



# Shock absorber SCK Series

• Max. energy absorption: 0.049 to 588J



## Specifications

Descriptions	SCK																	
	Series	0.005	0.01	0.03	0.3	0.6	1.2	2.6	6.5	8	12	20	30	40	60	0.25 M	0.5 M	1.0 M
Type/Classification	Spring return without adjuster			Spring return with adjuster												Spring return with adjuster (thread pitch: large)		
Max. energy absorption J	0.049	0.098	0.294	2.94	5.88	11.8	25.5	63.7	78.4	118	196	294	392	588	3.43	11.8	74.5	
O.D. thread size mm	M10×1.0	M12×1.0	M16×1.0	M20×1.0		M25×1.5		M30×1.5			M40×1.5			M45×1.5	M14×1.5	M20×1.5	M27×3.0	
Stroke length mm	7			10			15			25			40	60	70			
Max. absorbed energy per hour kJ/hr	0.135	0.27	0.98	8.1	10.8	21.6	39	78	86.4			108	126	120	144	9.2	21.2	80.5
Max. colliding speed m/s	1.0			1.5		2.0		2.5			3.0			4.0	1.0	2.0	2.5	
Max. operating frequency Cycle/min.	45			30			25		20	18	12	9	7	5	4	45	30	18
Ambient temperature °C	-10 (14°F) to 80 (176°F)																	
Max. load (resistance) N	39	59	147	540	1000	1400	3100	4600	5700	8600	9000		10000	15000	630	1440	4560	
Return time S	0.3 or less			0.4 or less			0.5 or less			0.6 or less			0.4 or less			0.5 or less		
Weight kg	0.02	0.04	0.07	0.2		0.32		0.63		1.17	1.25	1.39	1.45	2.05	0.05	0.13	0.39	
Return When extended N	1.2	2.0	5.9	5.9		6.9		12.0			20.0			29.0	3.9	5.5	7.6	
Spring force When compressed N	2.6	5.0	10.5	11.3		17.2		30.0			39.0	51.0	68.0	75.0	84.0	8.4	11.5	21.0
Copper and PTFE free specifications	—			Standard														

Note: Min. absorbed energy should be 1/5 of max. absorbed energy.

## How to order

**SCK - 00 - 0.3 - N1**

Ⓐ Mounting

Ⓑ Series

Ⓒ Option

Code	Content
<b>Ⓐ Mounting</b>	
00	Basic
FA	Flange
<b>Ⓑ Series (max. energy value)</b>	
0.005	0.049 J
0.01	0.098 J
0.03	0.294 J
0.3	2.94 J
0.6	5.88 J
1.2	11.8 J
2.6	25.5 J
6.5	63.7 J
8	78.4 J
12	118 J
20	196 J
30	294 J
40	392 J
60	588 J
0.25 M	3.43 J
0.5 M	11.8 J
1.0 M	74.5 J
<b>Ⓒ Option</b>	
Blank	Standard
N1	With stop nut

### ⚠ Precautions for model No. selection

\*1 : 3 hexagon nuts are provided for N1 specifications products.

[Example of model No.]

**SCK-00-0.3-N1**

Model: Shock absorber

- Ⓐ Mounting : Basic
- Ⓑ Series : Max. energy 2.94J
- Ⓒ Option : With stop nut

## How to order options

● Flange bracket (1 pc.)

**SCK - 0.01 - FA**

Ⓑ Series

● Stop nut + hexagon nut (each 1 pc.)

**SCK - 0.01 - N1**

Ⓑ Series

● Hexagon nut (1 pc.)

**SCK - 0.01 - NT**

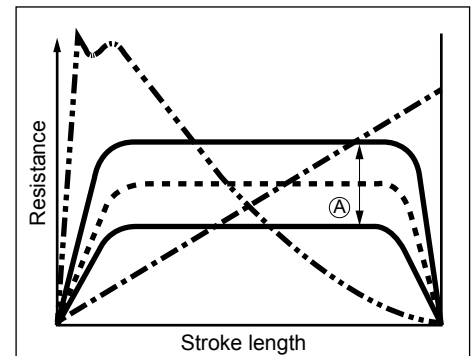
Ⓑ Series

LCW  
LCR  
LCG  
LCX  
LCM  
STM  
STG  
STS/STL  
STR2  
UCA2  
ULK\*  
JSK/M2  
JSG  
JSC3/JSC4  
USSD  
UFCD  
USC  
JSB3  
LMB  
LML  
HCM  
HCA  
LBC  
CAC4  
UCAC2  
CAC-N  
UCAC-N  
RCC2  
RCS  
PCC  
SHC  
MCP  
GLC  
MFC  
BBS  
RRC  
GRC  
RV3\*  
NHS  
HR  
LN  
Hand  
Chuk  
MecHnd/Chuk  
ShkAbs  
FJ  
FK  
SpdContr  
Ending

### Shock absorber and other buffers

As shown at right:

- The spring accumulates energy and functions as spring return force at the stroke end.
- Cylinder cushion (single orifice connected to hydraulic cylinder) increases resistance sharply at collision and does not decelerate smoothly.
- Shock absorbers without adjuster have a preset level of energy that is absorbed and so working conditions are limited (SCK-00-0.03 or below).
- Shock absorbers with adjuster have roughly constant resistance throughout the stroke, uniformly decelerating the object's speed. The curve moves in parallel vertically when adjusted, and collision energy is absorbed appropriately.



- Spring
- Cylinder cushion
- Shock absorber without adjuster
- Shock absorber
- Ⓐ: The shock absorber is adjusted with the adjuster.

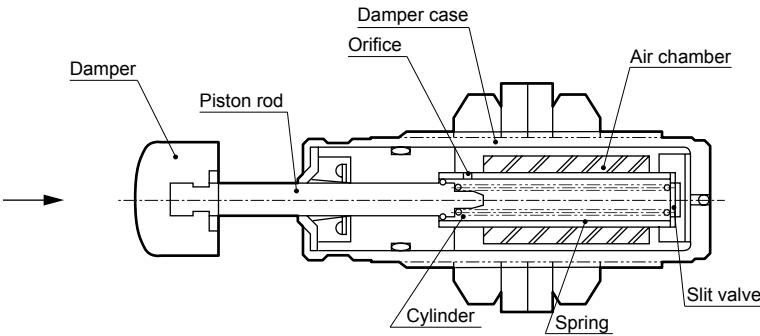
LCW
LCR
LCG
LCX
LCM
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCC2
RCS
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
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Hand
Chuk
MecHnd/Chuk
<b>ShkAbs</b>
<b>FJ</b>
<b>FK</b>
<b>SpdContr</b>
Ending

## Internal structure and operational explanation

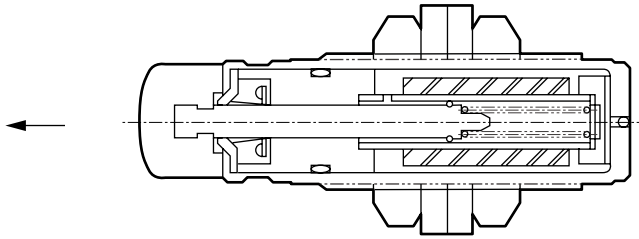
● SCK-00-0.005  
00-0.01  
00-0.03

**Cannot be disassembled**

Collision



Return



### Collision

Collision force applied to the damper pushes the piston rod and pressurizes oil in the cylinder. When the generated hydraulic pressure passes through the orifice and flows into the damper case, shock is absorbed. Oil flowing into the damper case pressurizes the air chamber and decreases air chamber volume.

Note) With this product structure, internal pressure increases with workpiece speed during collision, generating resistance and absorbing energy. Resistance may thus appear low when pushed by hand, but the product is not defective.

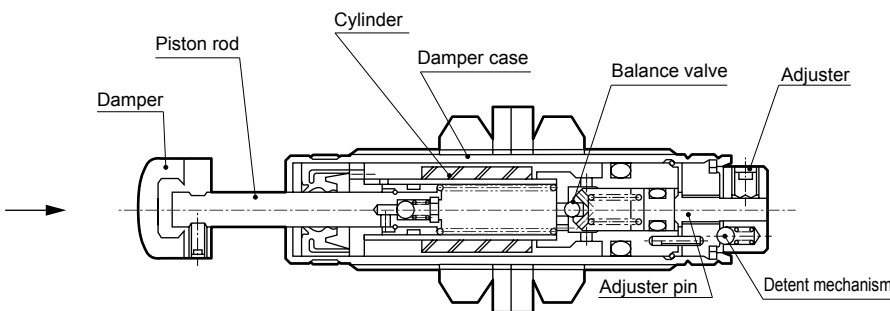
### Return

When the colliding workpiece is removed, the piston rod is pushed out by the internal spring. At the same time, the slit valve (check valve) is opened by pressure in the air chamber. Oil flows to the inner pipe and at completion, the slit valve closes.

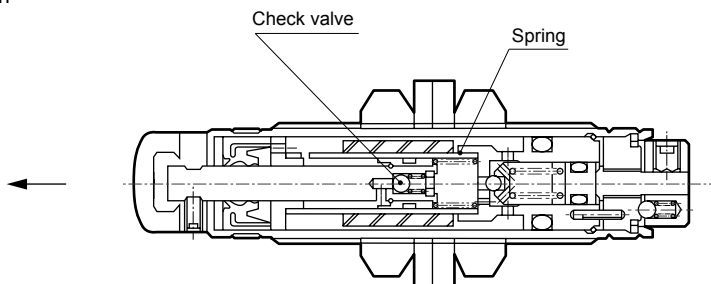
● SCK-00-0.3 to 60

**Cannot be disassembled**

Collision



Return



### Collision

Collision force applied to the damper pushes the piston via the piston rod and pressurizes oil in the cylinder. When the generated hydraulic pressure passes through the orifice and balance valve and flows into the damper case, shock is absorbed. When the adjuster is turned clockwise, the adjustable pin moves and the force of the balance valve spring increases. Oil flow is decreased and a larger colliding force can be withstood.

Note) With this product structure, internal pressure increases with workpiece speed during collision, generating resistance and absorbing energy. Resistance may thus appear low when pushed by hand, but the product is not defective.

### Return

When the colliding workpiece is removed, the piston rod is pushed out by the internal spring. At the same time, the check valve is opened by pressure in the air chamber. Oil flows to the inner pipe and at completion, the check valve closes.

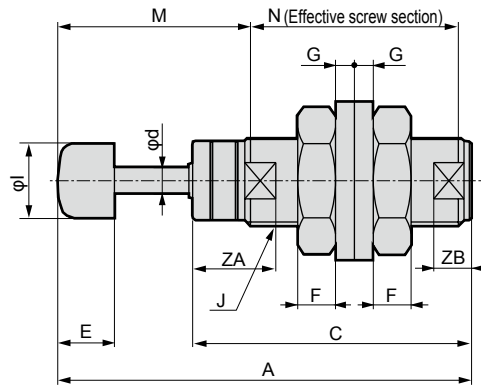
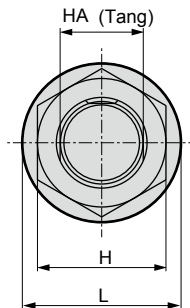
LCW
LCR
LCG
LCX
LCM
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCC2
RCS
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
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Hand
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FJ
FK
SpdContr
Ending

## Dimensions



- SCK-00-0.005  
0.01  
0.03

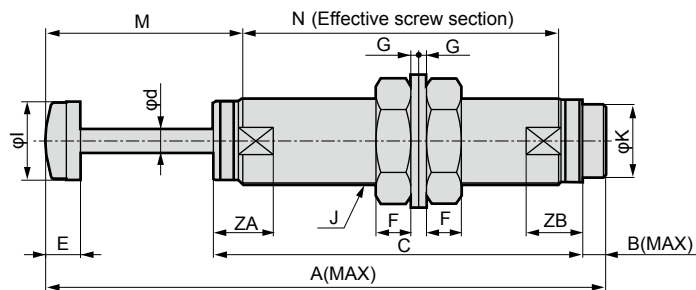
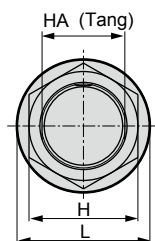
Basic (00)



Code	Basic (00)														
Model No.	A	C	E	F	G	H	I	J	L	M	N	d	HA	ZA	ZB
SCK-00-0.005	41.5	27	7	4	2	14	8	M10×1.0	18	21.3	18.5	3.0	9	9	4
SCK-00-0.01	55	37	7.5	5	2.5	17	10	M12×1.0	21	25.5	27.5	3.5	11	11	5
SCK-00-0.03	70	49.5	10	6.5	2.5	22	14	M16×1.0	27	28.3	39.5	4.0	15	12	6

- SCK-00-0.3 to 60, 0.25 M to 1.0 M  
(Screw pitch large)

Basic (00)



Code	Basic (00)																
Model No.	A	B	C	E	F	G	H	I	J	K	L	M	N	d	HA	ZA	ZB
SCK-00-0.3	94.6	5.8	66.8	11	8	2.9	27	16	M20×1.0	13.5	33	33.5	45.7	5	17	17.5	16
SCK-00-0.6	94.6	5.8	66.8	11	8	2.9	27	16	M20×1.0	13.5	33	33.5	45.7	5	17	17.5	16
SCK-00-1.2	122.5	7.5	86	13	10	2.9	32	22	M25×1.5	19.5	39	40.5	65.4	6	24	21	18
SCK-00-2.6	122.5	7.5	86	13	10	2.9	32	22	M25×1.5	19.5	39	40.5	65.4	6	24	21	18
SCK-00-6.5	157.4	7.9	109.5	14	12	3.6	41	27	M30×1.5	23.5	50	51.5	89.4	8	27	21.5	19.5
SCK-00-8	157.4	7.9	109.5	14	12	3.6	41	27	M30×1.5	23.5	50	51.5	89.4	8	27	21.5	19.5
SCK-00-12	175.6	10.5	123.1	16	16	3.6	50	36	M40×1.5	33.5	61	55.5	98.5	11	38	27.5	26
SCK-00-20	205.6	10.5	138.1	16	16	3.6	50	36	M40×1.5	33.5	61	70.5	113.5	11	38	27.5	26
SCK-00-30	257.1	10.5	169.6	16	16	3.6	50	36	M40×1.5	33.5	61	90.5	145	11	38	27.5	26
SCK-00-40	277.1	10.5	179.6	16	16	3.6	50	36	M40×1.5	33.5	61	100.5	155	11	38	27.5	26
SCK-00-60	298.4	10.9	198.6	18	18	4.5	55	42	M45×1.5	37.5	67	102.9	172.5	12.5	43.5	31.5	30
SCK-00-0.25M	96.6	6.5	69.1	10	5.5	2.5	19	12	M14×1.5	10	24	26.1	53.5	4	12.4	10	15.5
SCK-00-0.5M	111.4	6.5	77.9	11	8	2.9	27	16	M20×1.5	13.5	33	33	60.8	5	17	12	17.5
SCK-00-1.0M	161.6	7.7	109.9	13	10	2.9	32	22	M27×3.0	19.5	39	50.5	90.3	6	24	15	22

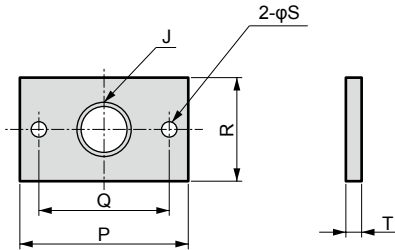
- LCW
- LCR
- LCG
- LCX
- LCM
- STM
- STG
- STS/STL
- STR2
- UCA2
- ULK\*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCC2
- RCS
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3\*
- NHS
- HR
- LN
- Hand
- Chuk
- MecHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending

## Dimensions: Option [flange (mounting bracket)]

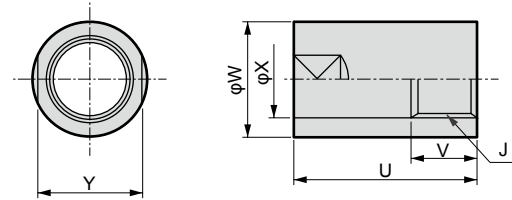


- SCK-\*\*-0.005
- 0.01
- 0.03

Flange (FA)

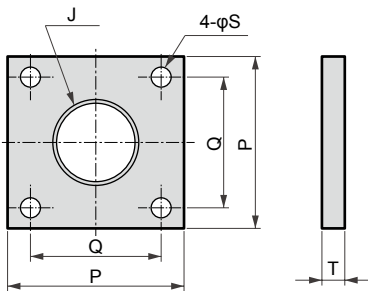


Stop nut (N1)

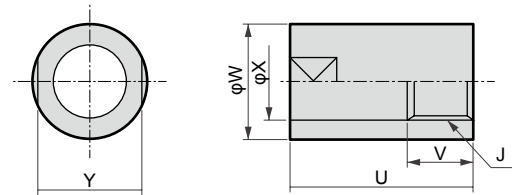


- SCK-\*\*-0.3 to 60, 0.25M to 1.0M
- (Screw pitch large)

Flange (FA)



Stop nut (N1)



Code Model No.	Flange (FA)						Weight (g)	Stop nut (N1)						Weight (g)
	J	P	Q	R	S	T		J	U	V	W	X	Y	
SCK-00-0.005	M10×1.0	42	30	20	5.5	2.3	14	M10×1.0	17	10	15	11	13	12
SCK-00-0.01	M12×1.0	46	34	20	5.5	3.6	22	M12×1.0	23	10	19	13	17	19
SCK-00-0.03	M16×1.0	52	40	32	5.5	4.5	51	M16×1.0	23	10	22	17	19	30
SCK-00-0.3	M20×1.0	52	38	-	6.5	6	107	M20×1.0	32.5	15	26	21	24	52
SCK-00-0.6	M20×1.0	52	38	-	6.5	6	107	M20×1.0	32.5	15	26	21	24	52
SCK-00-1.2	M25×1.5	52	38	-	6.5	6	100	M25×1.5	35	15	32	26	30	82
SCK-00-2.6	M25×1.5	52	38	-	6.5	6	100	M25×1.5	35	15	32	26	30	82
SCK-00-6.5	M30×1.5	66	48	-	8.5	6	163	M30×1.5	40	15	40	31	36	162
SCK-00-8	M30×1.5	66	48	-	8.5	6	163	M30×1.5	40	15	40	31	36	162
SCK-00-12	M40×1.5	84	64	-	10.5	9	390	M40×1.5	69.5	20	50	41	46	362
SCK-00-20	M40×1.5	84	64	-	10.5	9	390	M40×1.5	69.5	20	50	41	46	362
SCK-00-30	M40×1.5	84	64	-	10.5	9	390	M40×1.5	69.5	20	50	41	46	362
SCK-00-40	M40×1.5	84	64	-	10.5	9	390	M40×1.5	69.5	20	50	41	46	362
SCK-00-60	M45×1.5	84	64	-	10.5	9	390	M45×1.5	70	20	60	46	55	649
SCK-00-0.25M	M14×1.5	52	38	-	6.5	6	115	M14×1.5	26.5	10	20	15	17	30
SCK-00-0.5M	M20×1.5	52	38	-	6.5	6	108	M20×1.5	36.5	15	26	21	24	59
SCK-00-1.0M	M27×3.0	52	38	-	6.5	6	106	M27×3.0	45.5	15	35	28	32	134