758	849	790	881	822	913	854	945
ø32	753	867	796	910	839	953	882	996	925	1039	968	1082	1011	1125	1053	1167	1096	1210	1139	1253	1182	1296
ø40	997	1140	1050	1193	1103	1246	1156	1299	1209	1352	1262	1405	1315	1458	1368	1511	1421	1564	1474	1617	1527	1670
ø50	1658	1852	1742	1936	1826	2020	1910	2104	1994	2188	2078	2272	2162	2356	2260	2454	2345	2539	2430	2624	2515	2709
ø63	2388	2667	2498	2777	2608	2887	2718	2997	2828	3107	2938	3217	3048	3327	3158	3437	3268	3547	3378	3657	3488	3767
ø80	4236	4649	4409	4822	4582	4995	4755	5168	4928	5341	5101	5514	5274	5687	5447	5860	5620	6033	5793	6206	5966	6379
ø100	6383	6950	6611	7178	6839	7406	7067	7634	7295	5252	7523	8090	7751	8318	7979	8546	8207	8774	8435	9002	8663	9230

Stroke mm	200		210		220		230		240		250		260		270		280		290		300	
Bore Size (mm)	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch
ø20	673	748	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ø25	886	977	929	1009	961	1041	993	1073	1025	1105	1057	1137	1089	1169	1121	1201	1153	1233	1185	1265	1217	1297
ø32	1225	1339	1268	1382	1311	1425	1354	1468	1397	1511	1440	1554	1483	1597	1526	1640	1569	1683	1612	1726	1655	1769
ø40	1580	1723	1633	1776	1686	1829	1739	1882	1792	1935	1845	1988	1898	2041	1951	2094	2004	2147	2057	2200	2110	2253
ø50	2600	2794	2685	2879	2770	2964	2855	3049	2940	3134	3025	3219	3110	3304	3195	3389	3280	3474	3365	3559	3450	3644
ø63	3598	3877	3707	3986	3817	4096	3927	4206	4037	4316	4147	4426	4257	4536	4367	4646	4477	4756	4587	4866	4697	4976
ø80	4139	6552	6311	6724	6484	6897	6657	7070	6830	7243	7003	7416	7176	7589	7349	7762	7522	6360	7695	8108	7868	8281
ø100	8891	9458	9120	9687	9348	9915	9576	10143	9804	10371	10032	10599	10260	10827	10488	11055	10716	11283	10944	11511	11172	11739

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa								
		0.25 (36 psi)	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø20	Push	78.5	94.2	1.26×10^{2}	1.57×10^{2}	1.88×10^{2}	2.20×10^{2}	2.51×10^{2}	2.83×10^{2}	3.14×10^{2}
	Pull	58.9	70.7	94.2	1.18×10^{2}	1.41×10^{2}	1.65×10^{2}	1.88×10^{2}	2.12×10^{2}	2.36×10^{2}
ø25	Push	1.23×10^{2}	1.47×10^{2}	1.96×10^{2}	2.45×10^{2}	2.95×10^{2}	3.44×10^{2}	3.93×10^{2}	4.42×10^{2}	4.91×10^{2}
	Pull	94.3	1.13×10^{2}	1.51×10^{2}	1.89×10^{2}	2.27×10^{2}	2.64×10^{2}	3.02×10^{2}	3.40×10^{2}	3.78×10^{2}
ø32	Push	2.01×10^{2}	2.41×10^{2}	3.22×10^{2}	4.02×10^{2}	4.83×10^{2}	5.63×10^{2}	6.43×10^{2}	7.24×10^{2}	8.04×10^{2}
	Pull	1.51×10^{2}	1.81×10^{2}	2.41×10^{2}	3.02×10^{2}	3.62×10^{2}	4.22×10^{2}	4.83×10^{2}	5.43×10^{2}	6.03×10^{2}
ø40	Push	3.14×10^{2}	3.77×10^{2}	5.03×10^{2}	6.28×10^{2}	7.54×10^{2}	8.80×10^{2}	1.01×10^{3}	1.13×10^{3}	1.26×10^{3}
	Pull	2.64×10^{2}	3.17×10^{2}	4.22×10^{2}	5.28×10^{2}	6.33×10^{2}	7.39×10^{2}	8.44×10^{2}	9.50×10^{2}	1.06×10^{3}
ø50	Push	4.91×10^{2}	5.89×10^{2}	7.85×10^{2}	9.82×10^{2}	1.18×10^{3}	1.37×10^{3}	1.57×10^{3}	1.77×10^{3}	1.96×10^{3}
	Pull	4.13×10^{2}	4.95×10^{2}	6.60×10^{2}	8.25×10^{2}	9.90×10^{2}	1.15×10^{3}	1.32×10^{3}	1.48×10^{3}	1.65×10^{3}
ø63	Push	7.79×10^{2}	9.35×10^{2}	1.25×10^{3}	1.56×10^{3}	1.87×10^{3}	2.18×10^{3}	2.49×10^{3}	2.81×10^{3}	3.12×10^{3}
	Pull	7.01×10^{2}	8.41×10^{2}	1.12×10^{3}	1.40×10^{3}	1.68×10^{3}	1.96×10^{3}	2.24×10^{3}	2.52×10^{3}	2.80×10^{3}
ø80	Push	1.26×10^{3}	1.51×10^{3}	2.01×10^{3}	2.51×10^{3}	3.02×10^{3}	3.52×10^{3}	4.02×10^{3}	4.52×10^{3}	5.03×10^{3}
	Pull	1.13×10^{3}	1.36×10^{3}	1.81×10^{3}	2.27×10^{3}	2.72×10^{3}	3.17×10^{3}	3.63×10^{3}	4.08×10^{3}	4.54×10^{3}
ø100	Push	1.97×10^{3}	2.36×10^{3}	3.14×10^{3}	3.93×10^{3}	4.71×10^{3}	5.50×10^{3}	6.28×10^{3}	7.07×10^{3}	7.85×10^{3}
	Pull	1.79×10^{3}	2.14×10^{3}	2.86×10^{3}	3.57×10^{3}	4.29×10^{3}	5.00×10^{3}	5.72×10^{3}	6.43×10^{3}	7.15×10^{3}

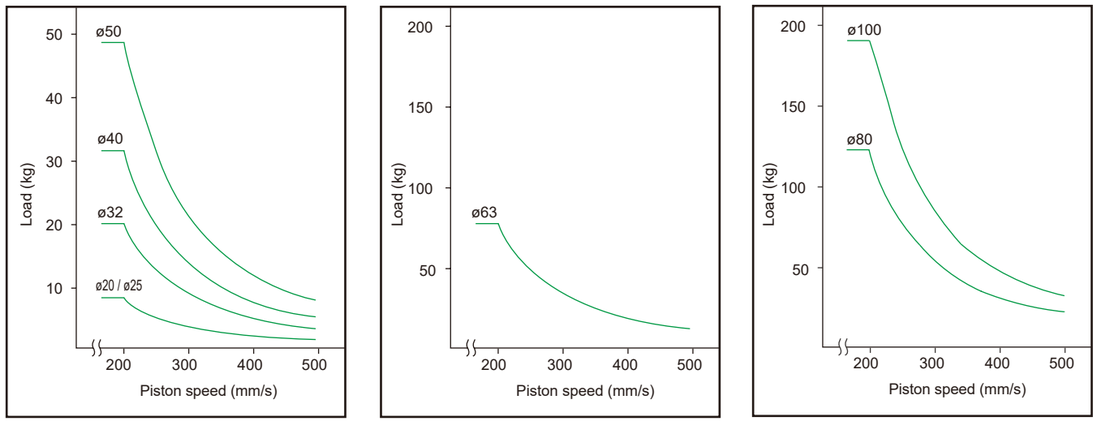
Mounting Bracket Model No. Notation

Bore Size (mm) / Mounting bracket	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
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
Double 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: Foot type mounting bracket is 2 pcs/set.

USSD-K High Load Type Allowable Energy Graph

High Load Type Allowable Energy Graph

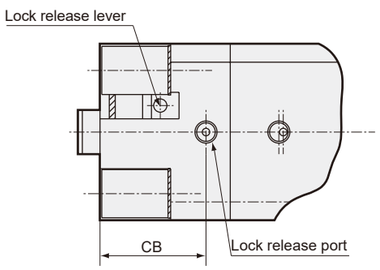


● Note: The range on the lower left side of the curve is usable. The upper right range requires an external cushion.

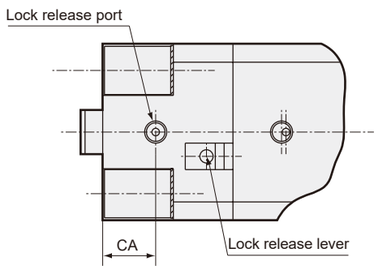
Dimensions (Bore Size: ø20, ø25)

● USSD-L-20, 25
● USSD-20, 25

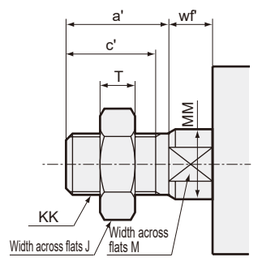
Type B

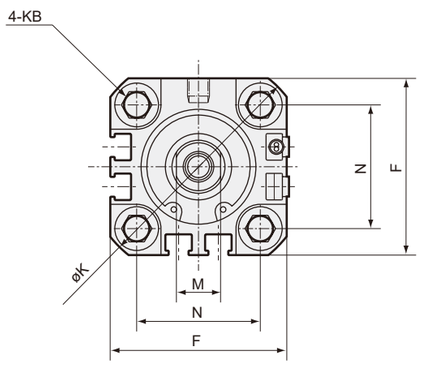


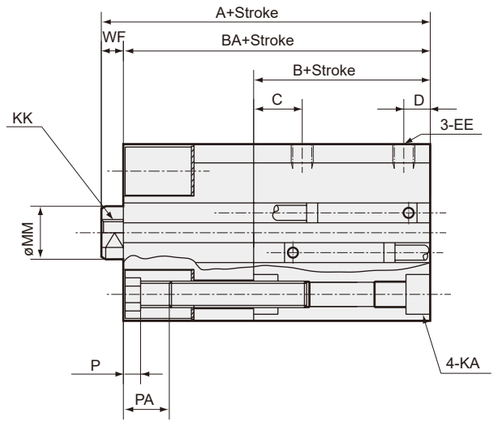
Type F



● Dimensions of Rod End male thread part







Code / Bore Size (mm)	Dimensions with Switch A *1	B *1	BA *1	Dimensions without Switch A *1	B *1	BA *1	Common Dimensions C	CA	CB	D	EE	F
ø20	61	29.5	56.5	51	19.5	46.5	8	10	22	5.5	M5	36
ø25	69	32.5	64	59	22.5	54	11	12	26	6	M5	40

Code / Bore Size (mm)	Common Dimensions KB	K	KA	KK	M	MM	N	WF	P	PA
ø20	M6	47	9 Counterbore depth 5.5 M6 Depth 11	M5 Depth 7	8	10	25.5	4.5	3.5	10
ø25	M6	51	9 Counterbore depth 5.5 M6 Depth 11	M6 Depth 12	10	12	28	5	3.5	10

Rod End Male Thread Dimensions

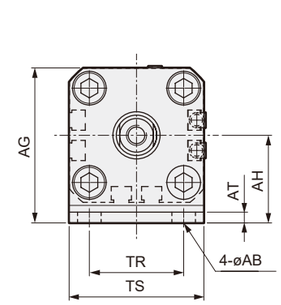
Code / Bore Size (mm)	a'	c'	J	KK	M	MM	T	wf'
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M10x1.25	10	12	6	5

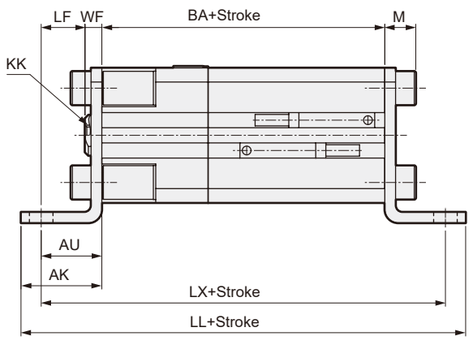
*1: When calculating A+Stroke, B+Stroke, and BA+Stroke dimensions for intermediate strokes, do not use the intermediate stroke value but use the Standard Stroke value just above it. (Ex.) For intermediate stroke 7 mm, use Standard Stroke 10 mm for calculation.

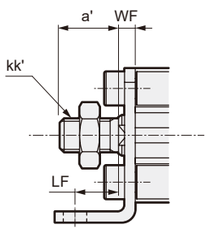
***2: For dimensions with each switch, please refer to P. 552 to 554.**

Dimensions (Bore Size: ø20, ø25)

●Axial Foot Type (LB)







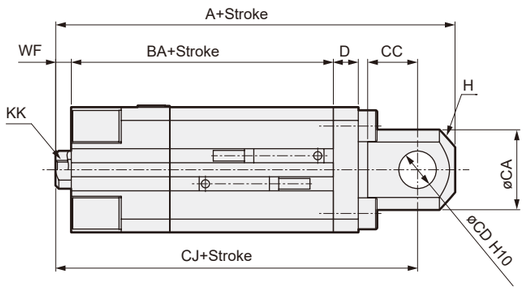
Code / Bore Size (mm)	Common Dimensions AB	AG	AH	AK	AT	AU	TR	TS	M	With female thread KK	WF	LF	With switch BA *1	LL *1	LX *1	Without switch BA *1	LL *1	LX *1
ø20	7	42	24	24	3.2	16	24	36	9.2	M5 Depth 7	4.5	11.5	56.5	104.5	88.5	46.5	94.5	78.5
ø25	7	46	26	24	3.2	16	28	40	9.2	M6 Depth 12	5	11	64	112	96	54	102	86

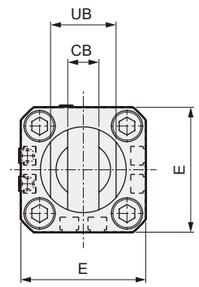
Code / Bore Size (mm)	With male thread a'	kk'	wf	LF	With switch BA *1	LL *1	LX *1	Without switch BA *1	LL *1	LX *1
ø20	14	M8	4.5	11.5	56.5	104.5	88.5	46.5	94.5	78.5
ø25	17.5	M10x1.25	5	11	64	112	96	54	102	86

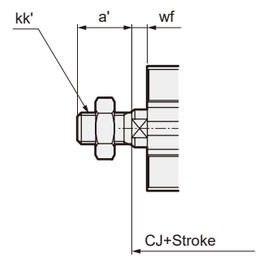
*1: When calculating BA+Stroke, LL+Stroke, and LX+Stroke dimensions for intermediate strokes, do not use the intermediate stroke value but use the Standard Stroke value just above it. (Ex.) For intermediate stroke 7 mm, use Standard Stroke 10 mm for calculation.

***2: For dimensions with each switch, please refer to P. 552 to 554.**

●Double clevis type (CB)







Code / Bore Size (mm)	Common Dimensions CA	CB	CC	CD	D	E	H	UB
ø20	24	8 $^{+0.4}_{+0.1}$	12	10	8	36	C4	19 $^{-0.1}_{-0.4}$
ø25	27.5	10 $^{+0.4}_{+0.1}$	16	12	8	40	C5	21 $^{-0.1}_{-0.4}$

Code / Bore Size (mm)	With female thread KK	WF	With switch A *1	BA *1	CJ *1	Without switch A *1	BA *1	CJ *1	With male thread a'	kk'	wf	With switch A *1	BA *1	CJ *1	Without switch A *1	BA *1	CJ *1
ø20	M5 Depth 7	4.5	94	56.5	84	84	46.5	74	14	M8	4.5	108	56.5	84	98	46.5	74
ø25	M6 Depth 12	5	108	64	96	98	54	86	17.5	M10x1.25	5	125.5	64	96	115.5	54	86

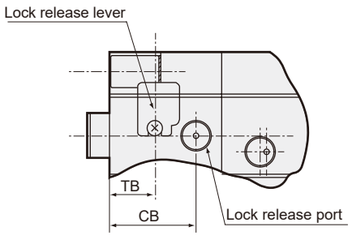
*1: When calculating A+Stroke, BA+Stroke, and CJ+Stroke dimensions for intermediate strokes, do not use the intermediate stroke value but use the Standard Stroke value just above it. (Ex.) For intermediate stroke 7 mm, use Standard Stroke 10 mm for calculation.

***2: For dimensions with each switch, please refer to P. 552 to 554.**

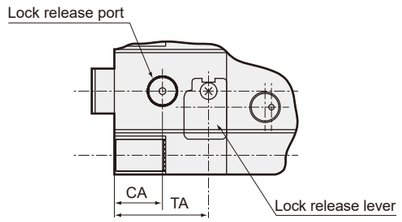
Dimensions (Bore Size: ø32 to ø63)

● USSD-L-32 to 63
● USSD-32 to 63

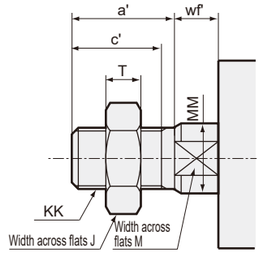
Type B



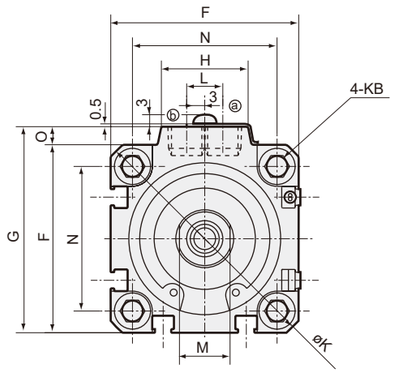
Type F

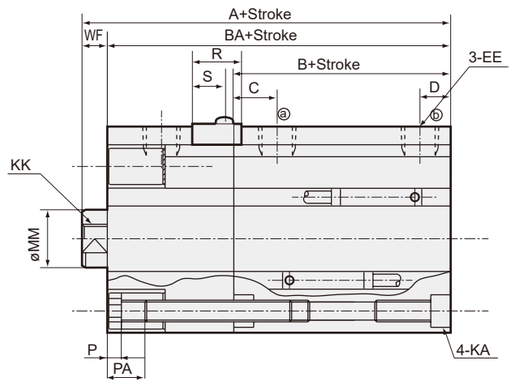


● Dimensions of Rod End male thread part



Note) The figure below is F type





Code / Bore Size (mm)	Dimensions with Switch A *1	B *1	BA *1	Dimensions without Switch A *1	B *1	BA *1	Common Dimensions C	CA	CB	D	EE	F	G
ø32	73.5	33	66.5	63.5	23	56.5	8	12	25.5	8	RC1/8	45	49.5
ø40	81.5	39.5	74.5	71.5	29.5	64.5	12	15	27	8.5	RC1/8	52	57
ø50	87.5	40.5	79.5	77.5	30.5	69.5	10.5	15	30	10.5	RC1/4	64	71
ø63	98.5	46	90.5	88.5	36	80.5	13	15.5	34	11	RC1/4	77	84

Code / Bore Size (mm)	Common Dimensions H	KB	K	KA	KK	L	M	MM	N	O	WF	P
ø32	24	M6	60	9 Counterbore depth 5.5 M6 depth 11	M8 Depth 13	10	14	16	34	4.5	7	3.5
ø40	24	M6	69	9 Counterbore depth 5.5 M6 depth 11	M8 Depth 13	10	14	16	40	5	7	3.5
ø50	33	M8	86	11 Counterbore depth 6.5 M8 Depth 13	M10 Depth 15	15	17	20	50	7	8	4
ø63	33	M10	103	14 Counterbore depth 9 M10 Depth 25	M10 Depth 15	15	17	20	60	7	8	4

Code / Bore Size (mm)	PA	R	S	TA
ø32	10	14	9	29.5
ø40	10	12	6	30.3
ø50	12.5	14	7	33
ø63	13.5	17	8.5	37

Rod End Male Thread Dimensions

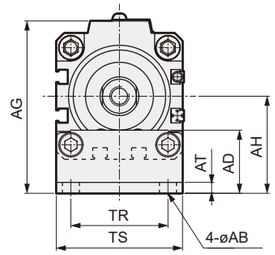
Code / Bore Size (mm)	a'	c'	J	KK	M	MM	T	wf'
ø32	23.5	20.5	22	M14×1.5	14	16	8	5
ø40	23.5	20.5	22	M14×1.5	14	16	8	5
ø50	28.5	26	27	M18x1.5	17	20	11	5
ø63	28.5	26	27	M18x1.5	17	20	11	5

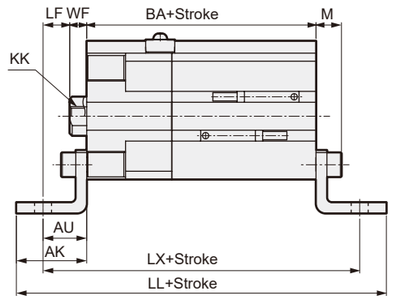
*1: When calculating A+Stroke, B+Stroke, and BA+Stroke dimensions for intermediate strokes, do not use the intermediate stroke value but use the Standard Stroke value just above it. (Ex.) For intermediate stroke 7 mm, use Standard Stroke 10 mm for calculation.

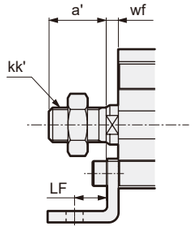
***2: For dimensions with each switch, please refer to P. 552 to 554.**

Dimensions (Bore Size: ø32 to ø63)

●Axial Foot Type (LB)







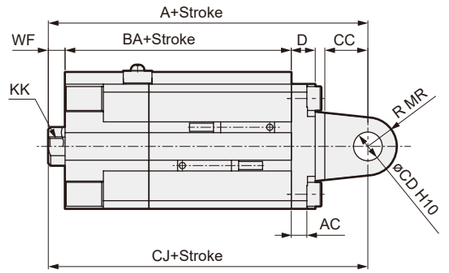
Code / Bore Size (mm)	Common Dimensions AB	AD	AG	AH	AK	AT	AU	TR	TS	M	With female thread KK	WF	LF	With switch BA *1	With switch LL *1	With switch LX *1	Without switch BA *1	Without switch LL *1	Without switch LX *1
ø32	7	53.5	53.5	31	24	3.2	16	34	45	9.2	M8 Depth 13	7	9	66.5	114.5	98.5	56.5	104.5	88.5
ø40	7	26	71	40	29	4.5	19	40	52	10	M8 Depth 13	7	12	74.5	132.5	112.5	64.5	122.5	102.5
ø50	9	23	79	40	34	4.5	22	46	64	13	M10 Depth 15	8	14	79.5	147.5	123.5	68.5	136.5	112.5
ø63	11	33	96.5	51	40	4.5	25	60	77	15	M10 Depth 15	8	17	90.5	170.5	140.5	80.5	160.5	130.5

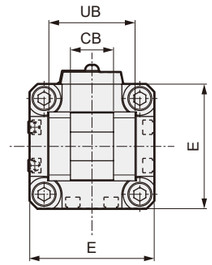
Code / Bore Size (mm)	With male thread a'	kk'	wf	LF	With switch BA *1	With switch LL *1	With switch LX *1	Without switch BA *1	Without switch LL *1	Without switch LX *1
ø32	23.5	M14x1.5	5	11	66.5	114.5	98.5	56.5	104.5	88.5
ø40	23.5	M14x1.5	5	14	74.5	132.5	112.5	64.5	122.5	102.5
ø50	28.5	M18x1.5	5	17	79.5	147.5	123.5	68.5	136.5	112.5
ø63	28.5	M18x1.5	5	20	90.5	170.5	140.5	80.5	160.5	130.5

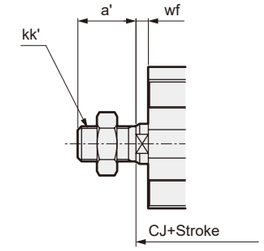
*1: When calculating BA+Stroke, LL+Stroke, and LX+Stroke dimensions for intermediate strokes, do not use the intermediate stroke value but use the Standard Stroke value just above it. (Ex.) For intermediate stroke 7 mm, use Standard Stroke 10 mm for calculation.

***2: For dimensions with each switch, please refer to P. 552 to 554.**

●Double clevis type (CB)







Code / Bore Size (mm)	Common Dimensions AC	CB	CC	CD	D	E	MR	UB
ø32	9.5	$10^{+0.4}_{+0.1}$	16	12	10	45	12	$21^{-0.1}_{-0.4}$
ø40	6.5	$18^{+0.4}_{+0.1}$	18	12	10	52	12	$36^{-0.1}_{-0.4}$
ø50	6.5	$18^{+0.4}_{+0.1}$	18	12	10	64	12	$36^{-0.1}_{-0.4}$
ø63	7.5	$20^{+0.4}_{+0.1}$	24	14	10	77	16	$40^{-0.1}_{-0.4}$

Code / Bore Size (mm)	With female thread KK	WF	With switch A *1	With switch BA *1	With switch CJ *1	Without switch A *1	Without switch BA *1	Without switch CJ *1	With male thread a'	kk'	wf	With switch A *1	With switch BA *1	With switch CJ *1	Without switch A *1	Without switch BA *1	Without switch CJ *1
ø32	M8 Depth 13	7	115.5	66.5	103.5	105.5	56.5	93.5	23.5	M14x1.5	5	137	66.5	101.5	127	56.5	91.5
ø40	M8 Depth 13	7	125.5	74.5	113.5	115.5	64.5	103.5	23.5	M14x1.5	5	147	74.5	111.5	137	64.5	101.5
ø50	M10 Depth 15	8	131.5	79.5	119.5	120.5	68.5	108.5	28.5	M18x1.5	5	157	79.5	116.5	146	68.5	105.5
ø63	M10 Depth 15	8	151.5	90.5	135.5	141.5	80.5	125.5	28.5	M18x1.5	5	177	90.5	132.5	167	80.5	122.5

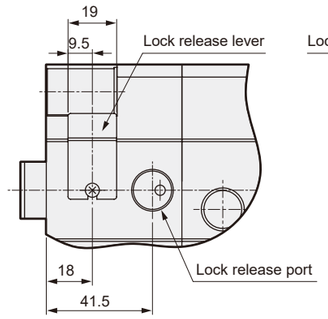
*1: When calculating A+Stroke, BA+Stroke, and CJ+Stroke dimensions for intermediate strokes, do not use the intermediate stroke value but use the Standard Stroke value just above it. (Ex.) For intermediate stroke 7 mm, use Standard Stroke 10 mm for calculation.

***2: For dimensions with each switch, please refer to P. 552 to 554.**

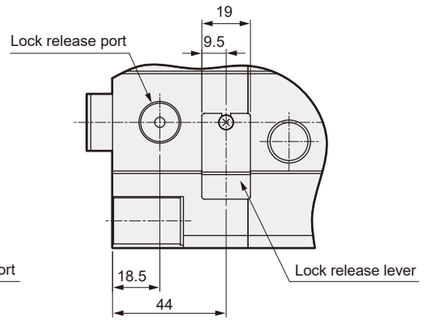
External dimensions diagram (Bore Size: ø80)

● USSD-L-80
● USSD-80

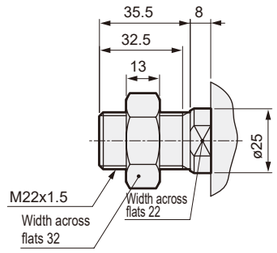
Type B



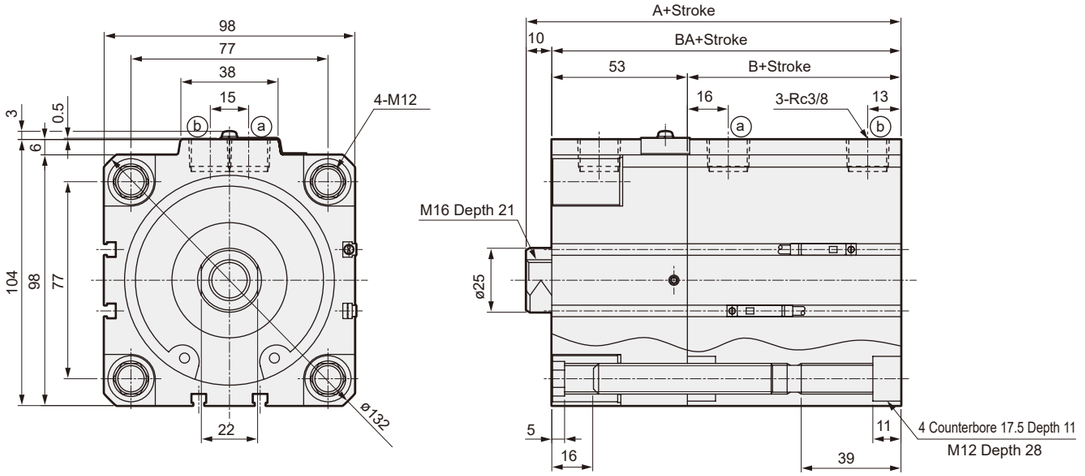
Type F



● Dimensions of Rod End male thread part



Note) The figure below is F type



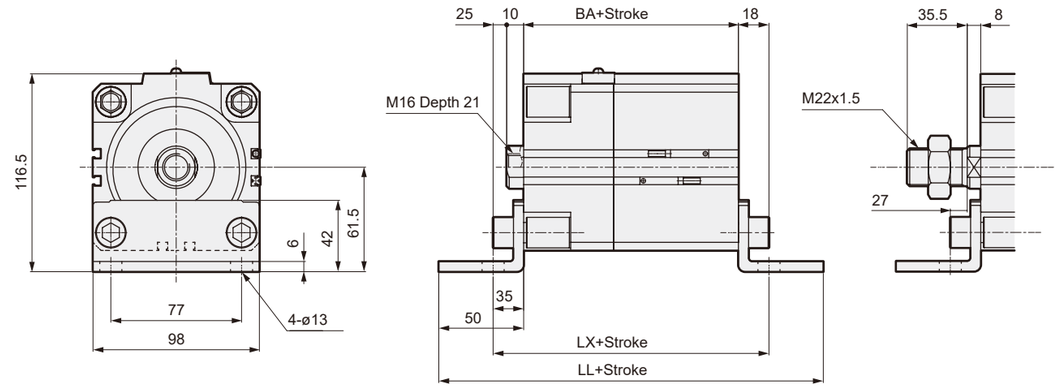
Code / Bore Size (mm)	Dimensions with Switch			Dimensions without Switch		
	A	B	BA	A	B	BA
ø80	116.5	53.5	106.5	106.5	43.5	96.5

*1: When calculating A+Stroke, B+Stroke, and BA+Stroke dimensions for intermediate strokes, do not use the intermediate stroke value but use the Standard Stroke value just above it. (Ex.) For intermediate stroke 7 mm, use Standard Stroke 10 mm for calculation.

***2: For dimensions with each switch, please refer to P. 552 to 554.**

External dimensions diagram (Bore Size: ø80)

●Axial Foot Type (LB)

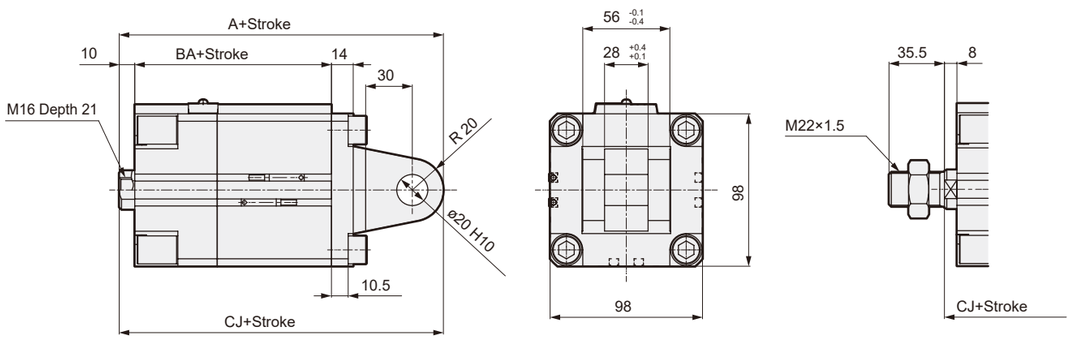


Code / Bore Size (mm)	With female thread						With male thread					
	With switch			Without switch			With switch			Without switch		
	BA	LL	LX	BA	LL	LX	BA	LL	LX	BA	LL	LX
ø80	106.5	206.5	176.5	96.5	196.5	166.5	106.5	206.5	176.5	96.5	196.5	166.5

*1: To calculate BA+ stroke, LL+ stroke or LX+ stroke when using custom stroke, apply the next longer Standard Stroke (instead of the custom stroke) to the stroke value. (Ex.) For intermediate stroke 7 mm, use Standard Stroke 10 mm for calculation.

***2: For dimensions with each switch, please refer to P. 552 to 554.**

●Double clevis type (CB)



Code / Bore Size (mm)	With male thread						With male thread					
	With switch			Without switch			With switch			Without switch		
	A	BA	CJ	A	BA	CJ	A	BA	CJ	A	BA	CJ
ø80	188.5	106.5	168.5	178.5	96.5	158.5	222	106.5	166.5	212	96.5	156.5

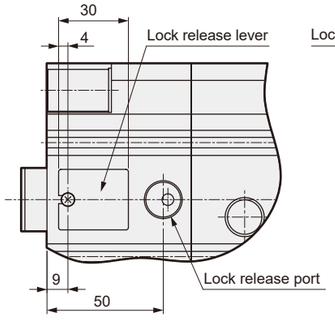
*1: To calculate A + stroke, BA + stroke or CJ + stroke when using custom stroke, apply the next longer Standard Stroke (instead of the custom stroke) to the stroke value. (Ex.) For intermediate stroke 7 mm, use Standard Stroke 10 mm for calculation.

***2: For dimensions with each switch, please refer to P. 552 to 554.**

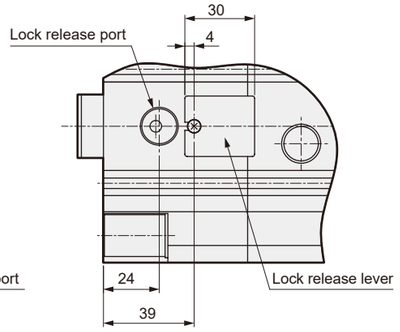
External dimensions diagram (Bore Size: ø100)

● USSD-L-100
● USSD-100

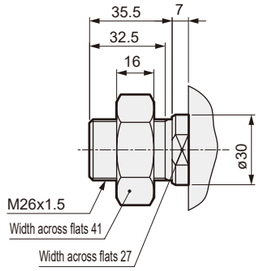
Type B



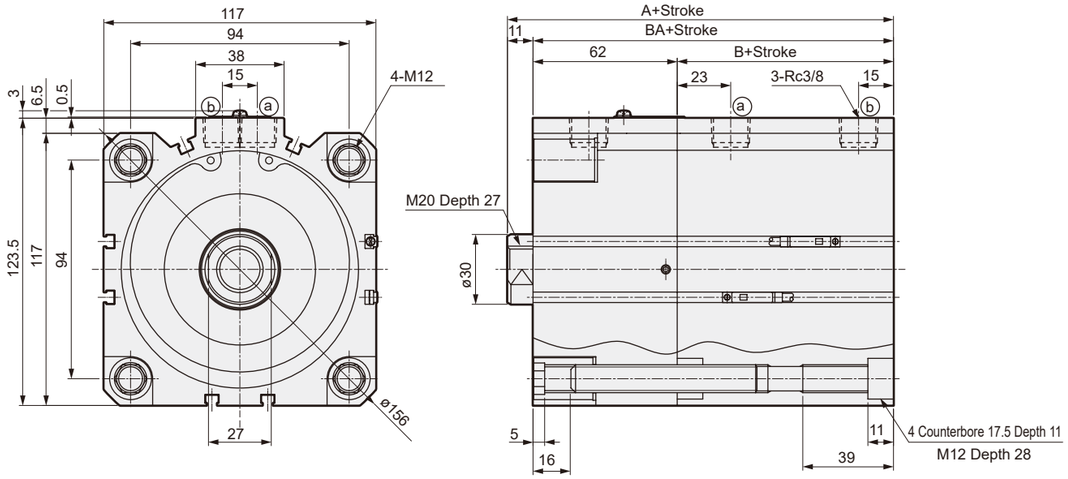
Type F



● Dimensions of Rod End male thread part



Note) The figure below is F type



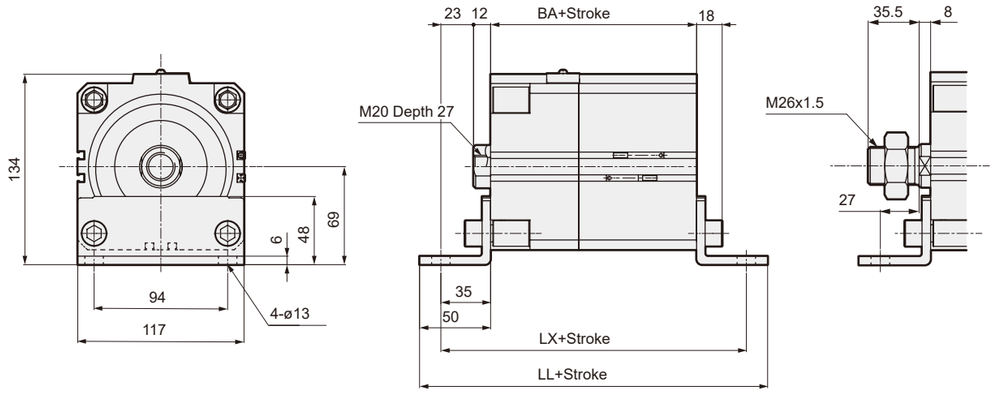
Code	Dimensions with Switch			Dimensions without Switch		
Bore Size (mm)	A	B	BA	A	B	BA
ø100	136	63	125	126	53	115

*1: To calculate A + stroke or B + stroke when using custom stroke, apply the next longer Standard Stroke (instead of the custom stroke) to the stroke value. (Ex.) For intermediate stroke 7 mm, use Standard Stroke 10 mm for calculation.

***2: For dimensions with each switch, please refer to P. 552 to 554.**

External dimensions diagram (Bore Size: ø100)

●Axial Foot Type (LB)

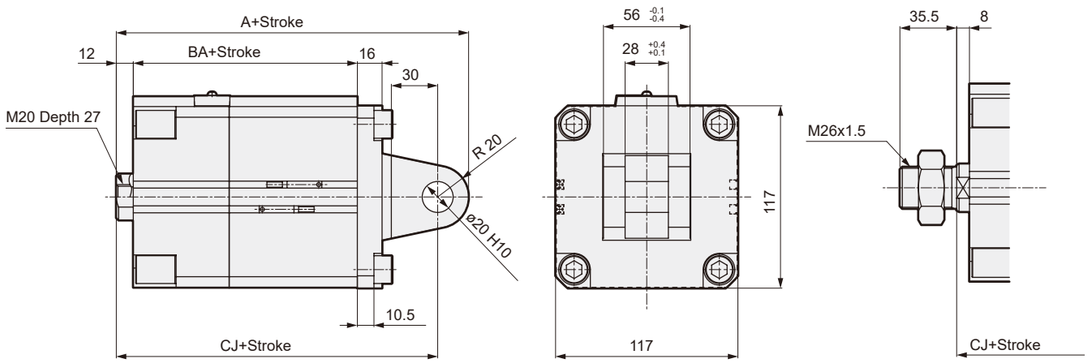


Code	With female thread						With male thread					
	With switch			Without switch			With switch			Without switch		
Bore Size (mm)	BA	LL	LX	BA	LL	LX	BA	LL	LX	BA	LL	LX
ø100	125	225	195	115	215	185	125	225	195	115	215	185

*1: To calculate BA+ stroke, LL+ stroke or LX+ stroke when using custom stroke, apply the next longer Standard Stroke (instead of the custom stroke) to the stroke value. (Ex.) For intermediate stroke 7 mm, use Standard Stroke 10 mm for calculation.

***2: For dimensions with each switch, please refer to P. 552 to 554.**

●Double clevis type (CB)



Code	With female thread						With male thread					
	With switch			Without switch			With switch			Without switch		
Bore Size (mm)	A	BA	CJ	A	BA	CJ	A	BA	CJ	A	BA	CJ
ø100	209	125	189	199	115	179	240.5	125	185	230.5	115	175

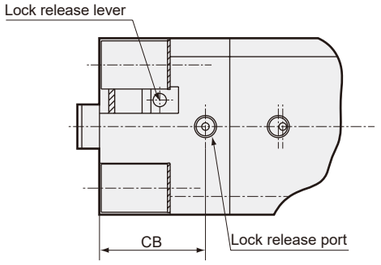
*1: To calculate A + stroke, BA + stroke or CJ + stroke when using custom stroke, apply the next longer Standard Stroke (instead of the custom stroke) to the stroke value. (Ex.) For intermediate stroke 7 mm, use Standard Stroke 10 mm for calculation.

***2: For dimensions with each switch, please refer to P. 552 to 554.**

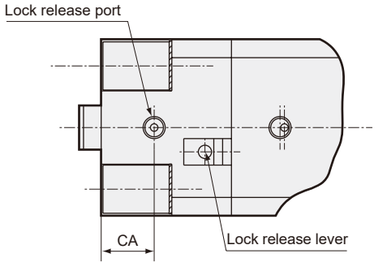
Outline Dimension Drawing (High Load Type, Bore Size: ø20, ø25)

● USSD-KL-20, 25
● USSD-K-20, 25

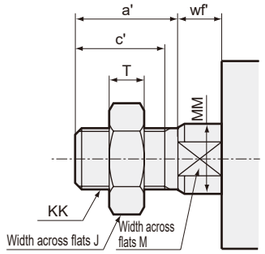
Type B

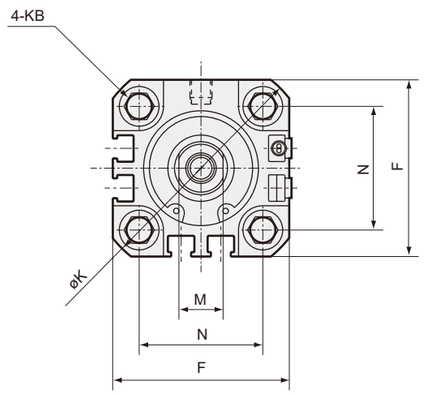


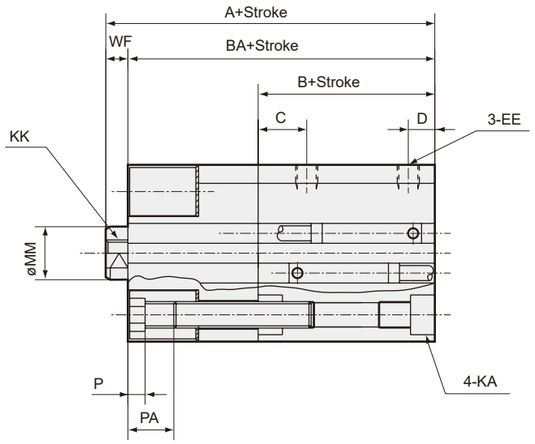
Type F



● Dimensions of Rod End male thread part







Code / Bore Size (mm)	Dimensions with Switch			Dimensions without Switch			Common Dimensions					
	A *1, *2	B *1, *2	BA *1, *2	A *1, *2	B *1, *2	BA *1, *2	C	CA	CB	D	EE	F
ø20	66 (77.5)	34.5 (46)	61.5 (73)	56 (67.5)	24.5 (36)	51.5 (63)	8	10	22	5.5 (8)	M5	36
ø25	74 (87.5)	37.5 (51)	69 (82.5)	64 (77.5)	27.5 (41)	59 (72.5)	11	12	26	6 (11)	M5	40

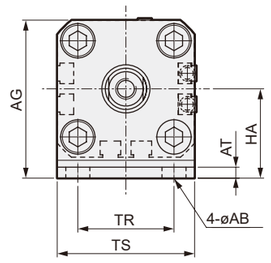
Code / Bore Size (mm)	Common Dimensions									
	KB	K	KA	KK	M	MM	N	WF	P	PA
ø20	M6	47	9 Counterbore depth 5.5 M6 Depth 11	M5 Depth 7	8	10	25.5	4.5	3.5	10
ø25	M6	51	9 Counterbore depth 5.5 M6 Depth 11	M6 Depth 7	10	12	28	5	3.5	10

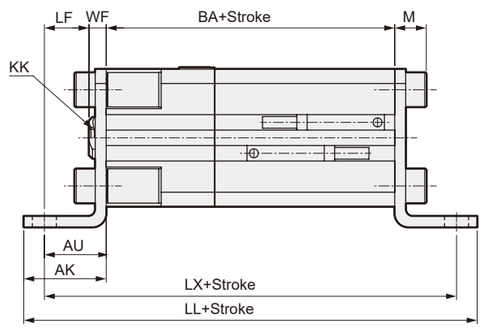
Rod End Male Thread Dimensions Code / Bore Size (mm)	a'	c'	J	KK	M	MM	T	wf'
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M10x1.25	10	12	6	5

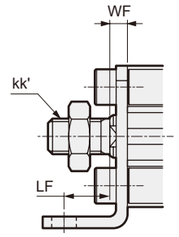
*1: When calculating A+Stroke, B+Stroke, and BA+Stroke dimensions for intermediate strokes, do not use the intermediate stroke value but use the Standard Stroke value just above it. (Ex.) For intermediate stroke 7 mm, use Standard Stroke 10 mm for calculation.
*2: For ø20: exceeding 100 stroke, ø25: exceeding 150 stroke, the A, B, BA, D dimensions are the values in ( ), and there is no KA counterbore.
***3: For dimensions with each switch, please refer to P. 552 to 554.**

Outline Dimension Drawing (High Load Type, Bore Size: ø20, ø25)

●Axial Foot Type (LB)





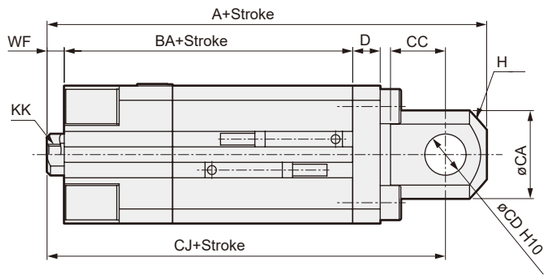


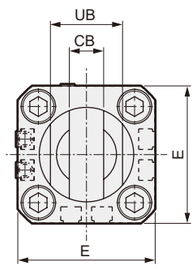
Code / Bore Size (mm)	Common Dimensions									With female thread								
	AB	AG	AH	AK	AT	AU	TR	TS	M	KK	WF	LF	With switch			Without switch		
													BA *1, *2	LL *1, *2	LX *1, *2	BA *1, *2	LL *1, *2	LX *1, *2
ø20	7	42	24	24	3.2	16	24	36	9.2	M5 Depth 7	4.5	11.5	61.5 (73)	109.5 (121)	93.5 (105)	51.5 (63)	99.5 (111)	83.5 (95)
ø25	7	46	26	24	3.2	16	28	40	9.2	M6 Depth 12	5	11	69 (82.5)	117 (130.5)	101 (114.5)	59 (72.5)	107 (120.5)	91 (104.5)

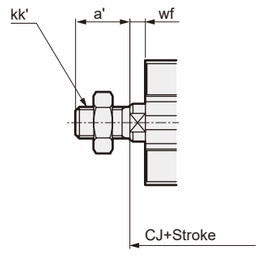
Code / Bore Size (mm)	With male thread									
	a'	kk'	wf	LF	With switch			Without switch		
					BA *1, *2	LL *1, *2	LX *1, *2	BA *1, *2	LL *1, *2	LX *1, *2
ø20	14	M8	4.5	11.5	61.5 (73)	109.5 (121)	93.5 (105)	51.5 (63)	99.5 (111)	83.5 (95)
ø25	17.5	M10x1.25	5	11	69 (82.5)	117 (130.5)	101 (114.5)	59 (72.5)	107 (120.5)	91 (104.5)

*1: For ø20: exceeding 100 stroke, ø25: exceeding 150 stroke, the BA, LL, LX dimensions are the values in ( ).
*2: When calculating BA+Stroke, LL+Stroke, and LX+Stroke dimensions for intermediate strokes, do not use the intermediate stroke value but use the Standard Stroke value just above it. (Ex.) For intermediate stroke 7 mm, use Standard Stroke 10 mm for calculation.
***3: For dimensions with each switch, please refer to P. 552 to 554.**

●Double clevis type (CB)







Code / Bore Size (mm)	Common Dimensions								With female thread							
	CA	CB	CC	CD	D	E	H	UB	KK	WF	With switch			Without switch		
											A *1, *2	BA *1, *2	CJ *1, *2	A *1, *2	BA *1, *2	CJ *1, *2
ø20	24	8 +0.4 +0.1	12	10	8	36	C4	19 -0.1 -0.4	M5 Depth 7	4.5	99 (110.5)	61.5 (73)	89 (100.5)	89 (100.5)	51.5 (63)	79 (90.5)
ø25	27.5	10 +0.4 +0.1	16	12	8	40	C5	21 -0.1 -0.4	M6 Depth 12	5	113 (126.5)	69 (82.5)	101 (114.5)	103 (116.5)	59 (72.5)	91 (104.5)

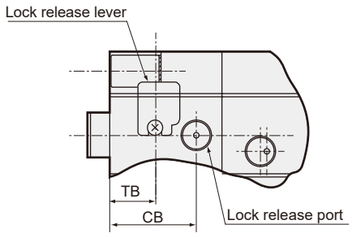
Code / Bore Size (mm)	With male thread							
	a'	kk'	wf	With switch			Without switch		
				A *1, *2	BA *1, *2	CJ *1, *2	A *1, *2	BA *1, *2	CJ *1, *2
ø20	14	M8	4.5	113 (124.5)	61.5 (73)	89 (100.5)	103 (114.5)	51.5 (63)	79 (90.5)
ø25	17.5	M10x1.25	5	130.5 (144)	69 (82.5)	101 (114.5)	120.5 (134)	59 (72.5)	91 (104.5)

*1: For ø20: exceeding 100 stroke, ø25: exceeding 150 stroke, the A, BA, CJ dimensions are the values in ( ).
*2: When calculating A+Stroke, BA+Stroke, and CJ+Stroke dimensions for intermediate strokes, do not use the intermediate stroke value but use the Standard Stroke value just above it.
(Ex.) For intermediate stroke 7 mm, use Standard Stroke 10 mm for calculation.
***3: For dimensions with each switch, please refer to P. 552 to 554.**

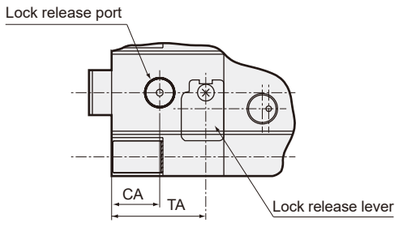
Outline Dimension Drawing (High Load Type, Bore Size: ø32 to ø63)

● USSD-KL-32 to 63
● USSD-K-32 to 63

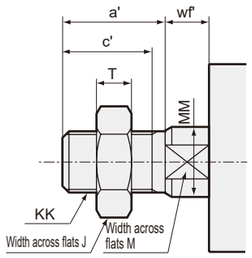
Type B



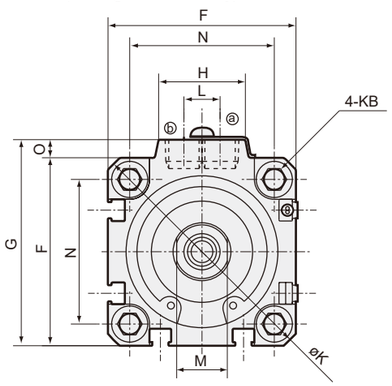
Type F

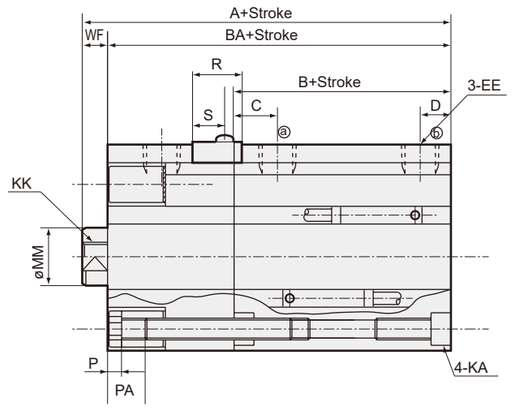


● Dimensions of Rod End male thread part



Note) The figure below is F type





Code / Bore Size (mm)	Dimensions with Switch A *1	B *1	BA *1	Dimensions without Switch A *1	B *1	BA *1	Common Dimensions C	CA	CB	D	EE	F	G
ø32	83.5 (91)	43 (50.5)	76.5 (84)	73.5 (81)	33 (40.5)	66.5 (74)	8	12	25.5	8	RC1/8	45	49.5
ø40	91.5 (101)	49.5 (59)	84.5 (94)	81.5 (91)	39.5 (49)	74.5 (84)	12	15	27	8.5 (12)	RC1/8	52	57
ø50	97.5 (111)	50.5 (64)	89.5 (103)	87.5 (101)	40.5 (54)	79.5 (93)	10.5	15	30	10.5	RC1/4	64	71
ø63	108.5 (118.5)	56 (66)	100.5 (110.5)	98.5 (108.5)	46 (56)	90.5 (100.5)	13	15.5	34	11 (13)	RC1/4	77	84

Code / Bore Size (mm)	Common Dimensions H	KB	K	KA	KK	L	M	MM	N	O	WF	P	PA
ø32	24	M6	60	9 Counterbore depth 5.5 M6 Depth 11	M8 Depth 13	10	14	16	34	4.5	7	3.5	10
ø40	24	M6	69	9 Counterbore depth 5.5 M6 Depth 11	M8 Depth 13	10	14	16	40	5	7	3.5	10
ø50	33	M8	86	11 Counterbore depth 6.5 M8 Depth 13	M10 Depth 15	15	17	20	50	7	8	4	12.5
ø63	33	M10	103	14 Counterbore depth 9 M10 Depth 25	M10 Depth 15	15	17	20	60	7	8	4	13.5

Code / Bore Size (mm)	R	S	TA	TB
ø32	14	9	29.5	12.4
ø40	12	6	30.3	14.7
ø50	14	7	33	15.7
ø63	17	8.5	37	16.2

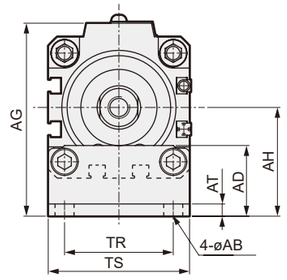
Rod End Male Thread Dimensions

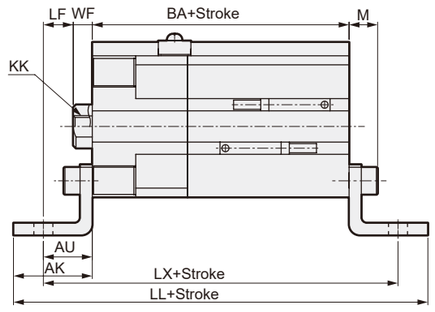
Code / Bore Size (mm)	a'	c'	J	KK	M	MM	T	wf'
ø32	23.5	20.5	22	M14×1.5	14	16	8	5
ø40	23.5	20.5	22	M14×1.5	14	16	8	5
ø50	28.5	26	27	M18x1.5	17	20	11	5
ø63	28.5	26	27	M18x1.5	17	20	11	5

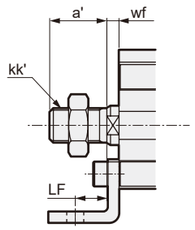
*1: When calculating A+Stroke, B+Stroke, and BA+Stroke dimensions for intermediate strokes, do not use the intermediate stroke value but use the Standard Stroke value just above it. (Ex.) For intermediate stroke 7 mm, use Standard Stroke 10 mm for calculation.
*2: For ø32 to ø50: exceeding 150 stroke, ø63: exceeding 200 stroke, the A, B, BA, HD, D dimensions are the values in ( ), and there is no KA counterbore.
***3: For dimensions with each switch, please refer to P. 552 to 554.**

Outline Dimension Drawing (High Load Type, Bore Size: ø32 to ø63)

●Axial Foot Type (LB)





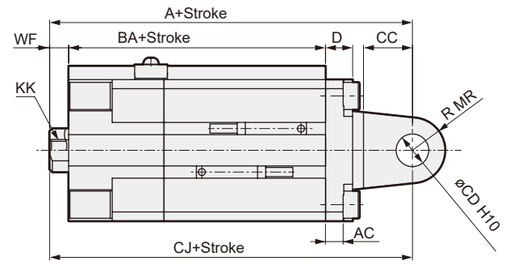


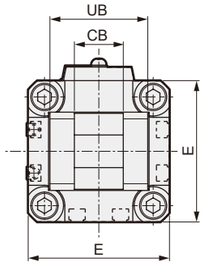
Code / Bore Size (mm)	Common Dimensions AB	AD	AG	AH	AK	AT	AU	TR	TS	M	With female thread KK	WF	LF	With switch BA *1, *2	With switch LL *1, *2	With switch LX *1, *2	Without switch BA *1, *2	Without switch LL *1, *2	Without switch LX *1, *2
ø32	7	53.5	53.5	31	24	3.2	16	34	45	9.2	M8 Depth 13	7	9	76.5 (84)	124.5 (132)	108.5 (116)	66.5 (74)	114.5 (122)	98.5 (106)
ø40	7	26	71	40	29	4.5	19	40	52	10	M8 Depth 13	7	12	84.5 (94)	142.5 (152)	122.5 (132)	74.5 (84)	132.5 (142)	112.5 (122)
ø50	9	23	79	40	34	4.5	22	46	64	13	M10 Depth 15	8	14	89.5 (103)	157.5 (171)	133.5 (147)	79.5 (93)	147.5 (161)	123.5 (137)
ø63	11	33	96.5	51	40	4.5	25	60	77	15	M10 Depth 15	8	17	100.5 (110.5)	180.5 (190.5)	150.5 (160.5)	90.5 (100.5)	170.5 (180.5)	140.5 (150.5)

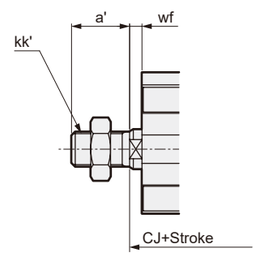
Code / Bore Size (mm)	With male thread a'	kk'	wf	LF	With switch BA *1, *2	With switch LL *1, *2	With switch LX *1, *2	No Switch BA *1, *2	No Switch LL *1, *2	No Switch LX *1, *2
ø32	23.5	M14x1.5	5	11	76.5 (84)	124.5 (132)	108.5 (116)	66.5 (74)	114.5 (122)	98.5 (106)
ø40	23.5	M14x1.5	5	14	84.5 (94)	142.5 (152)	122.5 (132)	74.5 (84)	132.5 (142)	112.5 (122)
ø50	28.5	M18x1.5	5	17	89.5 (103)	157.5 (171)	133.5 (147)	79.5 (93)	147.5 (161)	123.5 (137)
ø63	28.5	M18x1.5	5	20	100.5 (110.5)	180.5 (190.5)	150.5 (160.5)	90.5 (100.5)	170.5 (180.5)	140.5 (150.5)

*1: For ø32 to ø50: Over 150 stroke, and ø63: Over 200 stroke, BA, LL, LX dimensions are the values in ( ).
*2: When calculating BA+Stroke, LL+Stroke, and LX+Stroke dimensions for intermediate strokes, do not use the intermediate stroke value but use the Standard Stroke value just above it. (Ex.) For intermediate stroke 7 mm, use Standard Stroke 10 mm for calculation.
***3: For dimensions with each switch, please refer to P. 552 to 554.**

●Double clevis type (CB)







Code / Bore Size (mm)	Common Dimensions AC	CB	CC	CD	D	E	MR	UB	With female thread KK	WF	With switch A *1, *2	With switch BA *1, *2	With switch CJ *1, *2	Without switch A *1, *2	Without switch BA *1, *2	Without switch CJ *1, *2
ø32	9.5	10 $^{+0.4}_{+0.1}$	16	12	10	45	12	21 $^{-0.1}_{-0.4}$	M8 Depth 13	7	125.5 (133)	76.5 (84)	113.5 (121)	115.5 (123)	66.5 (74)	103.5 (111)
ø40	6.5	18 $^{+0.4}_{+0.1}$	18	12	10	52	12	36 $^{-0.1}_{-0.4}$	M8 Depth 13	7	135.5 (145)	84.5 (94)	123.5 (133)	125.5 (135)	74.5 (84)	113.5 (123)
ø50	6.5	18 $^{+0.4}_{+0.1}$	18	12	10	64	12	36 $^{-0.1}_{-0.4}$	M10 Depth 15	8	141.5 (155)	89.5 (103)	129.5 (143)	131.5 (145)	79.5 (93)	119.5 (133)
ø63	7.5	20 $^{+0.4}_{+0.1}$	24	14	10	77	16	40 $^{-0.1}_{-0.4}$	M10 Depth 15	8	161.5 (171.5)	100.5 (110.5)	145.5 (155.5)	151.5 (161.5)	90.5 (100.5)	135.5 (145.5)

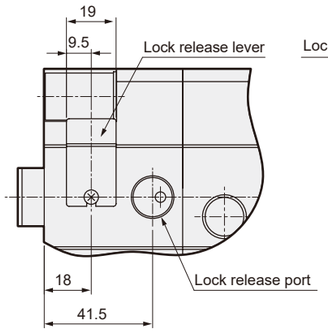
Code / Bore Size (mm)	With male thread a'	kk'	wf	With switch A *1 *2	With switch BA *1 *2	With switch CJ *1 *2	Without switch A *1 *2	Without switch BA *1 *2	Without switch CJ *1 *2
ø32	23.5	M14x1.5	5	147 (154.5)	76.5 (84)	111.5 (119)	137 (144.5)	66.5 (74)	101.5 (109)
ø40	23.5	M14x1.5	5	157 (166.5)	84.5 (94)	121.5 (131)	147 (156.5)	74.5 (84)	111.5 (121)
ø50	28.5	M18x1.5	5	167 (180.5)	89.5 (103)	126.5 (140)	157 (170.5)	79.5 (93)	116.5 (130)
ø63	28.5	M18x1.5	5	187 (197)	100.5 (110.5)	142.5 (152.5)	177 (187)	90.5 (100.5)	132.5 (142.5)

*1: For ø32 to ø50: Over 150 stroke, and ø63: Over 200 stroke, A, BA, CJ dimensions are the values in ( ).
*2: When calculating A+Stroke, BA+Stroke, and CJ+Stroke dimensions for intermediate strokes, do not use the intermediate stroke value but use the Standard Stroke value just above it. (Ex.) For intermediate stroke 7 mm, use Standard Stroke 10 mm for calculation.
***3: For dimensions with each switch, please refer to P. 552 to 554.**

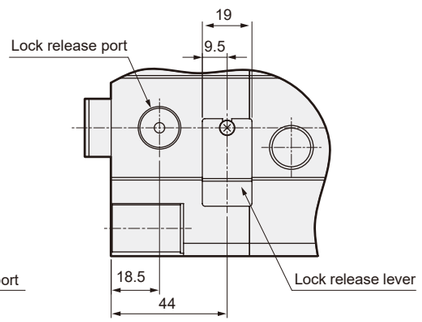
Dimensions (High Load Type Bore Size: ø80)

● USSD-KL-80
● USSD-K-80

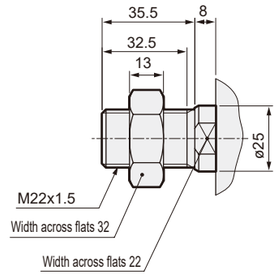
Type B



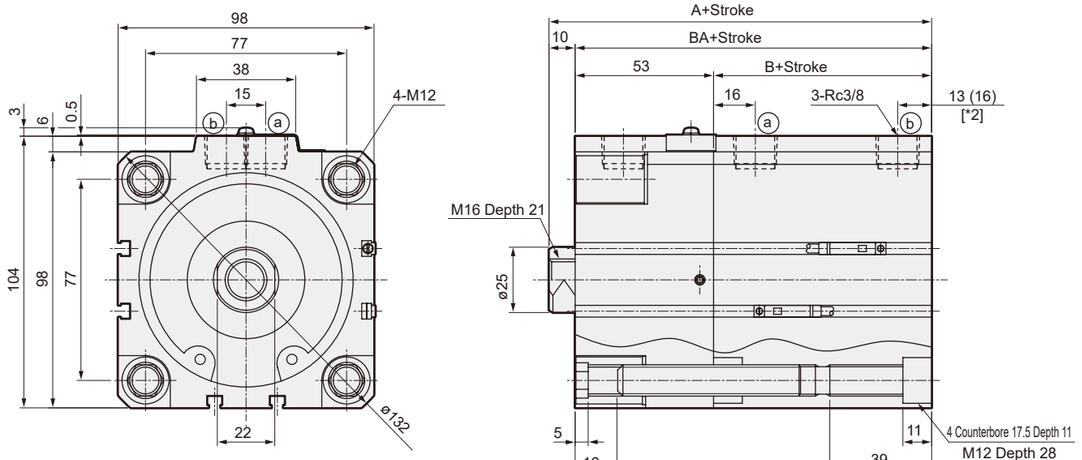
Type F



● Dimensions of Rod End male thread part



Note) The figure below is F type

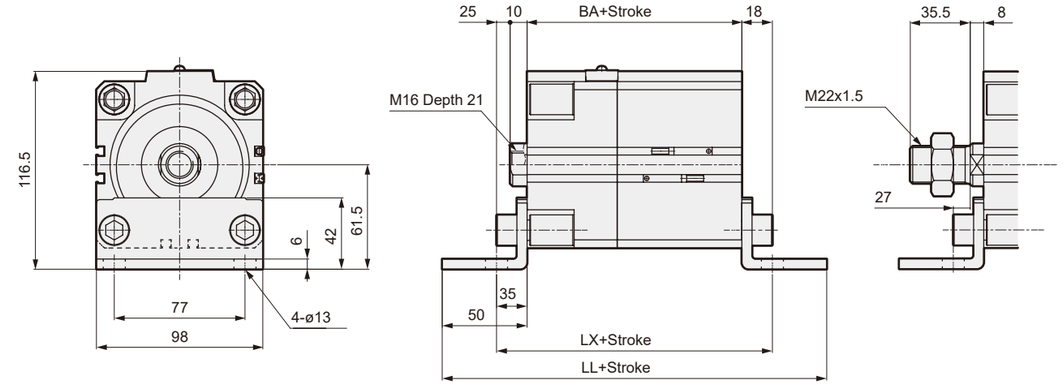


Code / Bore Size (mm)	Dimensions with Switch			Dimensions without Switch		
	A *1, *2	B *1, *2	BA *1, *2	A *1, *2	B *1, *2	BA *1, *2
ø80	126.5 (136.5)	63.5 (73.5)	116.5 (126.5)	116.5 (126.5)	53.5 (63.5)	106.5 (116.5)

*1: When calculating A+Stroke, B+Stroke, and BA+Stroke dimensions for intermediate strokes, do not use the intermediate stroke value but use the Standard Stroke value just above it. (Ex.) For intermediate stroke 7 mm, use Standard Stroke 10 mm for calculation.
*2: When the stroke exceeds 200, A, B, and BA dimensions are the values in ( ), and there is no counterbore in the mounting hole.
***3: For dimensions with each switch, please refer to P. 552 to 554.**

Dimensions (High Load Type Bore Size: ø80)

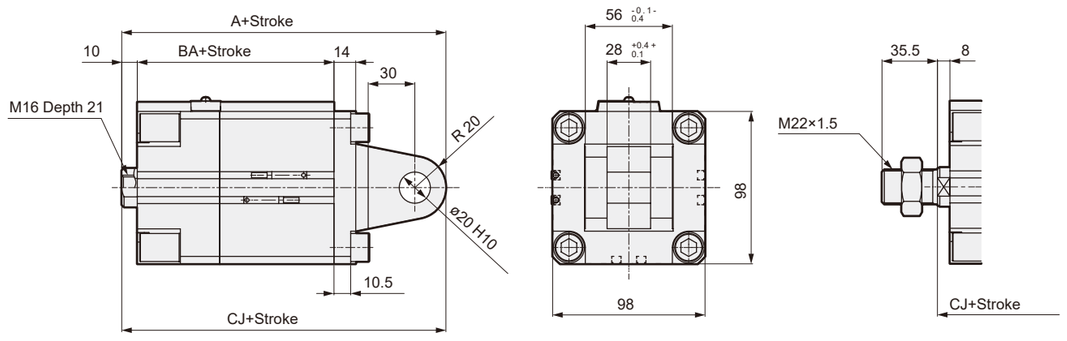
●Axial Foot Type (LB)



Code / Bore Size (mm)	With female thread					
	With switch			Without switch		
	BA	LL	LX	BA	LL	LX
ø80	116.5 (126.5)	216.5 (226.5)	186.5 (196.5)	106.5 (116.5)	206.5 (216.5)	176.5 (186.5)
Code / Bore Size (mm)	**With male thread**					
	With switch			Without switch		
	BA	LL	LX	BA	LL	LX
ø80	116.5 (126.5)	216.5 (226.5)	186.5 (196.5)	106.5 (116.5)	206.5 (216.5)	176.5 (186.5)

*1: When the stroke exceeds 200, BA, LL, and LX dimensions are the values in ( ).
*2: When calculating BA+Stroke, LL+Stroke, and LX+Stroke dimensions for intermediate strokes, do not use the intermediate stroke value but use the Standard Stroke value just above it. (Ex.) For intermediate stroke 7 mm, use Standard Stroke 10 mm for calculation.
***3: For dimensions with each switch, please refer to P. 552 to 554.**

●Double clevis type (CB)



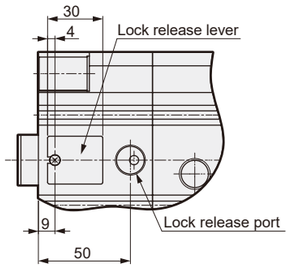
Code / Bore Size (mm)	With female thread					
	With switch			Without switch		
	A	BA	CJ	A	BA	CJ
ø80	198.5 (208.5)	116.5 (126.5)	178.5 (188.5)	188.5 (198.5)	106.5 (116.5)	168.5 (178.5)
Code / Bore Size (mm)	**With male thread**					
	With switch			Without switch		
	A	BA	CJ	A	BA	CJ
ø80	232 (242)	116.5 (126.5)	176.5 (186.5)	222 (232)	106.5 (116.5)	166.5 (176.5)

*1: When the stroke exceeds 200, A, BA, and CJ dimensions are the values in ( ).
*2: When calculating A+Stroke, BA+Stroke, and CJ+Stroke dimensions for intermediate strokes, do not use the intermediate stroke value but use the Standard Stroke value just above it. (Ex.) For intermediate stroke 7 mm, use Standard Stroke 10 mm for calculation.
***3: For dimensions with each switch, please refer to P. 552 to 554.**

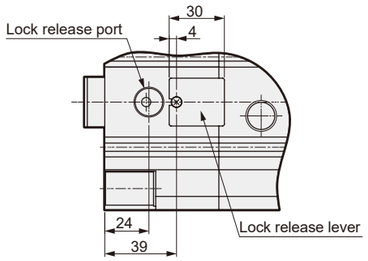
Dimensions (High Load Type Bore Size: ø100)

● USSD-KL-100
● USSD-K-100

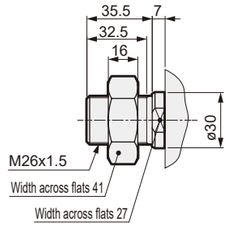
Type B



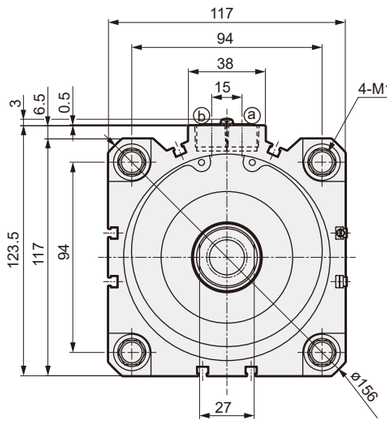
Type F

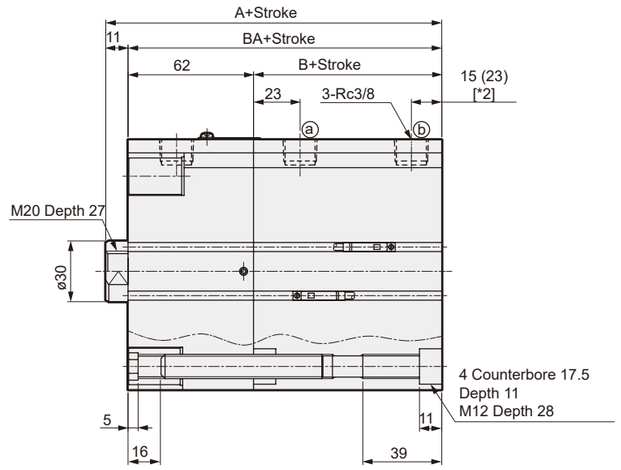


● Dimensions of Rod End male thread part



Note) The figure below is F type



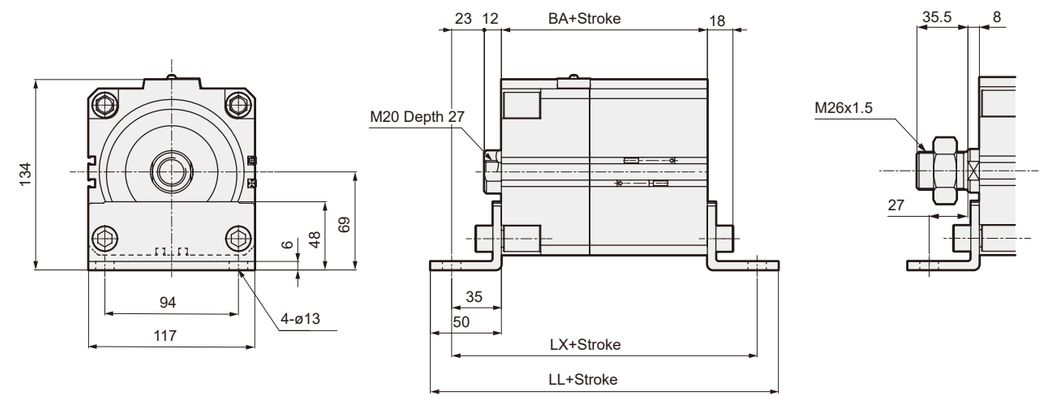


Code / Bore Size (mm)	Dimensions with Switch			Dimensions without Switch		
	A	B	BA	A	B	BA
ø100	146 (156)	73 (83)	135 (145)	136 (136)	63 (73)	125 (135)

*1: When calculating A+Stroke, B+Stroke, and BA+Stroke dimensions for intermediate strokes, do not use the intermediate stroke value but use the Standard Stroke value just above it. (Ex.) For intermediate stroke 7 mm, use Standard Stroke 10 mm for calculation.
*2: When the stroke exceeds 200, A, B, and BA dimensions are the values in ( ), and there is no counterbore in the mounting hole.
***3: For dimensions with each switch, please refer to P. 552 to 554.**

Dimensions (High Load Type Bore Size: ø100)

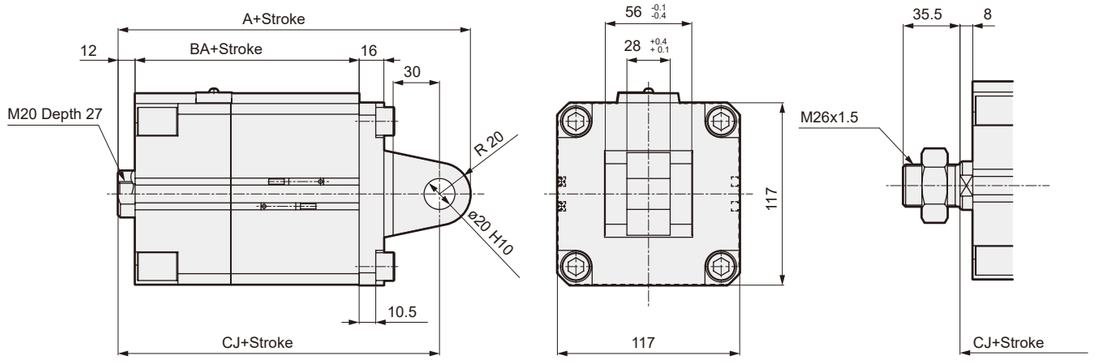
●Axial Foot Type (LB)



Code / Bore Size (mm)	With female thread					
	With switch			Without switch		
	BA	LL	LX	BA	LL	LX
ø100	135 (145)	235 (245)	205 (215)	125 (135)	225 (235)	195 (205)
Code / Bore Size (mm)	**With male thread**					
	With switch			Without switch		
	BA	LL	LX	BA	LL	LX
ø100	135 (145)	235 (245)	205 (215)	125 (135)	225 (235)	195 (205)

*1: When the stroke exceeds 200, BA, LL, and LX dimensions are the values in ( ).
*2: When calculating BA+Stroke, LL+Stroke, and LX+Stroke dimensions for intermediate strokes, do not use the intermediate stroke value but use the Standard Stroke value just above it. (Ex.) For intermediate stroke 7 mm, use Standard Stroke 10 mm for calculation.
***3: For dimensions with each switch, please refer to P. 552 to 554.**

●Double clevis type (CB)



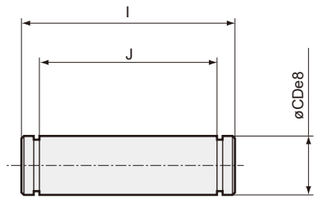
Code / Bore Size (mm)	With female thread					
	With switch			Without switch		
	A	BA	CJ	A	BA	CJ
ø100	219 (229)	135 (145)	199 (209)	209 (219)	125 (135)	189 (199)
Code / Bore Size (mm)	**With male thread**					
	With switch			Without switch		
	A	BA	CJ	A	BA	CJ
ø100	250.5 (260.5)	135 (145)	195 (205)	240.5 (250.5)	125 (135)	185 (195)

*1: When the stroke exceeds 200, A, BA, and CJ dimensions are the values in ( ).
*2: When calculating A+Stroke, BA+Stroke, and CJ+Stroke dimensions for intermediate strokes, do not use the intermediate stroke value but use the Standard Stroke value just above it. (Ex.) For intermediate stroke 7 mm, use Standard Stroke 10 mm for calculation.
***3: For dimensions with each switch, please refer to P. 552 to 554.**

Accessory External Dimensions

● Clevis bracket (CB) attached pin dimensions table

Material: Steel, Zinc Chromate



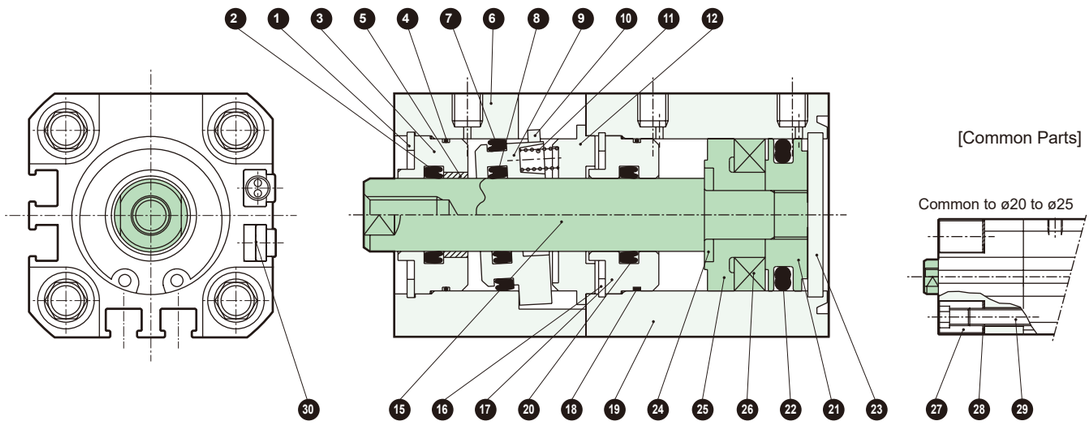
Model No.	Applicable Bore Size	I	J	CD	Weight (g)	Retaining Ring Used
SSD-P-20	ø20	25	20	10	17	E-type 9
SSD-P-25	ø25	27	22	12	25	E-type 9
SSD-P-32	ø32	27	22	12	25	E-type 9
SSD-P-40	ø40	43.5	36.2	12	39	C-type Retaining Ring for shaft 12
SSD-P-50	ø50	43.5	36.2	12	39	C-type Retaining Ring for shaft 12
SSD-P-63	ø63	47.5	40.2	14	58	C-type Retaining Ring for shaft 12
SSD-P-80	ø80	64	56.2	20	156	C-type Retaining Ring for shaft 20
SSD-P-100	ø100	64	56.2	20	156	C-type Retaining Ring for shaft 20

MEMO

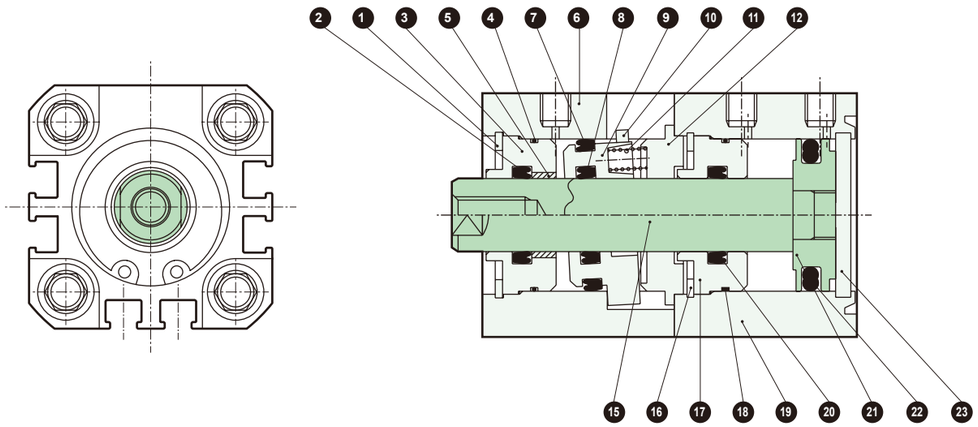
With Brake / With Lock
ULK□
JSK2/ JSM2
JSG
JSC3, JSC4
USSD
UFCD
USC
Cylinder Switch
Ending

Internal Structure / Materials (Bore Size: ø20, ø25)

● USSD-L-20, 25-F
(Double Acting, with switch, Forward Locking: F)



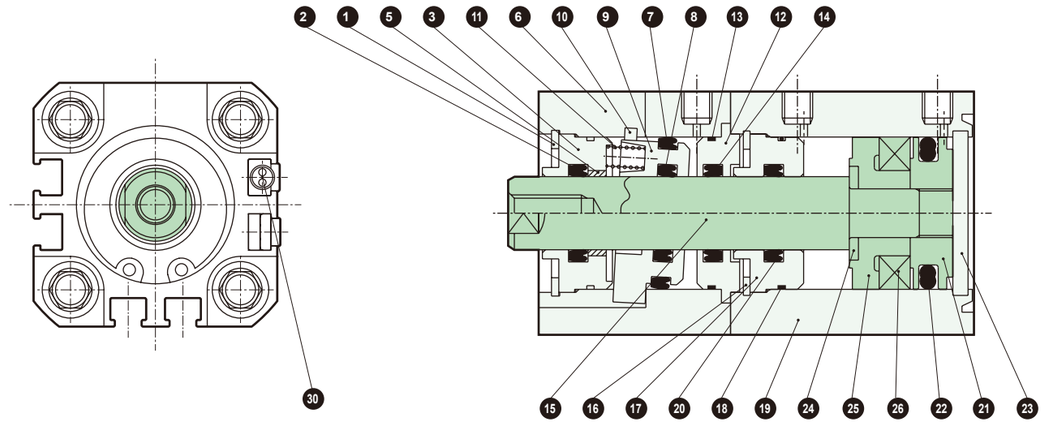
● USSD-20, 25-F
(Double Acting, Forward Locking: F)



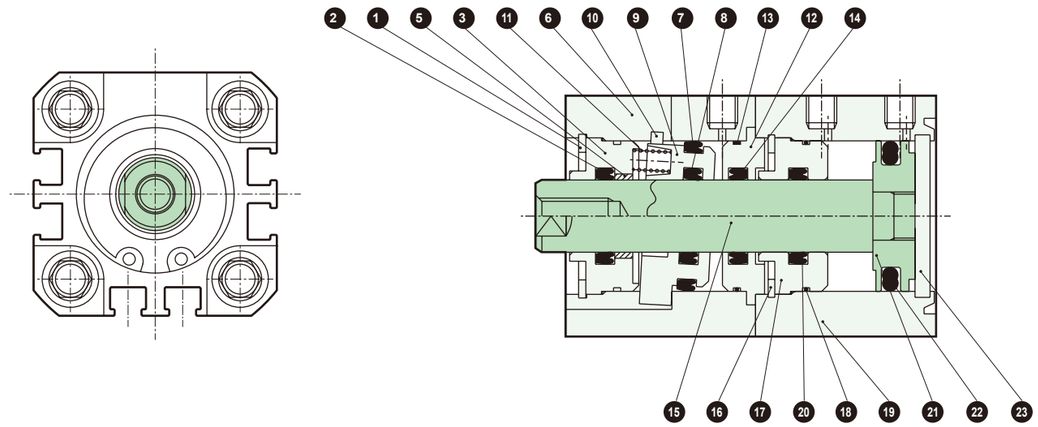
Do not disassemble

Internal Structure / Materials (Bore Size: ø20, ø25)

● USSD-L-20, 25-B
(Double Acting, with switch, Backward Locking: B)



● USSD-20, 25-B
(Double Acting, Backward Locking: B)



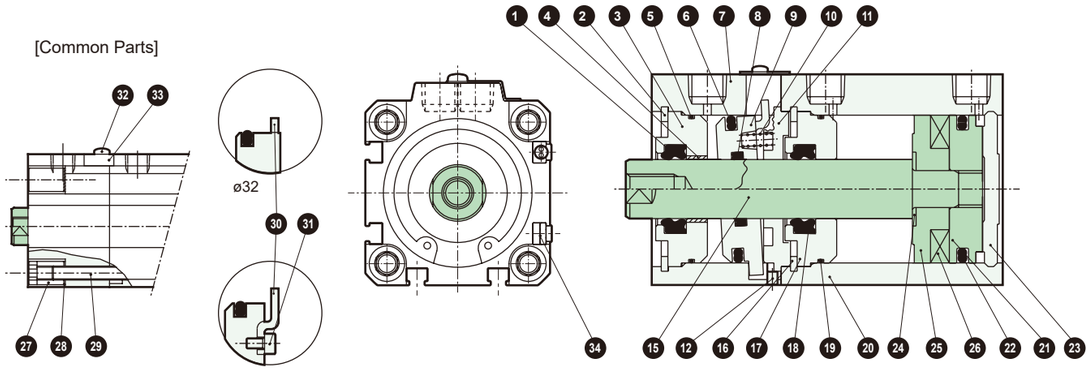
Do not disassemble

Part Number	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	C-type Retaining Ring (2)	Steel	Zinc Phosphate coating	17	Rod metal (1)	Aluminum Alloy	Alumite
2	Rod Packing (2)	Nitrile Rubber		18	Rod metal gasket (1)	Nitrile Rubber	
3	Rod metal (2)	Aluminum Alloy	Alumite	19	Cylinder Body	Aluminum Alloy	Hard Anodized
4	Rod metal gasket (2)	Nitrile Rubber		20	Rod Packing (1)	Nitrile Rubber	
5	Bush (2)	Bearing Alloy steel		21	Piston	Stainless Steel	
6	Lock body	Aluminum Alloy	Hard Anodized	22	Piston Packing (1)	Nitrile Rubber	
7	Piston Packing (2)	Nitrile Rubber		23	Cover	Stainless Steel	
8	Rod Packing (3)	Nitrile Rubber		24	Spacer washer	Stainless Steel	
9	Lock metal	Special Steel	Zinc Chromate	25	Spacer	Special resin	
10	Release lever	Steel	Black Oxide	26	Piston magnet	Plastic	
11	Spring	Piano Wire	Black Oxide	27	Round nut	Steel	Zinc Chromate
12	Joint	Aluminum Alloy		28	Belleville washer	Steel	Black Oxide
13	Rod metal gasket (3)	Nitrile Rubber	Type B only	29	Hexagon Socket Set Screw	Steel	Black Oxide
14	Rod Packing (4)	Nitrile Rubber	Type B only	With switch			
15	Piston Rod	Stainless Steel	Industrial Chrome Plating	30	Switch		
16	C-type Retaining Ring (1)	Steel	Zinc Phosphate coating				

Internal Structure / Materials (Bore Size: ø32 to ø50)

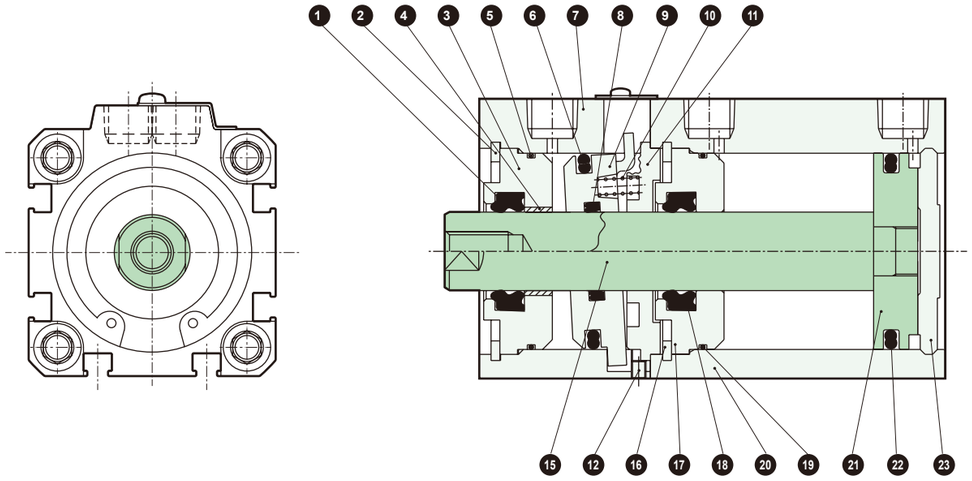
● USSD-L-32 to 50-F
(Double Acting, with switch, Forward Locking: F)

[Common Parts]



ø40, ø50
Release Lever Detail View

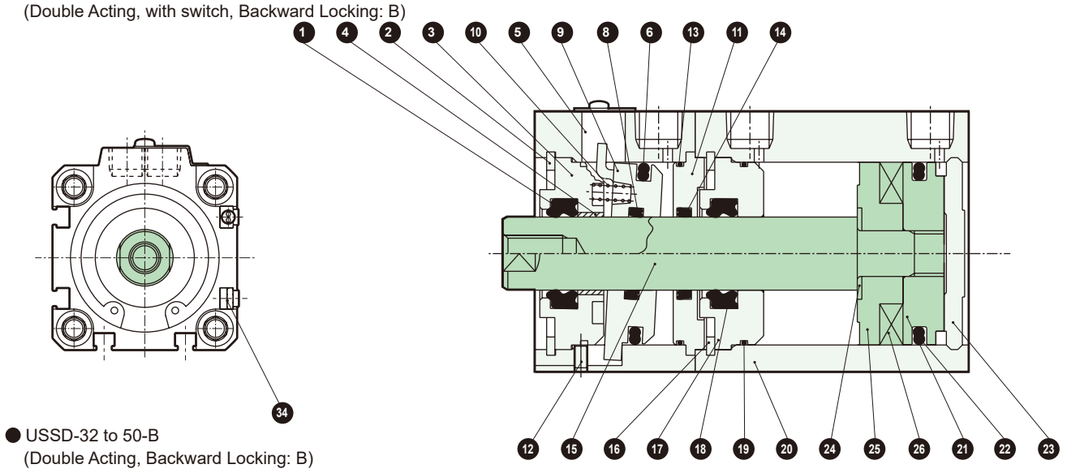
● USSD-32 to 50-F
(Double Acting, Forward Locking: F)



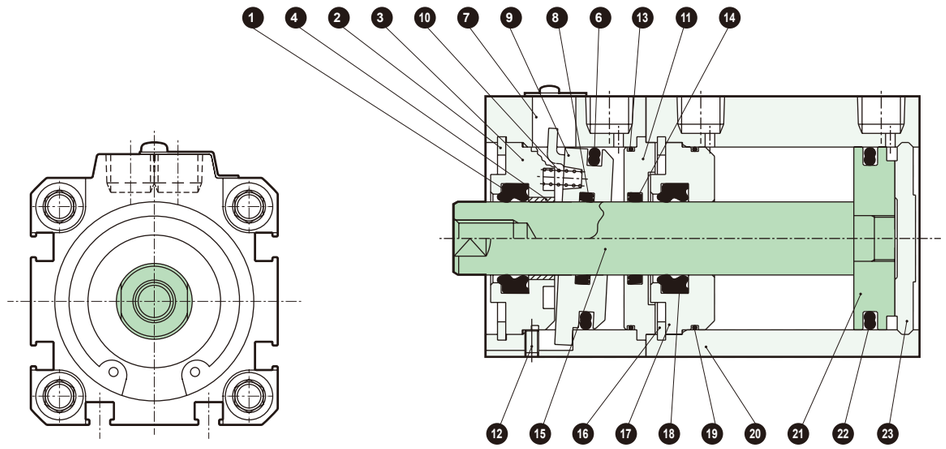
Do not disassemble

Internal Structure / Materials (Bore Size: ø32 to ø50)

● USSD-L-32 to 50-B
(Double Acting, with switch, Backward Locking: B)



● USSD-32 to 50-B
(Double Acting, Backward Locking: B)



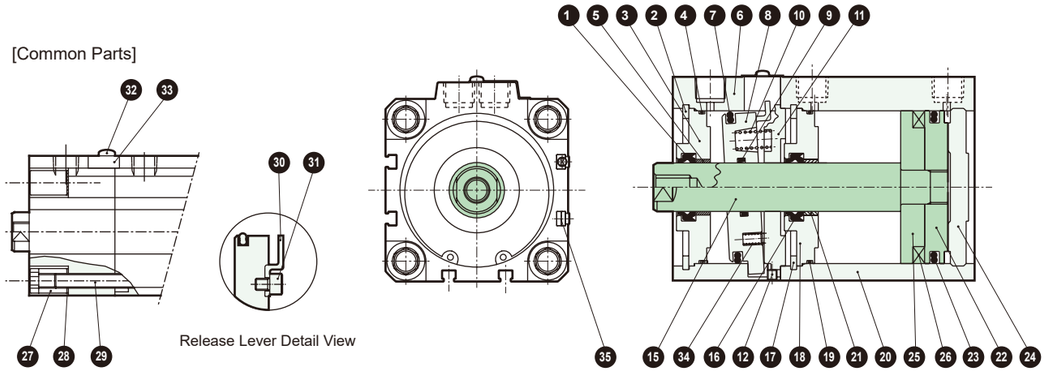
Do not disassemble

Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Rod Packing (2)	Nitrile Rubber		19	Rod metal gasket (1)	Nitrile Rubber	
2	C-type Retaining Ring (2)	Steel	Zinc Phosphate coating	20	Cylinder Body	Aluminum Alloy	Hard Anodized
3	Rod metal (2)	Aluminum Alloy	Alumite (Note)	21	Piston	Aluminum Alloy	
4	Bush (2)	Bearing Alloy		22	Piston Packing (1)	Nitrile Rubber	
5	Rod metal gasket (2)	Nitrile Rubber		23	Cover	Aluminum Alloy	
6	Piston Packing (2)	Nitrile Rubber		24	Spacer washer	Stainless Steel	
7	Lock body	Aluminum Alloy	Hard Alumite	25	Spacer	Special resin	
8	Rod Packing (3)	Nitrile Rubber		26	Piston magnet	Plastic	
9	Lock metal	Special Steel	Zinc Chromate	27	Round nut	Steel	Zinc Chromate
10	Spring	Piano Wire	Black Oxide	28	Belleville washer	Steel	Black Oxide
11	Joint	Aluminum Alloy		29	Hexagon Socket Set Screw	Steel	Black Oxide
12	Hexagon Socket Set Screw	Steel	Black Oxide (ø40 to ø50)	30	Release lever	Steel	ø32: Black Oxide ø40, ø50: Zinc Chromate
13	Rod metal gasket (3)	Nitrile Rubber	Type B only				
14	Rod Packing (4)	Nitrile Rubber	Type B only	31	Hexagon Socket Head Cap Screw	Steel	ø40, ø50 only
15	Piston Rod	Steel	Industrial Chrome Plating	32	Cross-Recessed round head machine screw	Steel	
16	C-type Retaining Ring (1)	Steel	Zinc Phosphate coating	33	Dust cover	Stainless Steel	
17	Rod metal (1)	Aluminum Alloy	Alumite	With switch			
18	Rod Packing (1)	Nitrile Rubber		34	Switch		

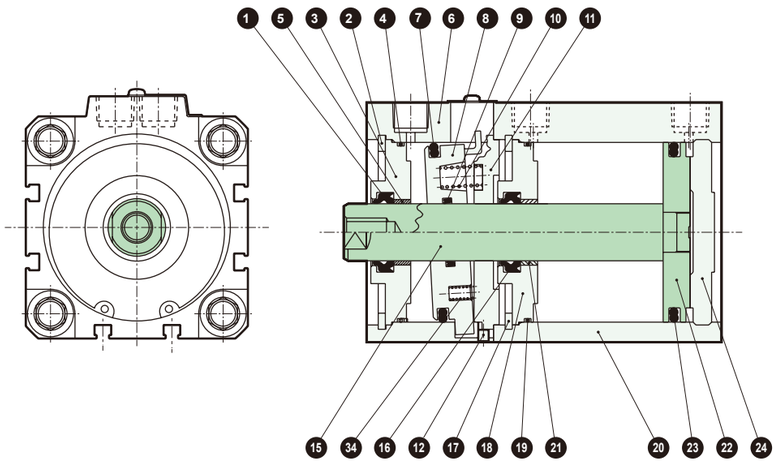
Note: In case of ø32 and lock direction F, surface treatment is chromate.

Internal Structure / Materials (Bore Size: ø63 to 100)

● USSD-L-63 to 100-F
(Double Acting, with switch, Forward Locking: F)



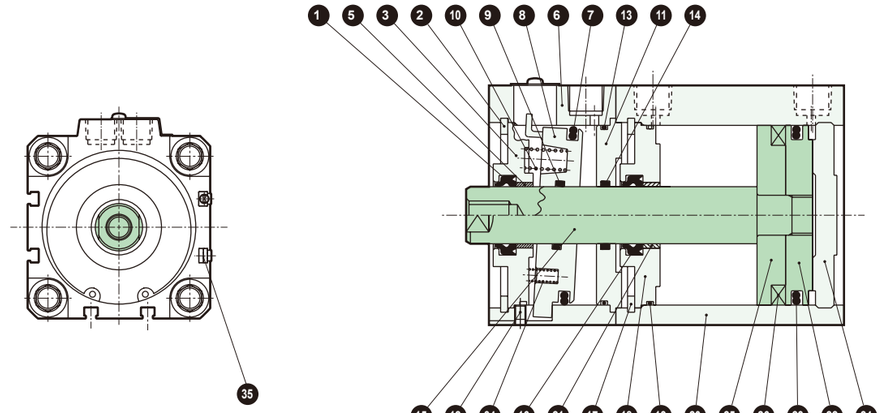
● USSD-63 to 100-F
(Double Acting, Forward Locking: F)



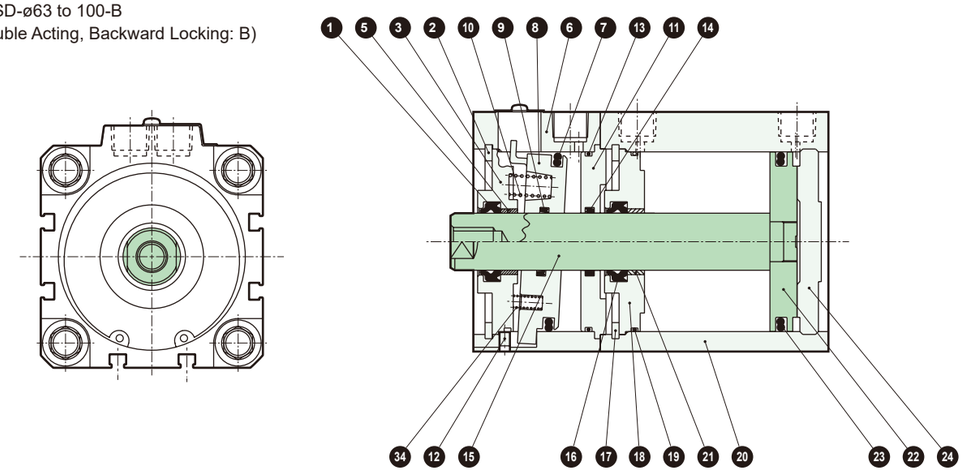
Do not disassemble

Internal Structure Drawing / Material (Bore Size: ø63 to 100)

● USSD-L-ø63 to 100-B
(Double Acting, with switch, Backward Locking: B)



● USSD-ø63 to 100-B
(Double Acting, Backward Locking: B)



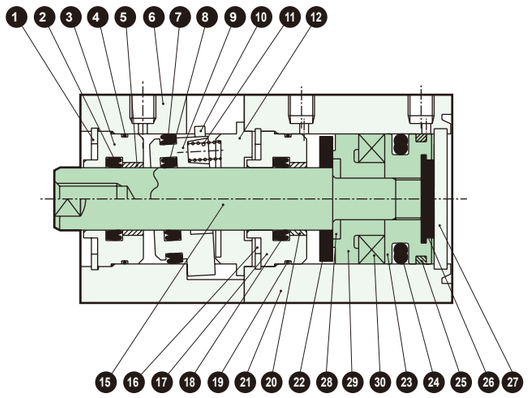
Do not disassemble

Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Rod Packing (2)	Nitrile Rubber		19	Rod metal gasket (1)	Nitrile Rubber	
2	C-type Retaining Ring (2)	Steel	Zinc Phosphate coating	20	Cylinder Body	Aluminum Alloy	Hard Anodized
3	Rod metal (2)	Aluminum Alloy	Alumite	21	Bush (1)	Bearing Alloy	
4	Rod metal gasket (2)	Nitrile Rubber		22	Piston	Aluminum Alloy	Chromate
5	Bush (2)	Bearing Alloy		23	Piston Packing (1)	Nitrile Rubber	
6	Lock body	Aluminum Alloy	Hard Anodized	24	Cover	Aluminum Alloy	Chromate
7	Piston Packing (2)	Nitrile Rubber		25	Spacer	Aluminum Alloy	Chromate
8	Lock metal	Special Steel	Zinc Chromate	26	Piston magnet	Plastic	
9	Rod Packing (3)	Nitrile Rubber		27	Round nut	Steel	Zinc Chromate
10	Spring (1)	Piano Wire	Black Oxide	28	Belleville washer	Steel	Black Oxide
11	Joint	Aluminum Alloy		29	Hexagon Socket Set Screw	Steel	Black Oxide
12	Hexagon Socket Set Screw	Steel	Black Oxide	30	Release lever	Steel	Zinc Chromate
13	Rod metal gasket (3)	Nitrile Rubber	Type B only	31	Hexagon Socket Head Cap Screw	Steel	Black Oxide
14	Rod Packing (4)	Nitrile Rubber	Type B only	32	Cross-Recessed round head machine screw	Steel	
15	Piston Rod	Steel	Industrial Chrome Plating	33	Dust cover	Stainless Steel	
16	Rod Packing (1)	Nitrile Rubber		34	Spring (2)	Piano Wire	Black Oxide (ø80, ø100 only)
17	C-type Retaining Ring (1)	Steel	Zinc Phosphate coating	With switch			
18	Rod metal (1)	Aluminum Alloy	Alumite	35	Switch		

Internal Structure Drawing / Material (High Load Type, Bore Size: ø20, ø25)

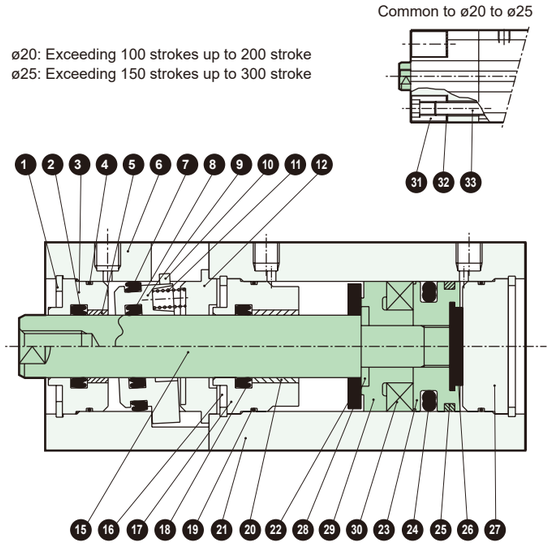
● USSD-KL-20, 25-F (Internal structure varies depending on stroke.)
(Double Acting/high load, with switch, Forward Locking: F)

ø20: 100 strokes or less
ø25: 150 strokes or less



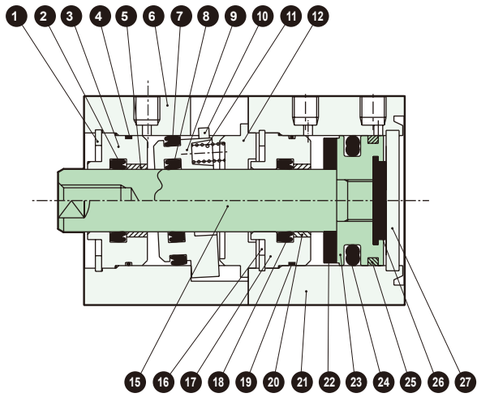
ø20: Exceeding 100 strokes up to 200 stroke
ø25: Exceeding 150 strokes up to 300 stroke

Common to ø20 to ø25

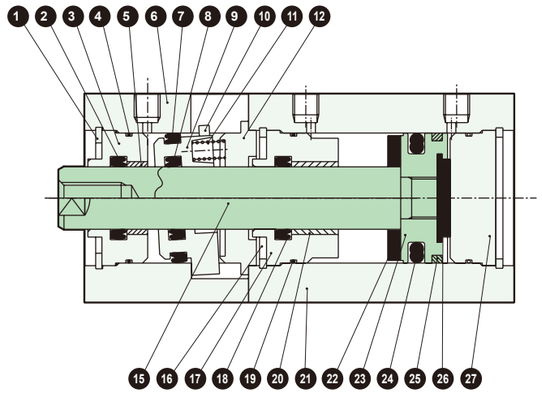


● USSD-K-20, 25-F (Internal structure varies depending on stroke.)
(Double Acting, high load, Forward Locking: F)

ø20: 100 strokes or less
ø25: 150 strokes or less



ø20: Exceeding 100 strokes up to 200 stroke
ø25: Exceeding 150 strokes up to 300 stroke

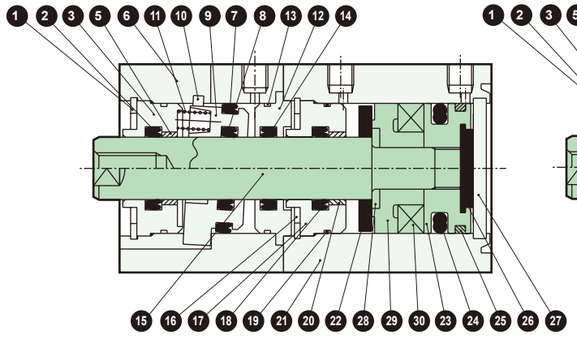


Do not disassemble

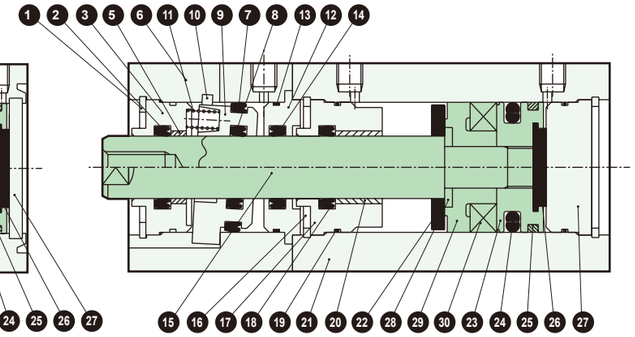
Internal Structure Drawing / Material (High Load Type, Bore Size: ø20, ø25)

● USSD-KL-20, 25-B (Internal structure varies depending on stroke.)
(Double Acting/high load, with switch, Backward Locking: B)

ø20: 100 strokes or less
ø25: 150 strokes or less

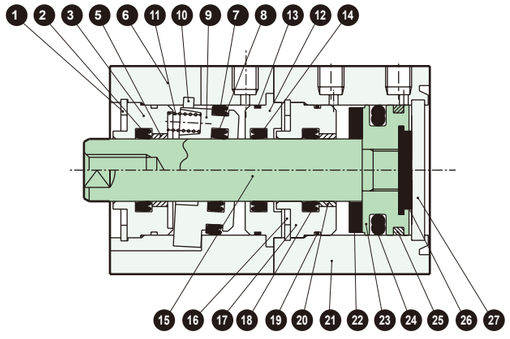


ø20: Exceeding 100 strokes up to 200 stroke
ø25: Exceeding 150 strokes up to 300 stroke

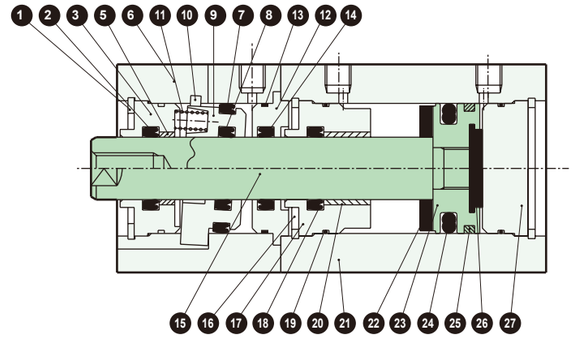


● USSD-K-20, 25-B (Internal structure varies depending on stroke.)
(Double Acting, high load, Backward Locking: B)

ø20: 100 strokes or less
ø25: 150 strokes or less



ø20: Exceeding 100 strokes up to 200 stroke
ø25: Exceeding 150 strokes up to 300 stroke



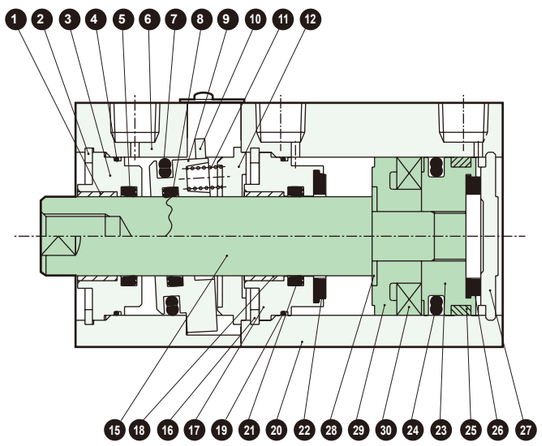
Do not disassemble

Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	C-type Retaining Ring (2)	Steel	Zinc Phosphate coating	18	Rod Packing (1)	Nitrile Rubber	
2	Rod Packing (2)	Nitrile Rubber		19	Rod metal gasket (1)	Nitrile Rubber	
3	Rod metal (2)	Aluminum Alloy	Alumite	20	Bush (1)	Bearing Alloy	
4	Rod metal gasket (2)	Nitrile Rubber		21	Cylinder Body	Aluminum Alloy	Hard Anodized
5	Bush (2)	Bearing Alloy		22	Cushion rubber (R)	Urethane Rubber	
6	Lock body	Aluminum Alloy	Hard Anodized	23	Piston	Stainless Steel	
7	Piston Packing (2)	Nitrile Rubber		24	Piston Packing (1)	Nitrile Rubber	
8	Rod Packing (3)	Nitrile Rubber		25	Wear ring	Polyacetal	
9	Lock metal	Special Steel	Zinc Chromate	26	Cushion rubber (H)	Urethane Rubber	
10	Release lever	Steel	Black Oxide	27	Cover	Stainless Steel	
11	Spring	Piano Wire	Black Oxide		Cover (Long stroke)	Aluminum Alloy	Alumite
12	Joint	Aluminum Alloy		28	Spacer washer	Stainless Steel	
13	Rod metal gasket (3)	Nitrile Rubber	Type B only	29	Spacer	Special resin	
14	Rod Packing (4)	Nitrile Rubber	Type B only	30	Piston magnet	Plastic	
15	Piston Rod	Stainless Steel	Industrial Chrome Plating	31	Round nut	Steel	Zinc Chromate
16	C-type Retaining Ring (1)	Steel	Zinc Phosphate coating	32	Belleville washer	Steel	Black Oxide
17	Rod metal (1)	Aluminum Alloy	Alumite	33	Hexagon Socket Set Screw	Steel	Black Oxide

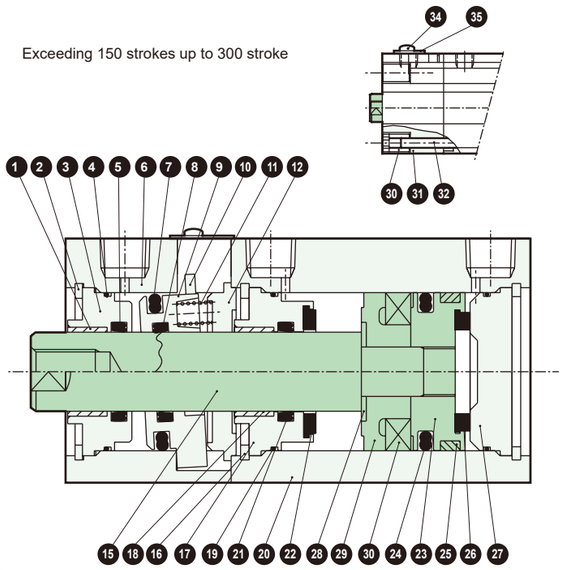
Internal Structure Drawing / Material (High Load Type, Bore Size: ø32)

● USSD-KL-32-F (Internal structure varies depending on stroke.)
(Double Acting/high load, with switch, Forward Locking: F)

150 strokes or less

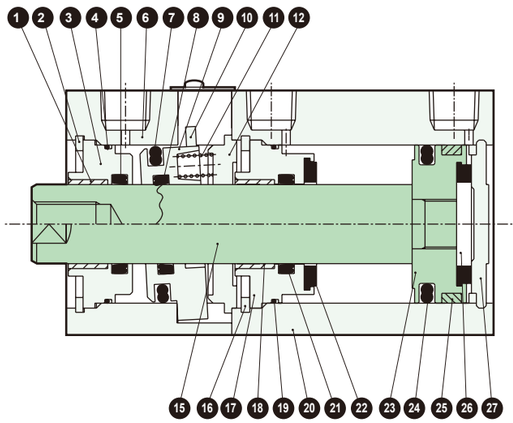


Exceeding 150 strokes up to 300 stroke

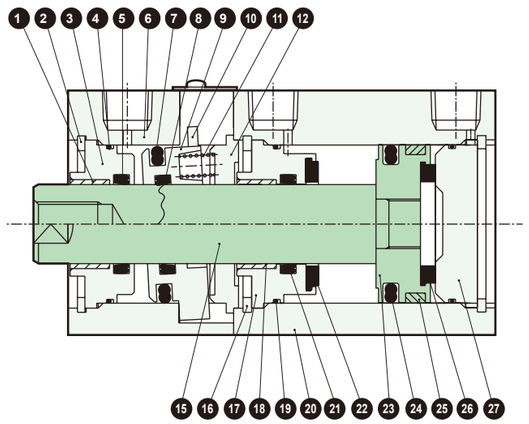


● USSD-K-32-F (Internal structure varies depending on stroke.)
(Double Acting, high load, Forward Locking: F)

150 strokes or less



Exceeding 150 strokes up to 300 stroke

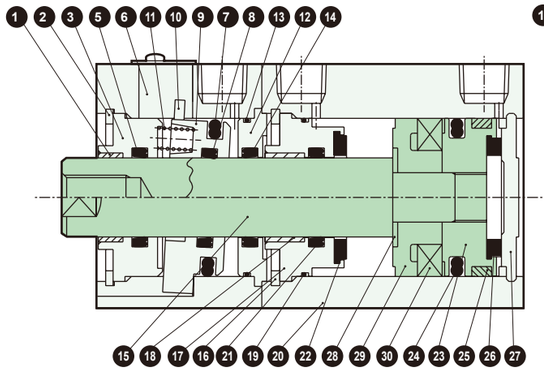


Do not disassemble

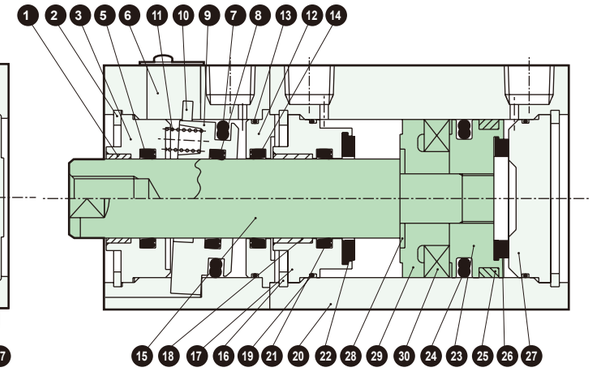
Internal Structure Drawing / Material (High Load Type, Bore Size: ø32)

● USSD-KL-32-B (Internal structure varies depending on stroke.)
(Double Acting/high load, with switch, Backward Locking: B)

150 strokes or less



Exceeding 150 strokes up to 300 stroke



● USSD-K-32-B (Internal structure varies depending on stroke.)
(Double Acting, high load, Backward Locking: B)

150 strokes or less

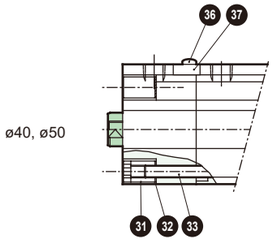
Exceeding 150 strokes up to 300 stroke

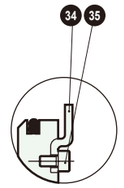
Do not disassemble

Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Bush (2)	Bearing Alloy		19	Rod metal gasket (1)	Nitrile Rubber	
2	C-type Retaining Ring (2)	Steel	Zinc Phosphate coating	20	Cylinder Body	Aluminum Alloy	Hard Anodized
3	Rod metal (2)	Aluminum Alloy	Type B Alumite Type F Chromate	21	Rod Packing (1)	Nitrile Rubber	
				22	Cushion rubber (R)	Urethane Rubber	
4	Rod metal gasket (2)	Nitrile Rubber		23	Piston	Stainless Steel	
5	Rod Packing (2)	Nitrile Rubber		24	Piston Packing (1)	Nitrile Rubber	
6	Lock body	Aluminum Alloy	Hard Alumite	25	Wear ring	Polyacetal	
7	Piston Packing (2)	Nitrile Rubber		26	Cushion rubber (H)	Urethane Rubber	
8	Rod Packing (3)	Nitrile Rubber		27	Cover	Aluminum Alloy	Alumite
9	Lock metal	Special Steel	Zinc Chromate		Cover (Long stroke)	Aluminum Alloy	Chromate
10	Release lever	Steel	Black Oxide	28	Spacer washer	Stainless Steel	
11	Spring	Steel	Black Oxide	29	Spacer	Special resin	
12	Joint	Aluminum Alloy		30	Piston magnet	Plastic	
13	Rod metal gasket (3)	Nitrile Rubber	Type B only	31	Round nut	Steel	Zinc Chromate
14	Rod Packing (4)	Nitrile Rubber	Type B only	32	Belleville washer	Steel	Black Oxide
15	Piston Rod	Stainless Steel	Industrial Chrome Plating	33	Hexagon Socket Set Screw	Steel	Black Oxide
16	C-type Retaining Ring (1)	Steel	Zinc Phosphate coating	34	Cross-Recessed round head machine screw	Steel	
17	Rod metal (1)	Aluminum Alloy	Chromate	35	Dust cover	Stainless Steel	
18	Bush (1)	Bearing Alloy					

Internal Structure Drawing / Material (High Load Type, Bore Size: ø40, ø50)

[Common Parts]

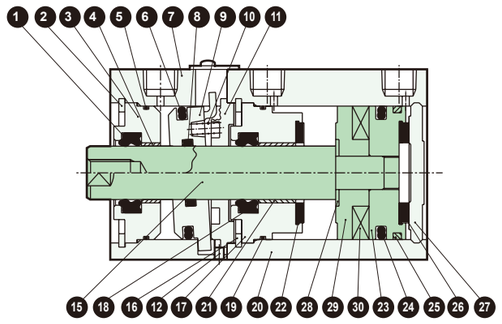




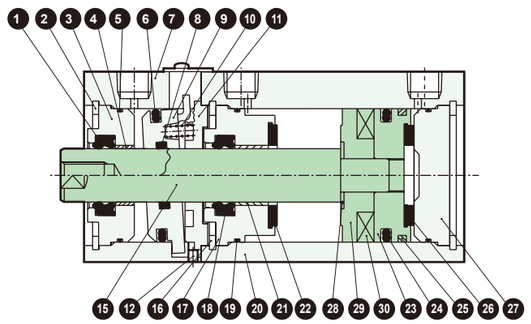
Release Lever Detail View

● USSD-KL-40, 50-F (Internal structure varies depending on stroke.)
(Double Acting/high load, with switch, Forward Locking: F)

ø40, ø50: 150 stroke or less

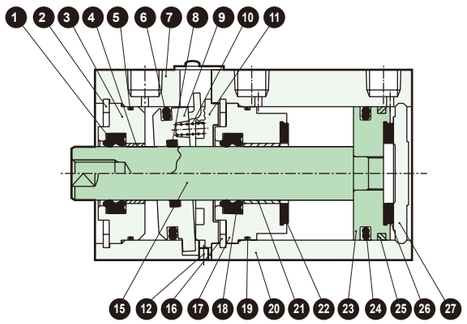


ø40, ø50: Exceeding 150 strokes, up to 300 stroke

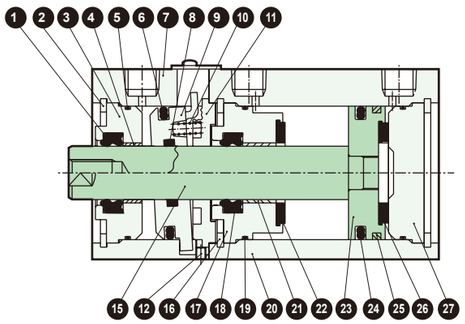


● USSD-K-40, 50-F (Internal structure varies depending on stroke.)
(Double Acting, high load, Forward Locking: F)

ø40, ø50: 150 stroke or less



ø40, ø50: Exceeding 150 strokes, up to 300 stroke

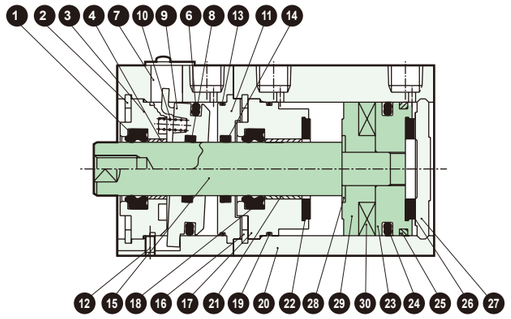


Do not disassemble

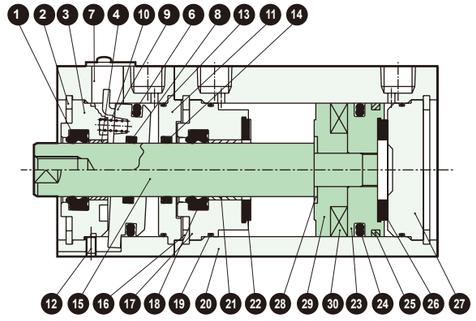
Internal Structure Drawing / Material (High Load Type, Bore Size: ø40, ø50)

● USSD-KL-40, 50-B (Internal structure varies depending on stroke.)
(Double Acting/high load, with switch, Backward Locking: B)

ø40, ø50: 150 stroke or less



Exceeding 150 strokes up to 300 stroke



● USSD-K-40, 50-B (Internal structure varies depending on stroke.)
(Double Acting, high load, Backward Locking: B)

ø40, ø50: 150 stroke or less

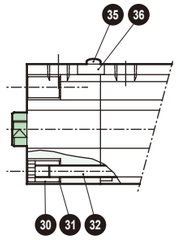
Exceeding 150 strokes up to 300 stroke

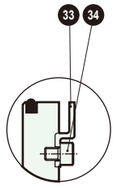
Do not disassemble

Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Rod Packing (2)	Nitrile Rubber		20	Cylinder Body	Aluminum Alloy	Hard Anodized
2	C-type Retaining Ring (2)	Steel	Zinc Phosphate coating	21	Bush (1)	Bearing Alloy	
3	Rod metal (2)	Aluminum Alloy	Alumite	22	Cushion rubber (R)	Urethane Rubber	
4	Bush (2)	Bearing Alloy		23	Piston	Aluminum Alloy	
5	Rod metal gasket (2)	Nitrile Rubber		24	Piston Packing (1)	Nitrile Rubber	
6	Piston Packing (2)	Nitrile Rubber		25	Wear ring	Polyacetal	
7	Lock body	Aluminum Alloy	Hard Anodized	26	Cushion rubber (H)	Urethane Rubber	
8	Rod Packing (3)	Nitrile Rubber		27	Cover	Aluminum Alloy	Alumite
9	Lock metal	Special Steel	Zinc Chromate		Cover (Long stroke)	Aluminum Alloy	Chromate
10	Spring	Piano Wire	Black Oxide	28	Spacer washer	Stainless Steel	
11	Joint	Aluminum Alloy		29	Spacer	Special resin	
12	Hexagon Socket Set Screw	Steel	Black Oxide	30	Piston magnet	Plastic	
13	Rod metal gasket (3)	Nitrile Rubber	Type B only	31	Round nut	Steel	Zinc Chromate
14	Rod Packing (4)	Nitrile Rubber	Type B only	32	Belleville washer	Steel	Black Oxide
15	Piston Rod	Steel	Industrial Chrome Plating	33	Hexagon Socket Set Screw	Steel	Black Oxide
16	C-type Retaining Ring (1)	Steel	Zinc Phosphate coating	34	Release lever	Steel	Zinc Chromate
17	Rod metal (1)	Aluminum Alloy	Chromate	35	Hexagon Socket Head Cap Screw	Steel	Black Oxide
18	Rod Packing (1)	Nitrile Rubber		36	Cross-Recessed round head machine screw	Steel	
19	Rod metal gasket (1)	Nitrile Rubber		37	Dust cover	Stainless Steel	

Internal Structure Drawing / Material (High Load Type, Bore Size: ø63 to ø100)

[Common Parts]

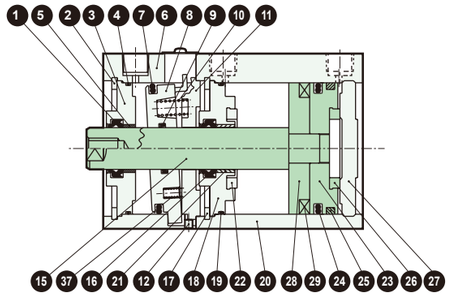




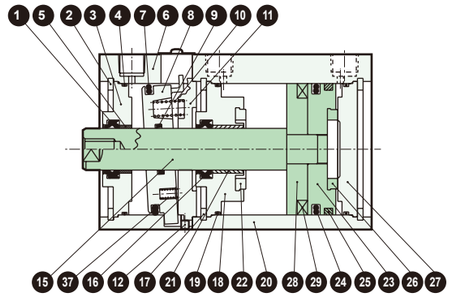
Release Lever Detail View

● USSD-KL-63 to 100-F (Internal structure varies depending on stroke.)
(Double Acting/high load, with switch, Forward Locking: F)

200 strokes or less

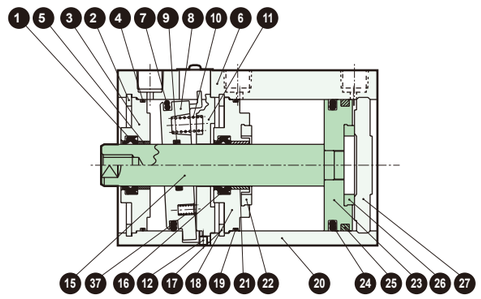


Exceeding 200 strokes up to 300 stroke

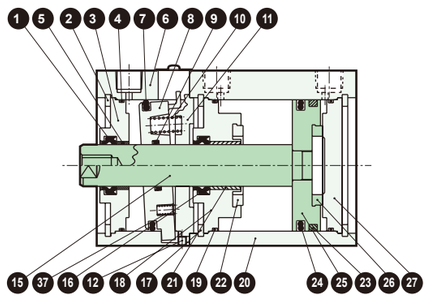


● USSD-K-63 to 100-F (Internal structure varies depending on stroke.)
(Double Acting, high load, Forward Locking: F)

200 strokes or less



Exceeding 200 strokes up to 300 stroke

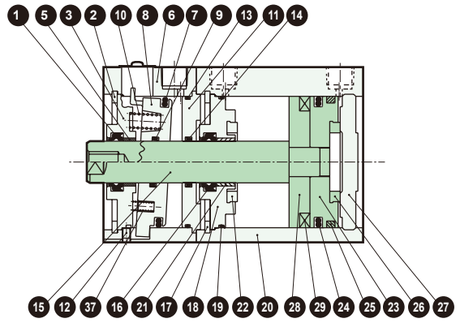


Do not disassemble

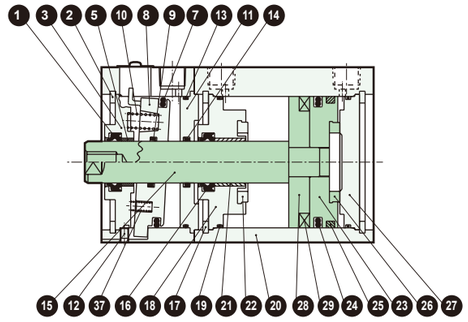
Internal Structure Drawing / Material (High Load Type, Bore Size: ø63 to ø100)

● USSD-KL-63 to 100-B (Internal structure varies depending on stroke.)
(Double Acting/high load, with switch, Backward Locking: B)

200 strokes or less

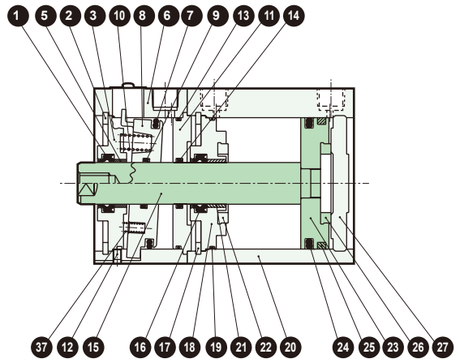


Exceeding 200 strokes up to 300 stroke

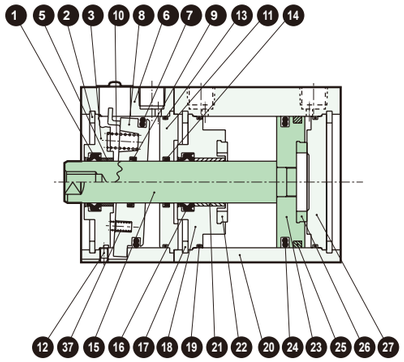


● USSD-K-63 to 100-B (Internal structure varies depending on stroke.)
(Double Acting, high load, Backward Locking: B)

200 strokes or less



Exceeding 200 strokes up to 300 stroke



Do not disassemble

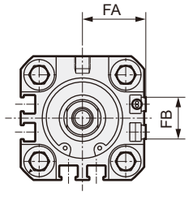
Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Rod Packing (2)	Nitrile Rubber		20	Cylinder Body	Aluminum Alloy	Hard Anodized
2	C-type Retaining Ring (2)	Steel	Zinc Phosphate coating	21	Bush (1)	Bearing Alloy	
3	Rod metal (2)	Aluminum Alloy	Alumite	22	Cushion rubber (R)	Urethane Rubber	
4	Rod metal gasket (2)	Nitrile Rubber		23	Piston	Aluminum Alloy	Chromate
5	Bush (2)	Bearing Alloy		24	Piston Packing (1)	Nitrile Rubber	
6	Lock body	Aluminum Alloy	Hard Alumite	25	Wear ring	Polyacetal	
7	Piston Packing (2)	Nitrile Rubber		26	Cushion rubber (H)	Urethane Rubber	
8	Lock metal	Special Steel	Zinc Chromate	27	Cover	Aluminum Alloy	Alumite
9	Rod Packing (3)	Nitrile Rubber			Cover (Long stroke)	Aluminum Alloy	Chromate
10	Spring (1)	Piano Wire	Black Oxide	28	Spacer	Aluminum Alloy	Chromate
11	Joint	Aluminum Alloy		29	Piston magnet	Plastic	
12	Hexagon Socket Set Screw	Steel	Black Oxide	30	Round nut	Steel	Zinc Chromate
13	Rod metal gasket (3)	Nitrile Rubber	Type B only	31	Belleville washer	Steel	Black Oxide
14	Rod Packing (4)	Nitrile Rubber	Type B only	32	Hexagon Socket Set Screw	Steel	Black Oxide
15	Piston Rod	Steel	Industrial Chrome Plating	33	Release lever	Steel	Zinc Chromate
16	Rod Packing (1)	Nitrile Rubber		34	Hexagon Socket Head Cap Screw	Steel	Black Oxide
17	C-type Retaining Ring (1)	Steel	Zinc Phosphate coating	35	Cross-Recessed round head machine screw	Steel	
18	Rod metal (1)	Aluminum Alloy	Alumite	36	Dust cover	Stainless Steel	
19	Rod metal gasket (1)	Nitrile Rubber		37	Spring (2)	Piano Wire	Black Oxide (ø80, ø100 only)

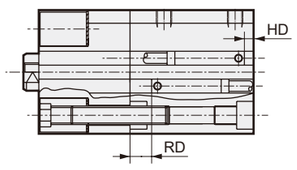
USSD Series Dimensions with Switch

● TOH/V,T5H/V,T2H/V,T3H/V,T3PH/V,T2WH/V,T3WH/V

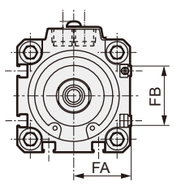
・USSD-L, USSD-KL

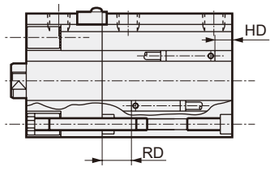
ø20 / ø25



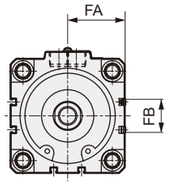


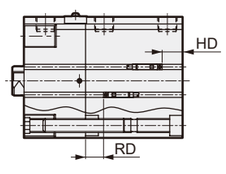
ø32 to ø63





ø80 to ø100





USSD-L

Code	Common Dimensions		T0, T5		T2, T3, T3P		T2W, T3W	
Bore Size (mm)	FA	FB	RD *1	HD *1	RD *1	HD *1	RD	HD
ø20	18.5	12.5	6.5	3	6.5	3	6.5	3
ø25	20.5	13.5	9.5	3	9.5	3	9.5	3
ø32	23	20.5	9	3.5	9	3.5	9	3.5
ø40	26.5	27.5	12.0	7.0	12.0	7.0	12.0	7.0
ø50	32.5	28.5	12.5	7.5	12.5	7.5	12.5	7.5
ø63	39	28.5	13.0	12.5	13.0	12.5	13.0	12.5
ø80	49.5	28.5	15.5	17.5	15.5	17.5	15.5	17.5
ø100	59	28.5	19.5	23	19.5	23	19.5	23

*1: HD and RD dimensions for 5 mm stroke differ from these dimensions due to individual settings.

USSD-KL

Code	Common Dimensions		T0, T5		T2, T3, T3P		T2W, T3W	
Bore Size (mm)	FA	FB	RD *1, *2	HD *1, *2	RD *1, *2	HD *1, *2	RD *1	HD *1
ø20	-	-	8.5 (13.5)	6.0 (12.5)	8.5 (13.5)	6 (12.5)	8.5 (13.5)	6 (12.5)
ø25	-	-	12 (17)	5.5 (14)	12 (17)	5.5 (14)	12 (17)	5.5 (14)
ø32	23	20.5	14 (14)	8.5 (16)	14 (14)	8.5 (16)	14 (14)	8.5 (16)
ø40	26.5	27.5	19.5 (19.5)	9.5 (19)	19.5 (19.5)	9.5 (19)	19.5 (19.5)	9.5 (19)
ø50	32.5	28.5	20 (25)	10 (19)	20 (25)	10 (19)	20 (25)	10 (19)
ø63	39	28.5	18 (23)	17.5 (23)	18 (23)	17.5 (23)	18 (23)	17.5 (23)
ø80	49.5	28.5	20.5 (25.5)	22 (28)	20.5 (25.5)	22.5 (28)	20.5 (25.5)	22.5 (28)
ø100	59	28.5	24.5 (29.5)	28 (33.5)	24.5 (29.5)	28 (33.5)	24.5 (29.5)	28 (33.5)

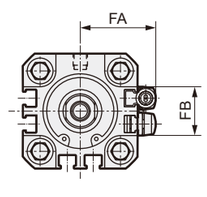
*1: For ø20: Over 100 stroke, ø25 to ø50: Over 150 stroke, and ø63 to ø100: Over 200 stroke, RD and HD dimensions are the values in ( ).
*2: HD and RD dimensions for 5 mm stroke are adjusted at shipment and differ from these dimensions.
*3: For switch mountability, refer to the model number notation of each variation.

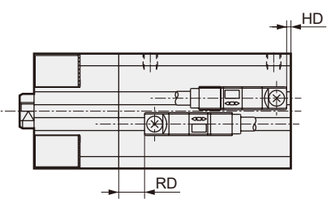
USSD Series Dimensions with Switch

● T2JH/V,T8H/V

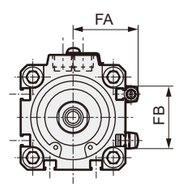
・USSD-L, USSD-KL

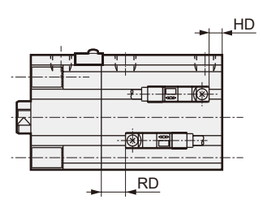
ø20 / ø25



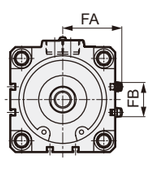


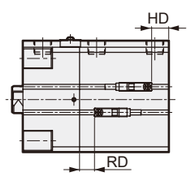
ø32 to ø63





ø80 to ø100





USSD-L

Code	Common Dimensions		T2J		T8	
Bore Size (mm)	FA	FB	RD	HD	RD	HD
ø20	24.3	16	5	1.5	–	–
ø25	26.3	17	8	1.5	–	–
ø32	28.8	24	7.5	2	–	–
ø40	32.3	31	10.5	5.5	6	1
ø50	38.3	32	11	6	6.5	1.5
ø63	44.8	32	11.5	11	7	6.5
ø80	55.3	32	14	16	9.5	11.5
ø100	64.8	32	18	21.5	13.5	7

USSD-KL

Code	Common Dimensions		T2J		T8	
Bore Size (mm)	FA	FB	RD	HD	RD	HD
ø20	24.3	16	7 (12)	4.5 (11)	2.5 (7.5)	0 (6.5)
ø25	26.3	17	10.5 (15.5)	4 (12.5)	6 (11)	0 (8)
ø32	28.8	24	12.5 (12.5)	8 (14.5)	8 (8)	3.5 (10)
ø40	32.3	31	18 (18)	8 (17.5)	13.5 (13.5)	3.5 (13)
ø50	38.3	32	18.5 (23.5)	8.5 (17.5)	14 (19)	4 (13)
ø63	44.8	32	16.5 (21.5)	16 (21.5)	12 (17)	11.5 (17)
ø80	55.3	32	19 (24)	20.5 (26.5)	14.5 (19.5)	16 (22)
ø100	64.8	32	23 (28)	26.5 (32)	18.5 (23.5)	22 (27.5)

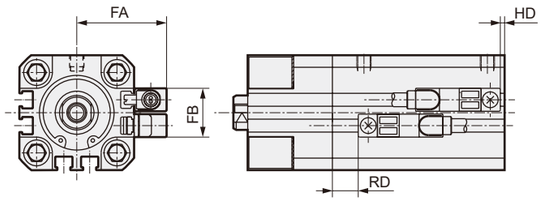
*1: For ø20: Over 100 stroke, ø25 to ø50: Over 150 stroke, and ø63 to ø100: Over 200 stroke, RD and HD dimensions are the values in ( ).
*2: For switch mountability, refer to the model number notation of each variation.

USSD Series Dimensions with Switch

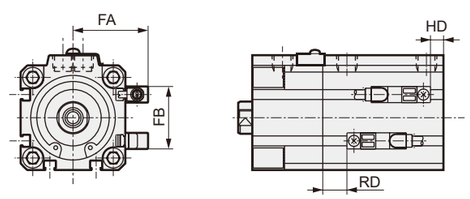
● T1H/V

• USSD-L, USSD-KL

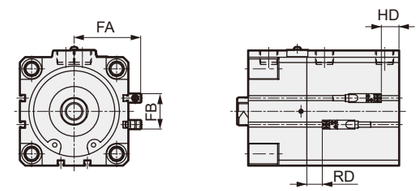
ø20 / ø25



ø32 to ø63



ø80 to ø100



USSD-L

Code / Bore Size (mm)	FA	FB	RD	HD	RD	HD
ø20	29.3	16	5	1.5	-	-
ø25	31.3	17	8	1.5	-	-
ø32	33.8	24	7.5	2	-	-
ø40	37.3	31	10.5	5.5	-	-
ø50	43.3	32	11	6	-	-
ø63	49.8	32	11.5	11	-	-
ø80	60.3	32	14	16	14	16
ø100	69.8	32	18	21.5	18	21.5

USSD-KL

Code / Bore Size (mm)	FA	FB	RD	HD
ø20	29.3	16	7 (12)	4.5 (11)
ø25	31.3	17	10.5 (15.5)	4 (12.5)
ø32	33.8	24	12.5 (12.5)	8 (14.5)
ø40	37.3	31	18 (18)	8 (17.5)
ø50	43.3	32	18.5 (23.5)	8.5 (17.5)
ø63	49.8	32	16.5 (21.5)	16 (21.5)
ø80	60.3	32	19 (24)	20.5 (26.5)
ø100	69.8	32	23 (28)	26.5 (32)

*1: For ø20: Over 100 stroke, ø25 to ø50: Over 150 stroke, and ø63 to ø100: Over 200 stroke, RD and HD dimensions are the values in ( ).
*2: For switch mountability, refer to the model number notation of each variation.

MEMO

With Brake / With Lock
ULK□
JSK2/ JSM2
JSG
JSC3, JSC4
USSD
UFCD
USC
Cylinder Switch
Ending

Custom-made

With 2 Rod Nuts (-A2)

Content: Shipped with 2 rod nuts, same as standard.

Model No. Notation

Model Number

Please refer to the USSD series model number notation method.

* Since the Piston Rod tip shape is standard female thread, be sure to include the "N" code.

Dimensions

Same as standard type except that 2 rod nuts are included.

MEMO

With Brake / With Lock
ULK□
JSK2/ JSM2
JSG
JSC3, JSC4
USSD
UFCD
USC
Cylinder Switch
Ending

To Use This Product Safely

Be sure to read this before use. For general cylinder information, see Intro 41, and for cylinder switches, see P. 1512.

Individual Precautions: Super Compact Cylinder with Fall Prevention USSD Series

Design / Selection

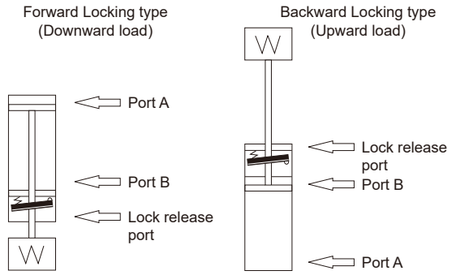
Warning

■ This cylinder is equipped with a fall prevention (holding of cylinder stationary state) mechanism. If used for emergency stop or urgent stop (stopping from cylinder operating state), the service life will be significantly reduced.

■ If back pressure is applied during locking, the lock may disengage. Therefore, use a standalone valve or an individual exhaust type manifold.

■ As holding force will decrease and it is dangerous, do not apply rotational force (torque) to the rod when the lock is activated. Also, use with a mechanism that prevents rod rotation.

■ When releasing the lock, always supply pressure to port B for forward direction lock type and port A for reverse direction lock type, ensuring no load is on the lock mechanism before releasing the lock. If pressure is supplied to port A for Forward Locking type or port B for Backward Locking type while both ports A and B are exhausted and the piston is locked, the lock may not release, or even if released, the Piston rod may extend suddenly, which is very dangerous.



■ Do not use multiple synchronized cylinders with position locking. If a synchronization error occurs, excessive moment load or load concentration may occur on the cylinder that locked first, potentially causing lock release failure, reduced lifespan, or damage.

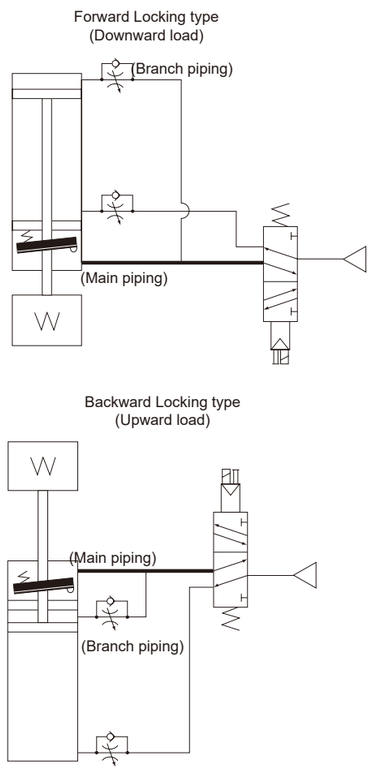
CAUTION

■ Basic Circuit Diagram

Configure the air piping for this cylinder as shown below. Piping to the fall prevention unit alone or piping different from the figure below may cause problems such as response delay.

1. Be sure to branch the piping after the valve as shown below, and pipe to the fall prevention unit (lock release port as main piping) and cylinder unit (cylinder port as branch piping).

2. If cylinder operation is faster than lock release, the lock may not release or the Piston rod may extend suddenly, so design the piping so that lock release is faster than cylinder operation.



If emergency stop or urgent stop is performed with the air piping shown above, the Forward Locking type will continue to retract and the Backward Locking type will continue to extend, returning to the origin position. (If residual pressure is gone, it will stop at that position.)

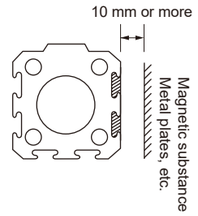
Warning

■ Applying rotational force (torque) to the Piston Rod will reduce holding force, so do not use in a way that applies rotational force.

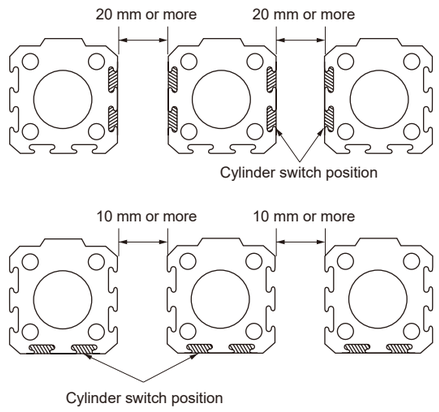
CAUTION

■ The main piping in the basic circuit diagram on the previous P. should be thicker and shorter than the branch piping.

■ If there is a magnetic material such as an iron plate near the cylinder switch, it may cause a malfunction. Therefore, maintain a distance of 10 mm or more from the cylinder surface.
(Common to all Bore Sizes)

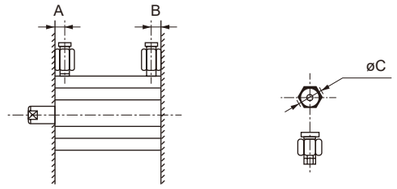


■ If cylinders are adjacent, it may cause cylinder switch malfunction. Therefore, maintain the following distance from the cylinder surface.
(Common to all Bore Sizes)



■ When using multiple cylinders in synchronization, always provide a separate guide. Using only the cylinder may impair synchronicity and cause the rod to twist, leading to malfunctions.

■ There are restrictions on usable piping fittings, so please refer to the following and use accordingly.



Item / Bore Size (mm)	Port Size	Port position dimension A	Port position dimension B	Usable fittings	Fitting O.D. øC	Unusable fittings
ø20	M5x0.8	10	5.5	SC3W-M5-4 SC3W-M5-6 GWS4-M5-S GWS4-M5 GWL4-M5 GWL6-M5	ø11 or less	GWS6-M5
ø25		12	6			
ø32	Rc1/8	12	8	SC3W-6-4/6/8 GWS4-6 GWS6-6 GWS8-6 GWL4-6 GWL6-6	ø15 or less	GWS10-6 GWL8-6 GWL10-6
ø40		15	8.5			
ø50	Rc1/4	15	10.5	SC3W-8-6/8/10 GWS4-8 GWS6-8 GWS10-8 GWL4 to 12-8	ø21 or less	GWS12-8
ø63		15.5	11			
ø80	Rc3/8	16	13	SC3W-10-6/8/10 GWS6-10 GWS8-10 GWS10-10 GWL6 to 12-10	ø21 or less	---
ø100		23	15			

CAUTION

■ After using in the unlocked state for a long time, if you try to lock it, a response delay in locking may occur. Do not leave the lock part pressurized; operate the lock part with each cylinder operation. (Please use the basic circuit diagram on P. 558)

■ If the cylinder is held with pressure applied to the lock mechanism, the lock may be released. Do not use 3-position closed-center and 3-position P·A·B connection solenoid valves.

■ Due to the structure, a drop of about 1 mm (Piston Rod movement) occurs during locking.

■ Operating units with excessive inertia, etc., will cause damage to the Cylinder Body and malfunction. Therefore, always use within the allowable absorbed energy range.

During Use

⚠Warning

■ As holding force will decrease and it is dangerous, do not apply grease to the Piston Rod.

■ The brake unit is coated with the necessary amount of grease, so avoid applying more grease and do not wipe off the grease.

■ Never disassemble.

■ As it may cause a malfunctions, always use with the dust cover included, except during manual release operation.

■ When used in vertical mounting, etc., if there is no air pressure, holding force will be lost during manual release operation, and the rod may move (descend) due to the load's own weight, etc. Please be careful. In that case, for safety, perform the following preparations before manual release.

- Move the load to the lower end.
- Provide a stopper for the load
- Apply air pressure to the cylinder to balance the load.

For precautions during mounting, installation, adjustment, use, and maintenance, refer to "During Use" in this catalog and the CKD Components Product website (https://www.ckd.co.jp/kiki/en/) -> "Model No." -> Instruction Manual.

MEMO

With Brake / With Lock
ULK□
JSK2/ JSM2
JSG
JSC3, JSC4
USSD
UFCD
USC
Cylinder Switch
Ending