System Chart

Rodless Cylinder SR□3 Series

Variation / Model No.	Bore Size (Equivalent)										Listed Page
	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100	
Basic type **SRL3 Series**  Space-saving Basic Type	●	●	●	●	●	●	●	●	●	●	10
Resin Guide Type **SRL3-G Series**  With Simple Resin Guide	●	●	●	●	●	●	●	●	●	●	28
Standard / Fall Prevention Type **SRL3-Q Series**  Basic Type with Fall Prevention Function	●	●	●	●	●	●	●	●	●	●	42
Resin Guide / Fall Prevention Type **SRL3-GQ Series**  With Simple Resin Guide and Fall Prevention Function	●	●	●	●	●	●	●	●	●	●	58
Full Cowl Type **SRL3-J Series**  With Dustproof Cover				●	●	●	●	●			70
High Precision Guide Type (With 1-axis Linear Guide) **SRG3 Series**  With High Precision Guide	●	●	●	●							116
High Precision Guide Type (With 2-axis Linear Guide) **SRM3 Series**  With High Precision Guide				●	●	●		●			146
High Precision Guide / Fall Prevention Type (With 2-axis Linear Guide) **SRM3-Q Series**  High Precision Guide with Fall Prevention Function				●	●	●	●	●			146
With Brake Type **SRT3 Series**  With Brake	●	●	●	●	●	●	●	●			178

CKD

Rodless Type

SRL3

Rodless Cylinder

ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100 or equiv.

Overview

High load capacity and long service life. A rodless cylinder capable of high-speed drive. The series ranges from ø12 to ø100 equivalent, with abundant variations.

Features

Flat Cylinder
Adopted a structure where the piston is flat and can receive the load. Excellent load resistance, and also equipped with a rotation stop mechanism.

Seal Belt
Since the seal part is made straight, sealing performance has been further improved.

Magnet Standard Equipment
Switch can be mounted directly on the standard type.

Adopted High Speed Packing
Adopted Piston Packing that can withstand high speeds.

Centralized Port
Depending on the installation location of the cylinder, centralized port (one-way piping) and standard port (both sides piping) can be freely selected. Equipment can be made compact.

CONTENTS

CKD

System Chart

Rodless Cylinder
SRL3 Series

●: Standard, ◎: Option, ○: Custom-made, ▩: Cannot be manufactured

Variation	Model No. / Circuit Diagram Code	Bore Size (mm)	Standard Stroke (mm)									Min Stroke (mm)	Max Stroke (mm)		Intermediate stroke (per mm)	Mounting Type				Cushion				Option									Switch	Page
			200	300	400	500	600	700	800	900	1000					Basic type	Axial Foot Type	Axial Foot Type	Axial Foot Type	With Cushion on Both Sides	With R Side Cushion	With L Side Cushion	Without Cushion	Full Stroke Adjustment with Shock Absorber on Both Sides	With full stroke adjustment R side shock suppressor	With full stroke adjustment L side shock suppressor	Full Stroke Adjustment Bracket Retrofit	Floating Joint	Thin Floating Joint	Intermediate support bracket for 00LB	Intermediate Support Bracket (for LB1)	Table Mounting Screw Size Up	Height Adjustment Plate		
																00	LB	LB1	LJ	B	R	L	N	A	A1	A2	A3	Y	Y1	L*	N*	H	U		
Double Acting / Standard Type	SRL3 	ø12, ø16, ø20 equivalent	●	●	●	●	●	●	●	●	●	1	5000		1	●	●	●		●	●	●	●	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	10
		ø25 equivalent	●	●	●	●	●	●	●	●	●		5000			●	●	●		●	●	●	●	◎	◎	◎	◎	◎	◎	◎	◎		◎		
		ø32 equivalent	●	●	●	●	●	●	●	●	●		5000			●	●	●		●	●	●	●	◎	◎	◎		◎	◎	◎	◎		◎		
		ø40, ø50, ø63 equivalent	●	●	●	●	●	●	●	●	●		5000			●	●			●	●	●	●	◎	◎	◎		◎	◎	◎			◎		
		ø80, ø100 equivalent	●	●	●	●	●	●	●	●	●		5000			●	●			●	●	●	●	◎	◎	◎		◎		◎			◎		
Double Acting / Resin Guide Type	SRL3-G 	ø12, ø16, ø20 equivalent	●	●	●	●	●	●	●	●	●	1	5000		1	●	●	●		●	●	●	●	◎	◎	◎	◎			◎	◎	◎	◎	◎	28
		ø25 equivalent	●	●	●	●	●	●	●	●	●		5000			●	●	●		●	●	●	●	◎	◎	◎	◎			◎	◎		◎		
		ø32 equivalent	●	●	●	●	●	●	●	●	●		5000			●	●	●		●	●	●	●	◎	◎	◎				◎	◎		◎	◎	
		ø40, ø50, ø63 equivalent	●	●	●	●	●	●	●	●	●		5000			●	●			●	●	●	●	◎	◎	◎				◎			◎		
		ø80, ø100 equivalent	●	●	●	●	●	●	●	●	●		5000			●	●			●	●	●	●	◎	◎	◎				◎			◎		
Double Acting / Fall Prevention Type	SRL3-Q 	ø12, ø16, ø20 equivalent	●	●	●	●	●	●	●	●	●	5	5000		1	●	●	●		●	●	●	●	◎	◎	◎	◎	◎	○	◎	◎	◎	◎	◎	42
		ø25 equivalent	●	●	●	●	●	●	●	●	●		5000			●	●	●		●	●	●	●	◎	◎	◎	◎	◎	○	◎	◎		◎		
		ø32 equivalent	●	●	●	●	●	●	●	●	●		5000			●	●	●		●	●	●	●	◎	◎	◎		◎		◎	◎		◎	◎	
		ø40, ø50, ø63 equivalent	●	●	●	●	●	●	●	●	●		5000			●	●			●	●	●	●	◎	◎	◎		◎		◎			◎		
		ø80, ø100 equivalent	●	●	●	●	●	●	●	●	●		5000			●	●			●	●	●	●	◎	◎	◎		◎		◎			◎		
Double Acting / Fall Prevention Type Resin Guide Type	SRL3-GQ 	ø12, ø16, ø20 equivalent	●	●	●	●	●	●	●	●	●	5	5000		1	●	●	●		●	●	●	●	◎	◎	◎	◎			◎	◎	◎	◎	◎	58
		ø25 equivalent	●	●	●	●	●	●	●	●	●		5000			●	●	●		●	●	●	●	◎	◎	◎	◎			◎	◎		◎		
		ø32 equivalent	●	●	●	●	●	●	●	●	●		5000			●	●	●		●	●	●	●	◎	◎	◎				◎	◎		◎	◎	
		ø40, ø50, ø63 equivalent	●	●	●	●	●	●	●	●	●		5000			●	●			●	●	●	●	◎	◎	◎				◎			◎		
		ø80, ø100 equivalent	●	●	●	●	●	●	●	●	●		5000			●	●			●	●	●	●	◎	◎	◎				◎			◎		
Double Acting / Full Cowl Type	SRL3-J 	ø25 equivalent	●	●	●	●	●	●	●	●	●	1	3000		1	●			●	●	●	●	●	◎	◎	◎	◎	◎		◎	◎			◎	70
		ø32 equivalent	●	●	●	●	●	●	●	●	●		3000			●			●	●	●	●	●	◎	◎	◎		◎		◎	◎			◎	
		ø40, ø50, ø63 equivalent	●	●	●	●	●	●	●	●	●		3000			●			●	●	●	●	●	◎	◎	◎		◎		◎					

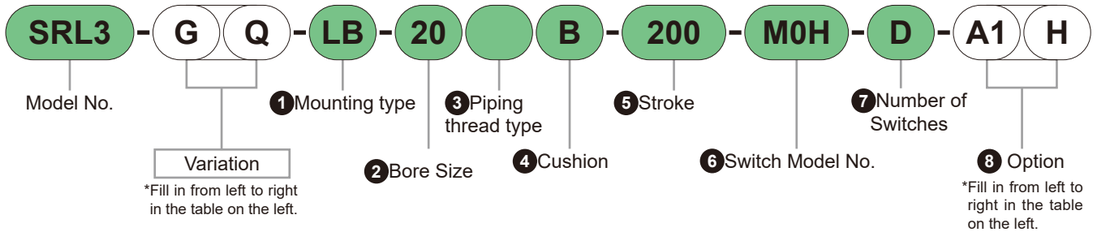
Variation and Option Item Combination Availability Table

●Mark: Standard
◎Mark: Option
○Mark: Custom-made
△Mark: Manufacturable depending on conditions (please consult)
× Mark: Cannot be manufactured

Category		Category	Variation				Piping thread		Option										
			Double Acting Basic Type	Resin Guide Type	Drop prevention type	Full Cowl Type	NPT	G	Stroke Adjustment Both Sides	Stroke Adjustment R Side	Stroke Adjustment L Side	For Stroke Adjustment Bracket Retrofit	Table Mounting Screw Size Up	Port/Cushion Needle Position Specification	Port/Cushion Needle Position Specification	Port/Cushion Needle Position Specification	Port/Cushion Needle Position Specification	Port/Cushion Needle Position Specification	Port/Cushion Needle Position Specification
		Code	None	G	Q	J	N	G	A	A1	A2	A3	H	R	B	T	D	S	X
Variation	Double Acting Basic Type	Blank					○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	Resin Guide Type	G			◎	×	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	Drop prevention type	Q				×	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	Full Cowl Type	J					○	○	◎	◎	◎	◎	×	◎	◎	◎	◎	◎	×
Piping thread	NPT	N						×	○	○	○	○	○	○	○	○	○	○	○
	G	G							○	○	○	○	○	○	○	○	○	○	○
Option	Stroke Adjustment Both Sides	A								×	×	×	◎	◎	◎	◎	◎	◎	◎
	Stroke Adjustment R Side	A1									×	×	◎	◎	◎	◎	◎	◎	◎
	Stroke Adjustment L Side	A2										×	◎	◎	◎	◎	◎	◎	◎
	For Stroke Adjustment Bracket Retrofit	A3											◎	◎	◎	◎	◎	◎	◎
	Table Mounting Screw Size Up	H												◎	◎	◎	◎	◎	◎
	Port/Cushion Needle Position Specification	R													×	×	×	×	×
	Port/Cushion Needle Position Specification	B														×	×	×	×
	Port/Cushion Needle Position Specification	T															×	×	×
	Port/Cushion Needle Position Specification	D																×	×
	Port/Cushion Needle Position Specification	S																	×
	Port/Cushion Needle Position Specification	X																	
Accessories	Cylinder Switch		◎	◎	◎	◎	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	Floating Joint	Y	◎	×	◎	◎	○	○	◎	◎	◎	◎	△	◎	◎	◎	◎	◎	◎
	Low Profile Floating Joint	Y1	◎	×	*1	×	○	○	○	○	○	○	△	◎	◎	◎	◎	◎	◎
	Intermediate Support Bracket (for 00, LB)	L	◎	◎	◎	◎	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	Intermediate Support Bracket (for LB1)	N	◎	◎	◎	◎	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	With Height Adjustment Plate	U	◎	◎	◎	×	○	○	◎	◎	◎	◎	△	◎	◎	◎	◎	◎	◎

*1: ø25 equivalent or less can be manufactured with "○" (custom-made).

[Model No. Example]



Model No.: Rodless Cylinder
● Variation: Resin Guide Type, Fall Prevention Type
❶ Mounting style : Axial Foot Type
❷ Bore Size : ø20 or equivalent
❸ Port thread : Rc Thread
❹ Cushion : With Cushion on Both Sides
❺ Stroke : 200 mm
❻ Switch model No. : Reed MOH switch, lead wire 1 m
❼ Switch quantity : With 2 pcs.
❽ Option : R side only full stroke adjustable, with shock absorber, larger table mounting thread

Rodless Cylinder Double Acting Type

SRL3 Series

● Bore Size: ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100 or equivalent

Circuit Diagram Code

RoHS

Model No. Notation

Without Switch
(Built-in magnet for switch)

SRL3 - 00 - 12 [ ] B - 200 ——— B

Model No. ❶ ❷ ❸ ❹ ❺ ❽

With Switch
(Built-in magnet for switch)

SRL3 - 00 - 12 [ ] B - 200 - M0H - R - B

Model No. ❷Bore Size ❹Cushion ❻Switch Model No. ❽Option

❶Mounting type ❸Piping thread type ❺Stroke ❼Number of Switches

❶Mounting type

Mounting brackets are pre-assembled on the product and shipped.

Code	Content	
00	Basic type	
LB	Axial Foot Type	
LB1	Axial Foot Type (ø12 to ø32 equivalent only)	

Note: When the Bore Size of ^a is equivalent to ø12, 16, 20, 25, or 32, and the option code 8 is "R" or "T", the mounting style is "00" or "LB1". (❽Option Code "R" and "T" with mounting type "LB" cannot be manufactured because piping is not possible.)

❷Bore Size (mm)

Code	Content
12	ø12 equivalent
16	ø16 equivalent
20	ø20 equivalent
25	ø25 equivalent
32	ø32 equivalent
40	ø40 equivalent
50	ø50 equivalent
63	ø63 equivalent
80	ø80 equivalent
100	ø100 equivalent

❸Piping thread type

Code	Content
Blank	M5 (ø12, ø16 equivalent) Rc Thread (ø20 to ø100 equivalent)
N	NPT Thread (ø20 equivalent or larger) (Custom-made)
G	G Thread (ø20 equivalent or larger) (Custom-made)

❹Cushion

Code	Content
B	With Cushion on Both Sides
R	With R Side Cushion
L	With L Side Cushion
N	Without Cushion

❺Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø12 to ø100 equivalent	1 to 5000	Every 1 mm

Note: For the minimum stroke with switch, please refer to P. 14.

❻Switch Model No.

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

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	-	10 to 30	-	5 to 30	M2H□	M2V□	
	2-Color		-	10 to 30	-	5 to 30	-	M2WV□	
	1-Color	3-wire (NPN)	-	30 or less	-	100 or less	M3H□	M3V□	
	2-Color		-	30 or less	-	100 or less	-	M3WV□	
	1-Color (Custom order)	3-wire (PNP)	-	30 or less	-	100 or less	M3PH□	M3PV□	
	2-Color	2-wire	-	24 ± 10%	-	5 to 20	T2WH□	T2WV□	
		3-wire (NPN)	-	30 or less	-	50 or less	T3WH□	T3WV□	
	2-Color Improved Water Resistance	2-wire	-	24 ± 10%	-	5 to 20	T2WLH□	T2WLV□	 *2
	2-Color for AC Magnetic Field		-	24 ± 10%	-		T2YD□	-	
			-		-		T2YDT□	-	
Reed	1-Color	2-wire	110	12/24	7 to 20	5 to 50	M0H□	M0V□	
	No Indicator LED		110	5/12/24	20 or less	50 or less	M5H□	M5V□	

*4

*Lead wire length, connector specification

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)
W	M8 Connector, 1PIN (+), 4PIN (−) Lead Wire 0.3 m

*4: T2WLH and T2WLV only can be selected.

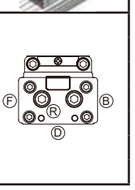
Ex) Lead wire length
1 m M0V
3 m M0V3
5 m M0V3

*1: Insert the Code selected in the "Lead wire length, connector specifications" table into "□" of the switch model number.
*2: It does not guarantee the water resistance performance of the cylinder.
*3: Switches other than the above switch model numbers are also available. (Custom Product) For details, see P. 1457.

❼Number of Switches

Code	Content
R	With 1 pc on R side
L	With 1 pc on L side
D	With 2 pcs
T	With 3 pcs
4	With 4 pcs (If 4 or more, enter the number of switches)

❽Option

	Code	Description	Bore Size (ø) equivalent 12	16	20	25	32	40	50	63	80	100	
	A	Full stroke adjustment both sides, with shock absorber	●	●	●	●	●	●	●	●	●	●	
	A1	Full stroke adjustment R side only, with shock absorber	●	●	●	●	●	●	●	●	●	●	
	A2	Full stroke adjustment L side only, with shock absorber	●	●	●	●	●	●	●	●	●	●	
	A3	Full Stroke Adjustment Bracket Retrofit Type	●	●	●	●							
	Y	Floating Joint	●	●	●	●	●	●	●	●	●	●	
	Y1	Low Profile Type Floating Joint	●	●	●	●	●	●	●	●			
*1	L*	Intermediate Support Bracket (for 00, LB)	●	●	●	●	●	●	●	●	●	●	
*1	N*	With Intermediate Support Bracket (for LB1)	●	●	●	●	●						
*4	H	Table Mounting Screw Size Up	●	●	●								
	U	Height Adjustment Plate	●	●	●	●	●	●	●	●	●	●	
	Blank	Port Position: F (Standard) / Cushion Needle Position: F (Standard)	●	●	●	●	●	●	●	●	●	●	
	R	Port Position: R (Centralized Port) / Cushion Needle Position: F	●	●	●	●	●	●	●	●	●	●	
	B	Port Position: F / Cushion Needle Position: B	●	●	●	●	●	●	●	●	●	●	
	T	Port Position: R (Centralized Port) / Cushion Needle Position: B	●	●	●	●	●	●	●	●	●	●	
	D	Port Position: D / Cushion Needle Position: F				●	●	●	●	●	●	●	
	S	Port Position: D / Cushion Needle Position: D					●	●	●	●	●	●	
	X	Port Position: F (Centralized Port) / Cushion Needle Position: F									●	●	

*1: The Code "□" in L□, N□ indicates the number of sets. If 2 sets are required, enter "L2" (for LB) or "N2" (for LB1). 2 pcs / 1 set
*2: For port and cushion needle position display symbols, please refer to the external dimensions diagrams on pages 16 to 19.
*3: For standard types ø12 to ø25 equivalent, it is necessary to remove the cover, assemble the plate nut, and retrofit the full stroke adjustment bracket. A3 is an option with a mounting plate nut assembled for retrofitting the full stroke adjustment bracket without removing the cover.
*4: "H" means screw size is "M4" for ø12, ø16 equivalent and "M5" for ø20 equivalent.
*5: Be sure to check the combination of options in the "Option Combination Table" on the next page.
*6: If ❶mounting method "LB1" is selected, options "D" or "S" cannot be selected.

Rechargeable Battery Compatible Specification (Catalog No. CC-1226AA)

●Design compatible with rechargeable battery manufacturing process

SRL3- ···· - P4*

*Please contact us for details.

Food Manufacturing Process Compatible Specification (Catalog No. CC-1271AA)

●Uses food grade grease that can be used in food manufacturing processes

SRL3- ···· - FP1

Option Combination Table

●: Combinable　□: Not Combinable

		Option																
		Full stroke adjustment both sides, with shock absorber	Full stroke adjustment R side only, with shock absorber	Full stroke adjustment L side only, with shock absorber	Full Stroke Adjustment Bracket Retrofit Type	Floating Joint	Low Profile Floating Joint	Intermediate support bracket for 00LB	Intermediate Support Bracket (for LB1)	Table Mounting Screw Size Up	Height Adjustment Plate	Port position F, Cushion needle position F (Standard)	Port position R, Cushion needle position F (Centralized port)	Port position F, Cushion needle position B	Port position R, Cushion needle position B(Centralized port)	Port position D, Cushion needle position F	Port position D, Cushion needle position D	Port position F, Cushion needle position F(Centralized port)
	Code	A	A1	A2	A3	Y	Y1	L*	N*	H	U	Blank	R	B	T	D	S	X
Option	A	\	□	□	□	●	●	●	●	●	●	●	●	●	●	●	●	●
	A1		\	□	□	●	●	●	●	●	●	●	●	●	●	●	●	●
	A2			\	□	●	●	●	●	●	●	●	●	●	●	●	●	●
	A3				\	●	●	●	●	●	●	●	●	●	●	●	●	□
	Y					\	□	●	●	□	□	●	●	●	●	●	●	●
	Y1						\	●	●	□	□	●	●	●	●	●	●	□
	L*							\	□	●	●	●	●	●	●	●	●	●
	N*								\	●	●	●	●	●	●	●	●	□
	H									\	□	●	●	●	●	●	●	□
	U										\	●	●	●	●	●	●	●
	Blank											\	□	□	□	□	□	□
	R												\	□	□	□	□	□
	B													\	□	□	□	□
	T														\	□	□	□
	D															\	□	□
	S																\	□
	X																	\

***1: Depending on the Bore Size, some combinations may not be possible, so be sure to check the option column in the "Model Number Notation Method" ❽ on the previous page.**

*2: If ❶mounting method "LB1" is selected, ❽options “D” or “S” cannot be selected.

Switch Individual Model No. Notation **(For parts composition, please refer to Pages 88 to 90.)**

●Switch body+Mounting bracket set (*1)

SRL3 - M0H

❻Switch Model No.

●Switch body only

SW - M0H

❻Switch Model No.

●Mounting bracket complete set (*2)

• M Type Switch

SRL3 - M

• T Type Switch

SRL3 - T

● Lead wire holder (*3)

SRL3 - MH

*1: The switch body + mounting bracket set does not include a lead wire holder.
If a lead wire holder is required, please order it separately.
*2: The mounting bracket is different for M type switch and T type switch.
*3: Lead wire holder is 10 pcs/1 set.

● How to order discrete shock absorber

(1 Shock absorber, 1 Hexagon Nut for fixing shock absorber)

SRL3 - 40 - NCK

❷Bore Size

Note: The Hexagon Nut for fixing SRL3-40 Shock Absorbers only differs from the NCK standard nut.

Applicable Shock Absorber Model No.

Model	Shock Absorber Model No.
SRL3-12	NCK-00-0.3-C
SRL3-16	NCK-00-0.3-C
SRL3-20	NCK-00-0.7-C
SRL3-25	NCK-00-1.2
SRL3-32	NCK-00-2.6
SRL3-40	NCK-00-7
SRL3-50	NCK-00-12
SRL3-63	NCK-00-12
SRL3-80	NCK-00-20
SRL3-100	NCK-00-20

●Floating Joint Set Model No. Notation

(Mount, Mount Base, Pin, Flat Washer, Pan Head Screw with Spring Washer, 4 Mounting Bolts)

SRL3 - 40 - Y

❷Bore Size

● How to order discrete intermediate support bracket

For 00, LB

SRL3 - 40 - L　(2 pcs / 1 set)

❷Bore Size

For LB1

SRL3 - 32 - N　(2 pcs / 1 set)

❷Bore Size

● How to order full stroke adjusting bracket kit

SRL3 - 40 - A1　(1 Set)

❷Bore Size

(For parts composition, please refer to the full stroke adjustment bracket kit on P. 89.)

●Mounting Bracket Model No. Notation

(2 Brackets, 4 Mounting Bolts)

SRL3 - LB - 40

❶Mounting type　❷Bore Size

● How to order height adjustment plate set

(Plate, 4 Mounting Bolts)

SRL3 - 40 - U

❷Bore Size

Specifications

Item		SRL3								
Bore Size	mm	ø12 equivalent	ø16 equivalent	ø20 equivalent	ø25 equivalent	ø32 equivalent	ø40 equivalent	ø50 equivalent	ø63 equivalent	ø80 equivalent	ø100 equivalent
Operation Method		Double Acting Type									
Operating Fluid		Compressed Air									
Max Operating Pressure	MPa	0.7									
Min Operating Pressure	MPa	0.2			0.1				0.05		
Proof Pressure	MPa	1.05									
Ambient Temperature	°C	5 to 60									
Port Size		M5		Rc 1/8		Rc 1/4		Rc 3/8		Rc 1/2	
Stroke tolerance	mm	v(To 1000), $^{+2.5}_{0}$ (To 3000), $^{+3.0}_{0}$ (To 5000)									
Operating Piston Speed	mm/s	50 to 2000 (Standard Port Piping) *1									
Cushion		Air Cushion									
Lubrication		Not required (If lubricating, use Turbine Oil Class 1 ISO VG32. Note that once lubrication is started, it must be continued.)									

*1: The operating piston speed for centralized port piping varies depending on the stroke, so please consult us separately.

Allowable Absorption Energy

Bore Size (mm)	With Cushion		Without Cushion	With Shock Absorber (Initial Setting)	
	Allowable Absorption Energy (J)	Cushion Stroke (mm)	Allowable Absorption Energy (J)	Absorption Energy (J)	Effective Stroke (mm)
ø12 equivalent	0.03	14.5	0.003	2.4	5.5
ø16 equivalent	0.22	19.2	0.007	2.4	5.5
ø20 equivalent	0.59	22.2	0.010	5.7	7
ø25 equivalent	1.40	20.9	0.015	10	9
ø32 equivalent	2.57	23.5	0.030	18	13
ø40 equivalent	4.27	23.9	0.050	50	16.5
ø50 equivalent	9.13	24.9	0.072	86	21
ø63 equivalent	17.4	29.6	0.138	86	21
ø80 equivalent	40	45.8	0.393	143	25
ø100 equivalent	67	45.8	0.622	143	25

Stroke

Bore Size (mm)	Standard Stroke (mm)	Max Stroke (mm)	Min Stroke (mm)
ø12 equivalent ø16 equivalent ø20 equivalent ø25 equivalent ø32 equivalent ø40 equivalent ø50 equivalent ø63 equivalent ø80 equivalent ø100 equivalent	200, 300 400, 500 600, 700 800, 900 1000	5000	1

Note: Intermediate strokes can be manufactured in 1 mm increments.

M Type Switch Mounting Quantity and Minimum Stroke (mm)

Switch Qty	1		2	
Switch Model No. / Bore Size (mm)	M□V	M□H	M□V	M□H
ø12 equivalent	10	10	30	45 (70)
ø16 equivalent	10	10	30	45 (70)
ø20 equivalent	10	10	30	45 (70)
ø25 equivalent	10	10	30	45 (70)
ø32 equivalent	10	10	30	45
ø40 equivalent	10	10	30	45
ø50 equivalent	15	15	30	45
ø63 equivalent	15	15	30	45
ø80 equivalent	25		50	
ø100 equivalent	25		50	

Note: In the case of full stroke adjustment, the minimum stroke with switch is shown in ( ).

T Type Switch Mounting Quantity and Minimum Stroke (mm)

Switch Qty	1				2			
Switch Model No. / Bore Size (mm)	T□V	T2WLV	T□H	T2WLH	T□V	T2WLV	T□H	T2WLH
ø12 equivalent	5	5	5	5 (11)	45	35	50 (70)	56 (82)
ø16 equivalent	5	5	5	5 (11)	45	35	50 (70)	56 (82)
ø20 equivalent	5	5	5	5 (11)	45	35	50 (70)	56 (82)
ø25 equivalent	10	10	10	10 (16)	45	35	50 (70)	56 (82)
ø32 equivalent	10	10	10	10	45	35	50	56
ø40 equivalent	10	10	10	10	45	35	50	56
ø50 equivalent	10	10	10	10	45	35	50	56
ø63 equivalent	10	10	10	10	45	35	50	56
ø80 equivalent	15	15	15	15	45	35	50	56
ø100 equivalent	15	15	15	15	45	35	50	56

Note: In the case of full stroke adjustment, the minimum stroke with switch is shown in ( ).

Cylinder Weight

Unit: kg

Bore Size (mm)	Weight at 0 mm Stroke				Switch Mounting bracket Weight		Additional Weight per 100 mm Stroke
	Basic type (00)	Foot type		Switch Weight	T Type	M Type	
		(LB)	(LB1)				
ø12 equivalent	0.24	0.25	0.26	Refer to the mass described in the switch specifications on P. 1457.	0.005	0.001	0.10
ø16 equivalent	0.32	0.33	0.35				0.13
ø20 equivalent	0.52	0.54	0.58				0.18
ø25 equivalent	1.0	1.1	1.1				0.28
ø32 equivalent	1.5	1.6	1.7				0.36
ø40 equivalent	2.4	2.5	-				0.53
ø50 equivalent	3.5	3.6	-				0.75
ø63 equivalent	6.1	6.4	-				1.11
ø80 equivalent	18.4	19.0	-				2.32
ø100 equivalent	26.2	27.2	-				3.38

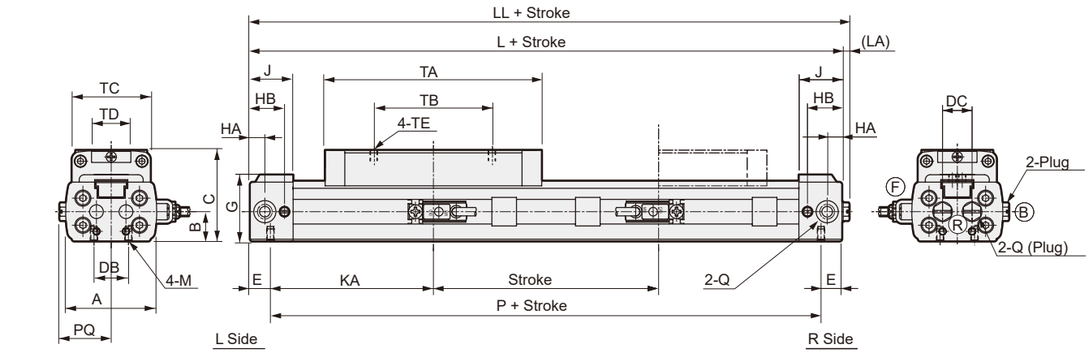
Theoretical Thrust Table

(Unit: N)

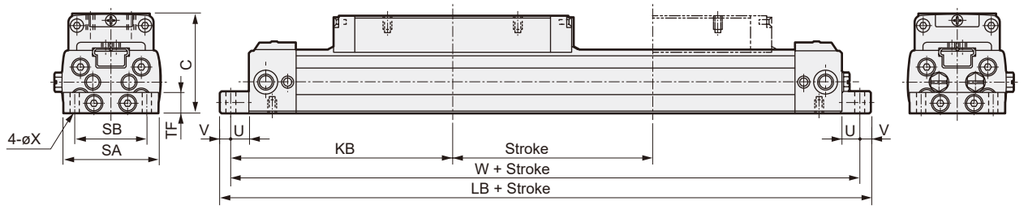
Bore Size (mm)	Operating Direction	Operating Pressure MPa							
		0.05	0.1	0.2	0.3	0.4	0.5	0.6	0.7
ø12 equivalent	Push/Pull	-	-	27.7	41.5	55.3	69.1	83.0	96.8
ø16 equivalent	Push/Pull	-	-	43.2	64.8	86.4	1.08×10^{2}	1.30×10^{2}	1.51×10^{2}
ø20 equivalent	Push/Pull	-	-	62.9	94.4	1.26×10^{2}	1.57×10^{2}	1.89×10^{2}	2.20×10^{2}
ø25 equivalent	Push/Pull	-	54.2	1.08×10^{2}	1.63×10^{2}	2.17×10^{2}	2.71×10^{2}	3.25×10^{2}	3.80×10^{2}
ø32 equivalent	Push/Pull	-	81.4	1.63×10^{2}	2.44×10^{2}	3.26×10^{2}	4.07×10^{2}	4.88×10^{2}	5.70×10^{2}
ø40 equivalent	Push/Pull	-	1.27×10^{2}	2.53×10^{2}	3.80×10^{2}	5.06×10^{2}	6.33×10^{2}	7.60×10^{2}	8.86×10^{2}
ø50 equivalent	Push/Pull	-	1.99×10^{2}	3.98×10^{2}	5.96×10^{2}	7.95×10^{2}	9.94×10^{2}	1.19×10^{3}	1.39×10^{3}
ø63 equivalent	Push/Pull	1.57×10^{2}	3.14×10^{2}	6.27×10^{2}	9.41×10^{2}	1.25×10^{3}	1.57×10^{3}	1.88×10^{3}	2.20×10^{3}
ø80 equivalent	Push/Pull	2.53×10^{2}	5.06×10^{2}	1.01×10^{3}	1.52×10^{3}	2.03×10^{3}	2.53×10^{3}	3.04×10^{3}	3.54×10^{3}
ø100 equivalent	Push/Pull	3.96×10^{2}	7.91×10^{2}	1.58×10^{3}	2.37×10^{3}	3.16×10^{3}	3.95×10^{3}	4.74×10^{3}	5.53×10^{3}

External Dimensions (Bore Size: ø12 to ø20 equivalent)

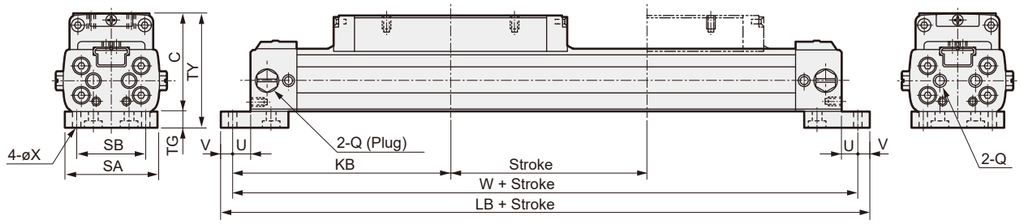
● SRL3-12 to 20



● With Foot Bracket SRL3-LB-12 to 20



● With Foot Bracket SRL3-LB1-12 to 20



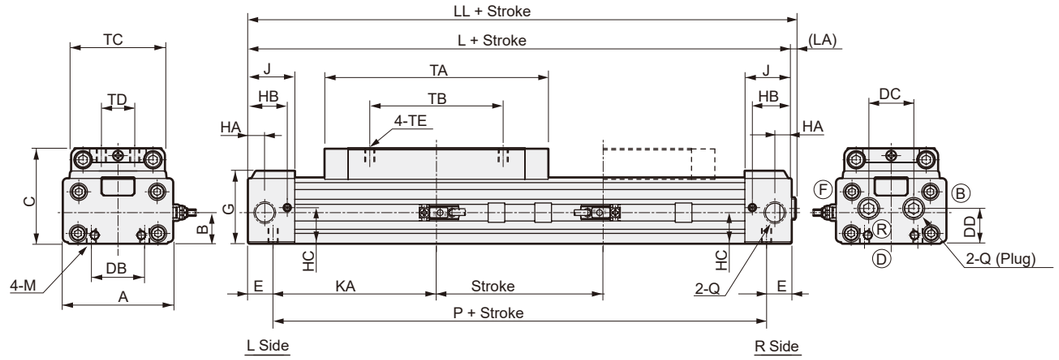
Code / Bore Size (mm)	A	B	C	DB	DC	E	G	HA	HB	J	KA	L	LL	LA	M	P	PQ	Q	TA	TB	TC	TD	TE
ø12 equivalent	33	10.5	33	10	11	8.5	24	6	14	17.5	59.5	136	139	3	M3 Depth 5	119	19	M5	81	42	29	13	M3 Depth 5
ø16 equivalent	37	12	37	14	12	8.5	27	6	14	17.5	66	149	152	3	M3 Depth 5	132	21	M5	88	48	32	15	M3 Depth 5
ø20 equivalent	44	14	42	16	16	10.5	31	8.5	18.5	22	74	169	171.5	2.5	M4 Depth 6.5	148	24.5	Rc 1/8	100	60	38	18	M4 Depth 6

Code	With Foot Bracket (LB)									With Foot Bracket (LB1)									
Bore Size (mm)	KB	LB	SA	SB	TF	U	V	W	X	KB	LB	SA	SB	TG	TY	U	V	W	X
ø12 equivalent	74	156	32	24	8	6	4	148	3.4	74	156	32	24	6	39	6	4	148	3.4
ø16 equivalent	80.5	169	35	26	8	6	4	161	3.4	80.5	169	35	26	6	43	6	4	161	3.4
ø20 equivalent	90.5	193	43	33	10	6	6	181	4.5	90.5	193	43	33	8	50	6	6	181	4.5

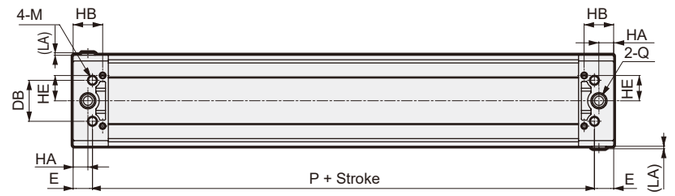
Note: For external dimensions diagrams with options and with each switch, please refer to P. 20 to 23 and 86.

External Dimensions (Bore Size: ø25 to ø63 equivalent)

● SRL3-25 to 63



● Bottom piping (option code: D/S)



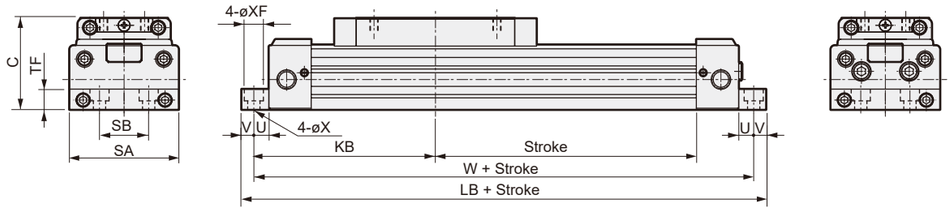
Code / Bore Size (mm)	A	B	C	DB	DC	DD	E	G	HA	HB	HC	HE	J	KA
ø25 equivalent	53	17	53	20	26	19	14	40.5	7.5	20	18.9	-	24	81
ø32 equivalent	66	18.5	57	32	27	21	15	43.5	10	23.5	21.5	17	28	98
ø40 equivalent	80	22	67	36	35	28	17	51.5	13	26	27	22.3	31	105
ø50 equivalent	96	28	82	45	35	35	23	61	15	33	35.3	11	39	106
ø63 equivalent	118	35	95	50	39	42	19	74	15	32	43	31	39	129

Code / Bore Size (mm)	L	LL	LA	M	P	Q	TA	TB	TC	TD	TE
ø25 equivalent	190	192	2	M6 Depth 9	162	Rc 1/8	122	70	48	20	M5 Depth 6
ø32 equivalent	226	228.5	2.5	M6 Depth 9	196	Rc 1/4	134	80	56	20	M6 Depth 7.5
ø40 equivalent	244	246.5	2.5	M8 Depth 12	210	Rc 1/4	148	90	68	30	M6 Depth 9
ø50 equivalent	258	260.5	2.5	M8 Depth 12	212	Rc 3/8	152	100	80	30	M8 Depth 10.5
ø63 equivalent	296	298.5	2.5	M10 Depth 15	258	Rc 3/8	168	110	102	40	M8 Depth 11.5

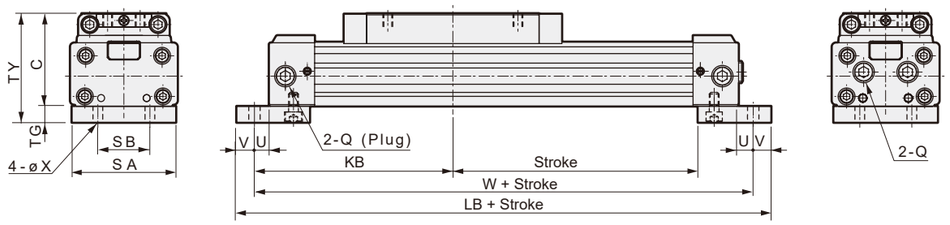
***1: Refer to P. 20 to 23, and 86 for dimensions with options and with switches.**
*2: For ø25 equivalent, option: S is not available.

External Dimensions (Bore Size: ø25 to ø63 equivalent)

● With Foot Bracket SRL3-LB-25 to 63



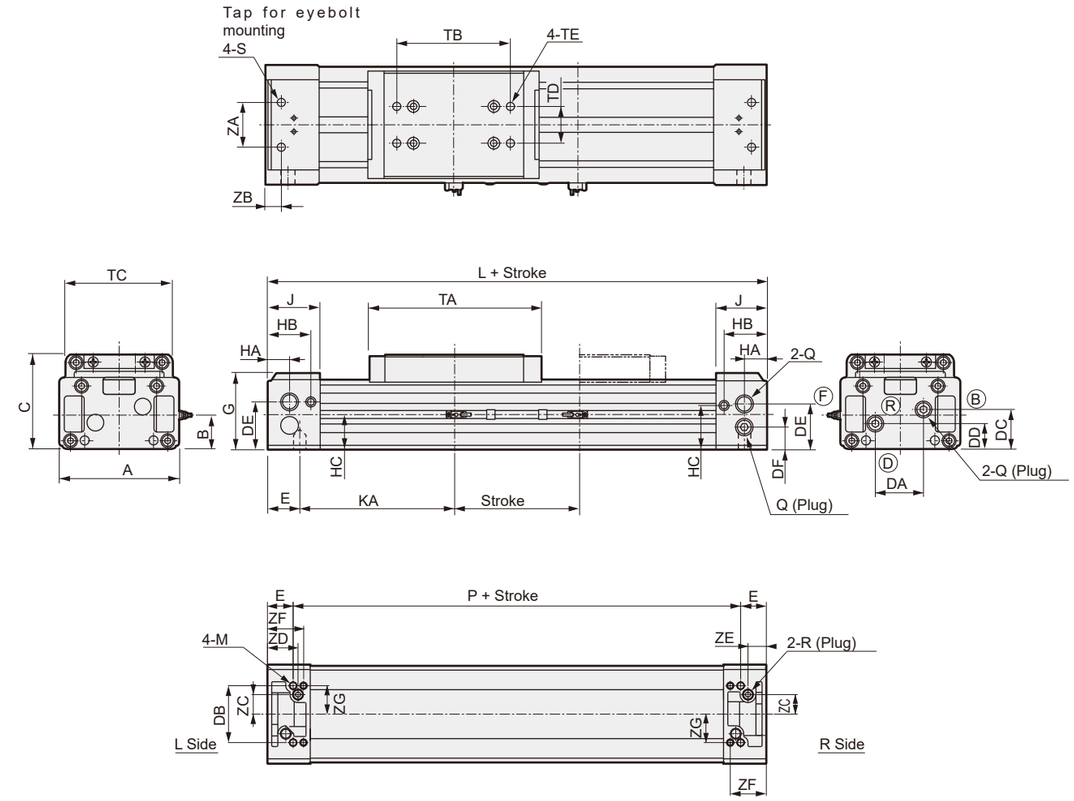
● With Foot Bracket SRL3-LB1-25, 32 (Supports ø40 to ø63 or equiv. mounting: there is no LB1)



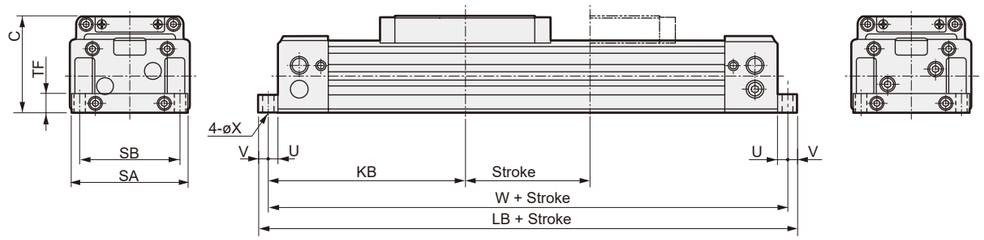
Code	With Foot Bracket (LB)										With Foot Bracket (LB1)									
Bore Size (mm)	KB	LB	SA	SB	TF	U	V	W	X	XF	KB	LB	SA	SB	TG	TY	U	V	W	X
ø25 equivalent	104	230	52	20	12	9	11	208	7	-	104	230	50	20	10	63	9	11	208	7
ø32 equivalent	122	266	64	32	12	9	11	244	7	-	122	266	64	32	10	67	9	11	244	7
ø40 equivalent	133	284	80	36	15	11	9	266	9	14 Counterbore Depth 8.6	-	-	-	-	-	-	-	-	-	-
ø50 equivalent	140	298	94	45	20	11	9	280	9	14 Counterbore Depth 8.6	-	-	-	-	-	-	-	-	-	-
ø63 equivalent	161	346	116	50	25	13	12	322	11	17.5 Counterbore Depth 10.8	-	-	-	-	-	-	-	-	-	-

External Dimensions (Bore Size: ø80 to ø100 equivalent)

● SRL3-80 to 100



● With Foot Bracket SRL3-LB-□□-□□□



Code	A	B	C	DA	DB	DC	DD	DE	DF	E	G	HA	HB	HC	J	KA	L	M	P	Q	R	S
Bore Size (mm)																						
ø80 equivalent	162	49	130	64	93	58	38	65	33	42	106	30	59	64.5	70	208	500	M12 Depth 18	416	Rc 1/2	Rc 3/8	M12 Depth 23
ø100 equivalent	198	61.5	150	73	108	71.5	47.5	81.5	41.5	43	125	30	69	76.5	80	222	530	M12 Depth 18	444	Rc 1/2	Rc 1/2	M12 Depth 23

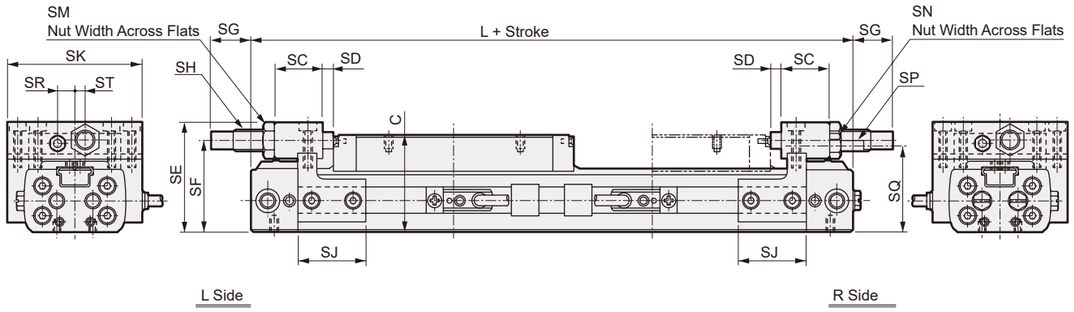
Code	TA	TB	TC	TD	TE	ZA	ZB	ZC	ZD	ZE	ZF	ZG	With Foot Bracket (LB)								
Bore Size (mm)													KB	LB	SA	SB	TF	U	V	W	X
ø80 equivalent	228	150	146	50	M12 Depth 15	60	21	32	50	30	59	46.5	263	550	162	134	25	13	12	526	14
ø100 equivalent	238	160	170	60	M12 Depth 15	60	21	36.5	55	30	69	54	280	590	198	160	30	15	15	560	14

Note: For external dimensions diagrams with options and with each switch, please refer to P. 20 to 23, and 86.

External Dimensions with Options

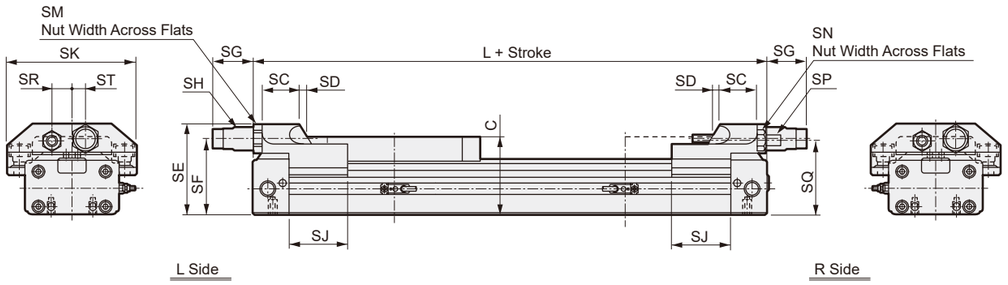
● With full stroke adjusting Shock Absorbers (SRL3)

· Equivalent to ø12 to ø25



Code / Bore Size (mm)	SC	SD	SE	SF	SG			SH		SJ	SK	SM	SN	SP	SQ	SR	ST	C	L
					At MAX	At MIN	Adjustment Range	Thread Diameter	Max Absorption Energy J										
ø12 equivalent	19.5	2.5	40	32	17.5	7.5	10	M8×0.75	3	25	45	12	5.5	M3	30.5	6	3	33	136
ø16 equivalent	18	4	42	35	14.5	4.5	10	M8×0.75	3	25	49	12	5.5	M3	34	6	4	37	149
ø20 equivalent	22.5	3.5	48	40	14.5	4.5	10	M10×1.0	7	39	57	14	7	M4	38	8	5	42	169
ø25 equivalent	20	2.5	62.5	51.5	14.5	4.5	10	M12×1.0	12	50	77	17	10	M6	50	12	10	53	190

• ø32 to ø63 equivalent

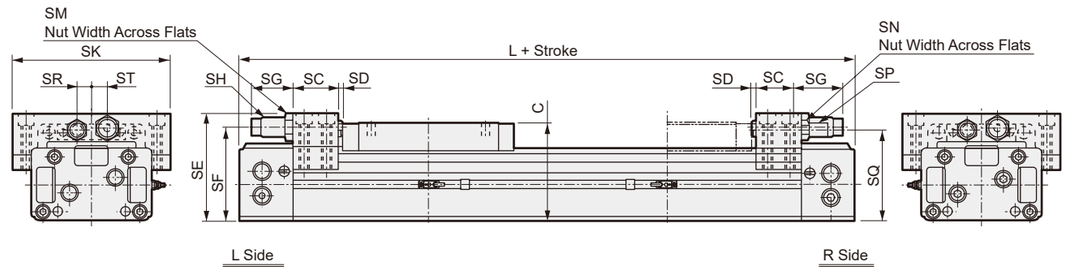


Code / Bore Size (mm)	SC	SD	SE	SF	SG			SH		SJ	SK	SM	SN	SP	SQ	SR	ST	C	L
					At MAX	At MIN	Adjustment Range	Thread Diameter	Max Absorption Energy J										
ø32 equivalent	22	7	66.5	55.5	27	17	10	M14×1.5	26	46	98	19	13	M8	53.5	14	12	57	226
ø40 equivalent	32	7	78.5	65.5	34	24	10	M20×1.5	70	51	112	24	17	M10	63.5	17	12	67	244
ø50 equivalent	38	8	99	80	55	45	10	M25×1.5	120	53	136	32	19	M12	77.5	22	17	82	258
ø63 equivalent	38	8	112	93.5	44	34	10	M25×1.5	120	64	158	32	24	M16	89	25	20	95	296

External Dimensions with Options

● Full stroke adjustable with shock absorber

· Equivalent to ø80, ø100

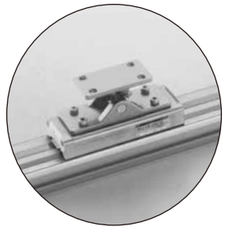


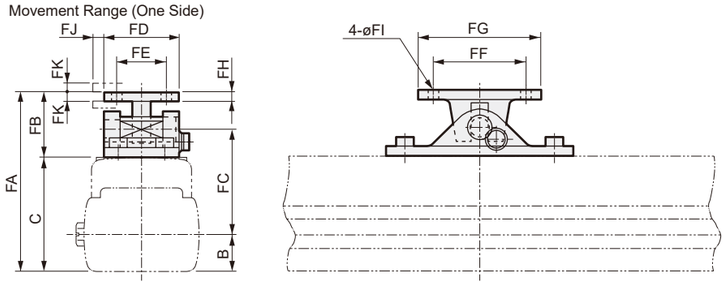
Code / Bore Size (mm)	SC	SD	SE	SF	SG			SH		SK	SM	SN	SP	SQ	SR	ST	C	L
					At MAX	At MIN	Adjustment Range	Thread Diameter	Max Absorption Energy J									
ø80 equivalent	60	6	145	125.5	50	40	10	M27×1.5	200	214	32	27	M20	123	20	20	130	500
ø100 equivalent	60	6	164	144.5	50	40	10	M27×1.5	200	250	32	27	M20	142	20	20	150	530

External Dimensions with Options

● Floating fitting (Y)

Material: Steel
Zinc Chromate

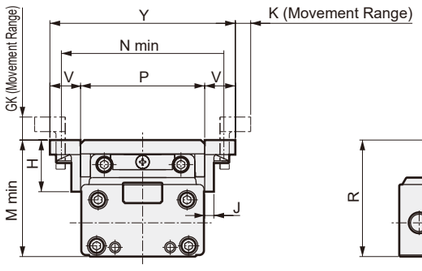




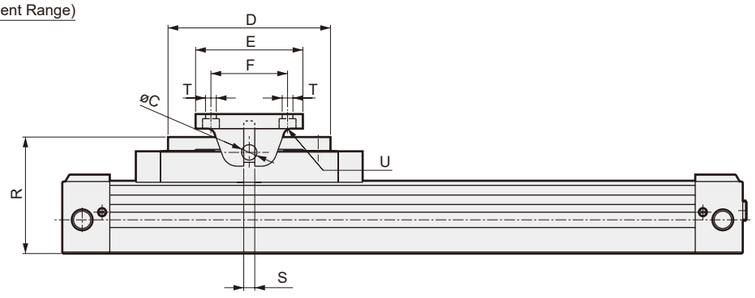
Code / Bore Size (mm)	FA	FB	FC	FD	FE	FF	FG	FH	FI	FJ	FK	B	C
ø12 equivalent	54	21	31.5	24	16	30	40	3	3.4	3	3	10.5	33
ø16 equivalent	58	21	34	24	16	30	40	3	3.4	3	3	12	37
ø20 equivalent	67	25	39	30	20	40	56	4	4.5	3	3	14	42
ø25 equivalent	78	25	47	30	20	40	56	4	6	3	3	17	53
ø32 equivalent	95	38	55.5	45	30	50	70	6	7	5	5	18.5	57

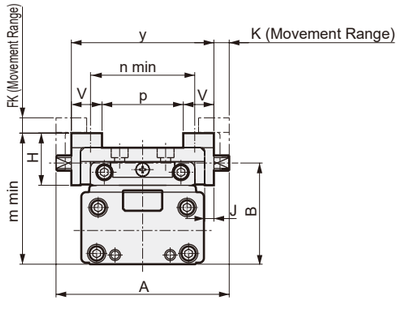
Code / Bore Size (mm)	FA	FB	FC	FD	FE	FF	FG	FH	FI	FJ	FK	B	C
ø40 equivalent	105	38	62	45	30	50	70	6	7	5	5	22	67
ø50 equivalent	126	44	73	60	40	70	90	8	9	5	5	28	82
ø63 equivalent	139	44	79	60	40	70	90	8	9	5	5	35	95
ø80 equivalent	188	58	107	80	50	90	120	11	14	10	5	49	130
ø100 equivalent	220	70	120.5	90	60	110	140	13	14	10	5	61.5	150

● Thin floating fitting (Y1) ø12 to ø63 or equiv.

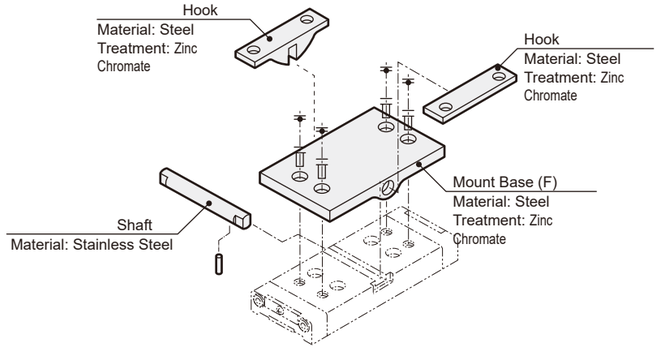


[Hook Outward Mounting]





[Hook Inward Mounting]



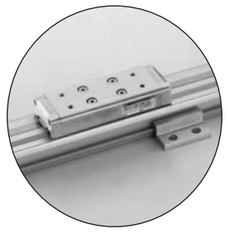
Code / Bore Size	A	B	C	D	E	F	H	J	K	FK	GK	M min	m min	N min	n min	P	p	R	S	V	Y	y	T	U
ø12 equivalent	52	32	5	60	40	30	20	3	6	6	9	38	43	47.5	26.5	34	16	38	3.5	12	58	40	ø3.4	ø6.5 Counterbore Depth 3.3
ø16 equivalent	56	36.5	5	60	40	30	20	3	6	6	9	42	47	51.5	30.5	38	20	42	3.5	12	62	44	ø3.4	ø6.5 Counterbore Depth 3.3
ø20 equivalent	64	41	6	84	56	40	24.5	4	6	6	9	48.5	56.5	62	34	44	22	48.5	4	15	74	52	ø4.5	ø8 Counterbore Depth 4.4
ø25 equivalent	74	53	6	84	56	40	24.5	4	6	6	9	60.5	68.5	72	44	54	32	60.5	4	15	84	62	ø5.5	ø9.5 Counterbore Depth 5.4
ø32 equivalent	99	56.5	8	106	70	50	34	6	10	10	15	66	75.5	92	54	67	39	66	5.5	20	107	79	ø6.6	ø11 Counterbore Depth 6.5
ø40 equivalent	113	66	10	116	70	50	34	6	10	10	15	76	85.5	106	68	81	53	76	7	20	121	93	ø6.6	ø11 Counterbore Depth 6.5
ø50 equivalent	133	81	12	120	90	70	43	8	10	10	15	93	106	129	81	97	63	93	8.5	25	147	113	ø9	ø14 Counterbore Depth 8.6
ø63 equivalent	155	94	14	136	90	70	43	8	10	10	15	108	120	151	103	119	85	107	10	25	169	135	ø9	ø14 Counterbore Depth 8.6

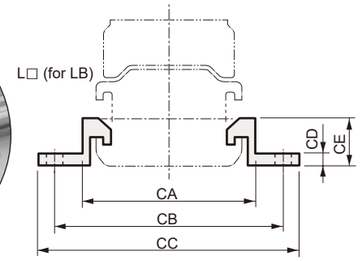
External Dimensions with Options

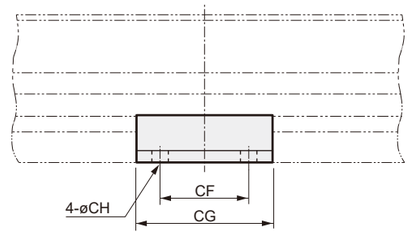
● Intermediate support bracket (L□N□)

(This bracket is an auxiliary bracket for preventing deflection.)

Material: Aluminum Alloy
Alumite



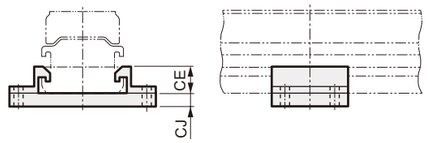




Code / Bore Size (mm)	CA	CB	CC	CD	CE	CF	CG	CH	CJ
ø12 equivalent	38	52	60	3	11	16	30	4	6
ø16 equivalent	42	56	64	3	12	20	35	4	6
ø20 equivalent	49	64	75	4	14	20	38	5	8
ø25 equivalent	60	76	88	6	19.5	20	40	7	10
ø32 equivalent	74	88	100	6	21.5	20	40	7	10
ø40 equivalent	90	108	124	6	24.5	30	60	9	-
ø50 equivalent	106	124	140	8	30.5	30	60	9	-
ø63 equivalent	130	152	172	10	38.5	50	90	11	-
ø80 equivalent	172	210	236	12	32	60	110	14	-
ø100 equivalent	208	246	272	12	32	60	110	14	-

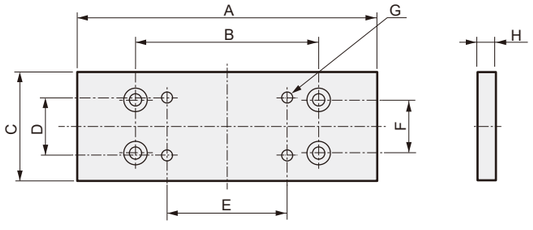
L□ (for 00, LB) N□ (for LB1)

N□ (for LB1)



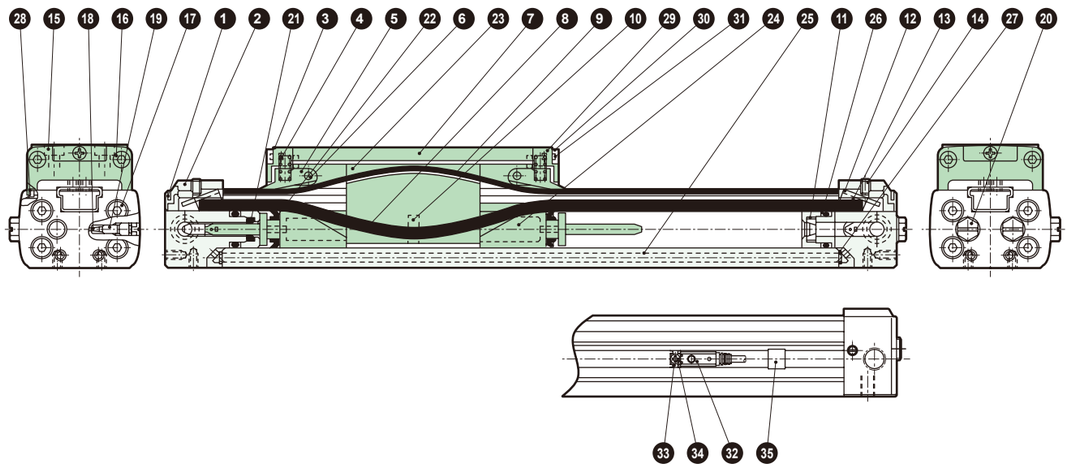
● Height adjustment plate (U)

Material: Aluminum Alloy
Alumite



Code / Bore Size	A	B	C	D	E	F	G	H
ø12 equivalent	80	42	29	16	30	13	4-M3 Through	8
ø16 equivalent	87	48	32	16	30	15	4-M3 Through	6
ø20 equivalent	99	60	38	20	40	18	4-M4 Through	7
ø25 equivalent	121	70	48	20	40	20	4-M5 Through	10.5
ø32 equivalent	134	80	56	30	50	20	4-M6 Through	10.5
ø40 equivalent	147	90	68	30	50	30	4-M6 Through	12.5
ø50 equivalent	151	100	80	40	70	30	4-M8 Through	18
ø63 equivalent	167	110	102	40	70	40	4-M8 Through	18
ø80 equivalent	227	150	146	50	90	50	4-M12 Through	18
ø100 equivalent	237	160	170	60	110	60	4-M12 Through	18

Internal Structure / Material (Bore Size: ø12 to ø40 equivalent)

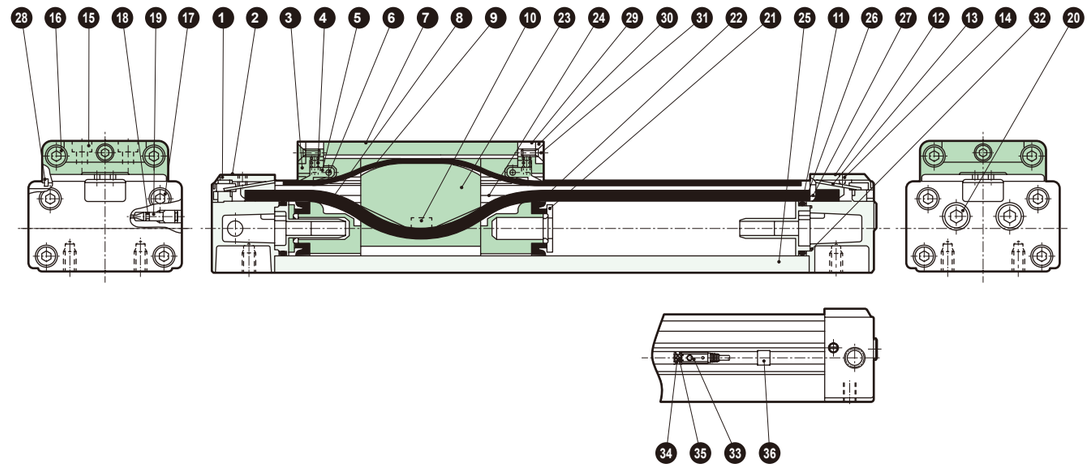


No.	Part Name	Material	Remarks
1	Belt Cover	Polyamide	
2	Cover (L)	Aluminum Alloy	Baked Painting
3	Table Cover	Polyacetal	
4	Spring	Steel	Black Oxide
5	Belt Holder	Polyacetal	
6	Parallel Pin (ø12 to ø20)	Stainless Steel	
	Shaft (ø25 to ø40)	Steel	Zinc Chromate
7	Table	Aluminum Alloy	Alumite
8	Seal Belt	Urethane Rubber	
9	Dustproof Belt	Stainless Steel, Nitrile Rubber	
10	Magnet		
11	Cushion Adapter	Polyacetal	
12	Cover (R)	Aluminum Alloy	Baked Painting
13	Belt Spacer	Steel	Zinc Chromate
14	Hexagon Socket Set Screw	Alloy Steel	Zinc Chromate
15	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
16	Hexagon Socket Head Cap Screw	Stainless Steel	
17	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
18	Needle Gasket	Nitrile Rubber	
19	Cushion Needle	Steel	Zinc Chromate

Part No.	Part Name	Material	Remarks
20	Plug	ø12, ø16: Copper Alloy ø20 to ø40: Steel	ø12, ø16: Zinc Chromate ø20 to ø40: Nickel Plating
21	Cushion Seal	Urethane Rubber	
22	Piston Packing	Nitrile Rubber	
23	Yoke	Aluminum Alloy	Alumite
24	Piston	Polyacetal	
25	Cylinder Tube	Aluminum Alloy	Alumite
26	Cylinder Gasket	Nitrile Rubber	
27	O-ring for Centralized Port	Nitrile Rubber	
28	Scraper	Polyacetal	
29	Double-sided Tape		
30	Plate	ø12 to ø20: Stainless Steel ø25 to ø40: Alloy Steel	ø25 to ø40: Zinc Chromate
31	Cross-Recessed Tapping Screw	Stainless Steel	
With Switch			
32	Switch		
33	Mounting bracket	Stainless Steel	
34	Cross-Recessed Pan Head Screw	Stainless Steel	
35	Lead Wire Holder	Polyacetal	

For maintenance parts, please visit the CKD Equipment Product Site (https: //www.ckd.co.jp/kiki/en/) → "model No." → Maintenance Parts.

Internal structure diagram / Material (Bore Size: Equivalent to ø50 to ø63)

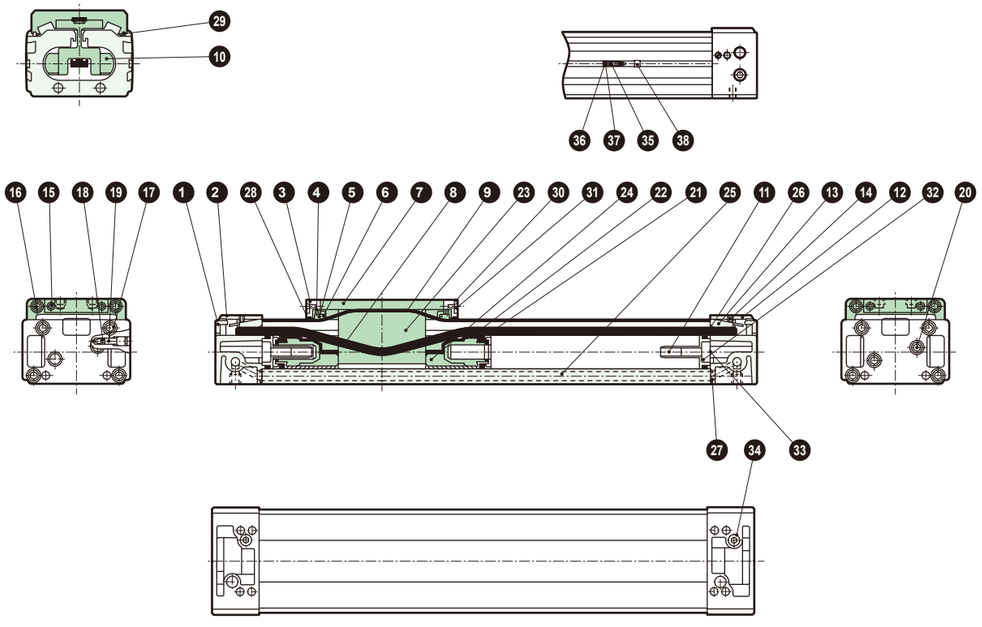


No.	Part Name	Material	Remarks
1	Belt Cover	Polyamide	
2	Cover (L)	Aluminum Alloy	Baked Painting
3	Table Cover	Polyacetal	
4	Spring	Steel	Black Oxide
5	Belt Holder	Polyacetal	
6	Shaft	Steel	Zinc Chromate
7	Table	Aluminum Alloy	Alumite
8	Seal Belt	Urethane Rubber	
9	Dustproof Belt	Stainless Steel, Nitrile Rubber	
10	Magnet		
11	Cushion Ring	Polyacetal	
12	Cover (R)	Aluminum Alloy	Baked Painting
13	Belt Spacer	Steel	Zinc Chromate
14	Hexagon Socket Set Screw	Alloy Steel	Zinc Chromate
15	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
16	Hexagon Socket Head Cap Screw	Stainless Steel	
17	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
18	Needle Gasket	Nitrile Rubber	
19	Cushion Needle	Steel	Zinc Chromate

Part No.	Part Name	Material	Remarks
20	Plug	Steel	Zinc Chromate
21	Cushion Seal	Urethane Rubber	
22	Piston Packing	Nitrile Rubber	
23	Yoke	Aluminum Alloy	Alumite
24	Piston	Polyacetal	
25	Cylinder Tube	Aluminum Alloy	Alumite
26	Cylinder Gasket	Nitrile Rubber	
27	O-ring for Centralized Port	Nitrile Rubber	
28	Scraper	Polyacetal	
29	Double-sided Tape		
30	Plate	Alloy Steel	Zinc Chromate
31	Cross-Recessed Tapping Screw	Stainless Steel	
32	Cushion Ring Gasket	Nitrile Rubber	
With Switch			
33	Switch		
34	Mounting bracket	Stainless Steel	
35	Cross-Recessed Pan Head Screw	Stainless Steel	
36	Lead Wire Holder	Polyacetal	

For maintenance parts, please visit the CKD Equipment Product Site (https: //www.ckd.co.jp/kiki/en/) → "model No." → Maintenance Parts.

Internal Structure / Material (Bore Size: ø80 to ø100 equivalent)



No.	Part Name	Material	Remarks
1	Belt Cover	Polyamide	
2	Cover (L)	Aluminum Alloy	Baked Painting
3	Table Cover	Polyacetal	
4	Spring	Steel	Black Oxide
5	Belt Holder	Polyacetal	
6	Shaft	Steel	Zinc Chromate
7	Table	Aluminum Alloy	Alumite
8	Seal Belt	Urethane Rubber	
9	Dustproof Belt	Stainless Steel, Nitrile Rubber	
10	Magnet		
11	Cushion Ring	Polyacetal	
12	Cover (R)	Aluminum Alloy	Baked Painting
13	Belt Spacer	Steel	Zinc Chromate
14	Hexagon Socket Set Screw	Alloy Steel	Zinc Chromate
15	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
16	Hexagon Socket Head Cap Screw	Stainless Steel	
17	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
18	Needle Gasket	Nitrile Rubber	
19	Cushion Needle	Steel	Zinc Chromate
20	Plug	Steel	Zinc Chromate

Part No.	Part Name	Material	Remarks
21	Cushion Seal	Urethane Rubber	
22	Piston Packing	Nitrile Rubber	
23	Yoke	Aluminum Alloy	Alumite
24	Piston	Polyacetal	
25	Cylinder Tube	Aluminum Alloy	Alumite
26	Cylinder Gasket	Nitrile Rubber	
27	O-ring for Centralized Port	Nitrile Rubber	
28	Felt (1)	Wool	
29	Felt (2)	Wool	
30	Plate	Alloy Steel	Zinc Chromate
31	Cross-Recessed Tapping Screw	Stainless Steel	
32	Cushion Ring Gasket (1)	Nitrile Rubber	
33	Cushion Ring Gasket (2)	Nitrile Rubber	
34	Plug	Steel	Zinc Chromate
With Switch			
35	Switch		
36	Mounting bracket	Stainless Steel	
37	Cross-Recessed Pan Head Screw	Stainless Steel	
38	Lead Wire Holder	Polyacetal	

For maintenance parts, please visit the CKD Equipment Product Site (https: //www. ckd.co.jp/kiki/en/) → "model No." → Maintenance Parts.

MEMO

Rodless Type
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
Cylinder Switch
Ending

Rodless Cylinder Resin Guide Type

SRL3-G Series

● Bore Size: ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100 or equivalent

Circuit Diagram Code 

RoHS

Model No. Notation

Without Switch
(Built-in magnet for switch)

SRL3-G - 00 - 12 [ ] B - 200 ——— B

Model No. ❶ ❷ ❸ ❹ ❺ ❽

With Switch
(Built-in magnet for switch)

SRL3-G - 00 - 12 [ ] B - 200 - M0H - R - B

Model No. ❷Bore Size ❹Cushion ❻Switch Model No. ❽Option
❶Mounting type ❸Piping thread type ❺Stroke ❼Number of Switches

❶Mounting type

Mounting brackets are pre-assembled on the product and shipped.

Code	Content	
00	Basic type	
LB	Axial Foot Type	
LB1	Axial Foot Type (ø12 to ø32 equivalent only)	

Note: When the Bore Size of ❷ is equivalent to ø12, 16, 20, 25, or 32, and the option code ❽ is "R" or "T", the mounting style is "00" or "LB1". (Mounting style "LB" cannot be manufactured with option code ❽ "R" and "T" because piping is not possible.)

❷Bore Size (mm)

Code	Content
12	ø12 equivalent
16	ø16 equivalent
20	ø20 equivalent
25	ø25 equivalent
32	ø32 equivalent
40	ø40 equivalent
50	ø50 equivalent
63	ø63 equivalent
80	ø80 equivalent
100	ø100 equivalent

❸Piping thread type

Code	Content
Blank	M5 (ø12, ø16 equivalent) Rc Thread (ø20 to ø100 equivalent)
N	NPT Thread (ø20 equivalent or larger) (Custom-made)
G	G Thread (ø20 equivalent or larger) (Custom-made)

❹Cushion

Code	Content
B	With Cushion on Both Sides
R	With R Side Cushion
L	With L Side Cushion
N	Without Cushion

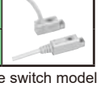
❺Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø12 to ø100 equivalent	1 to 5000	Every 1 mm

Note: For the minimum stroke with switch, please refer to P. 32.

❻Switch Model No.

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

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	-	10 to 30	-	5 to 30	M2H□	M2V□	
	2-Color		-	10 to 30	-	5 to 30	-	M2WV□	
	1-Color	3-wire (NPN)	-	30 or less	-	100 or less	M3H□	M3V□	
	2-Color		-	30 or less	-	100 or less	-	M3WV□	
	1-Color (Custom order)	3-wire (PNP)	-	30 or less	-	100 or less	M3PH□	M3PV□	
	2-Color	2-wire	-	24 ± 10%	-	5 to 20	T2WH□	T2WV□	
		3-wire (NPN)	-	30 or less	-	50 or less	T3WH□	T3WV□	
	2-Color Improved Water Resistance	2-wire	-	24 ± 10%	-	5 to 20	T2WLH□	T2WLV□	 *2
	2-Color for AC Magnetic Field		-	24 ± 10%	-		T2YD□	-	
			—		-		T2YDT□	-	
Reed	1-Color	2-wire	110	12/24	7 to 20	5 to 50	M0H□	M0V□	
	No Indicator LED		110	5/12/24	20 or less	50 or less	M5H□	M5V□	

*4

*Lead wire length, connector specification

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)
W	M8 Connector, 1PIN (+), 4PIN (−) Lead Wire 0.3 m

*4: T2WLH and T2WLV only can be selected.

Ex) Lead wire length
1 m M0V
3 m M0V3
5 m M0V5

*1: Insert the Code selected in the "Lead wire length, connector specifications" table into "□" of the switch model number.
*2: It does not guarantee the water resistance performance of the cylinder.
*3: Switches other than the above switch model numbers are also available. (Custom Product) For details, see P. 1457.

❼Number of Switches

Code	Content
R	With 1 pc on R side
L	With 1 pc on L side
D	With 2 pcs
T	With 3 pcs
4	With 4 pcs (If 4 or more, enter the number of switches)

❽Option

	Code	Description	Bore Size (ø) equivalent 12	16	20	25	32	40	50	63	80	100	
	A	Full stroke adjustment both sides, with shock absorber	●	●	●	●	●	●	●	●	●	●	
	A1	Full stroke adjustment R side only, with shock absorber	●	●	●	●	●	●	●	●	●	●	
	A2	Full stroke adjustment L side only, with shock absorber	●	●	●	●	●	●	●	●	●	●	
	A3	Full Stroke Adjustment Bracket Retrofit Type	●	●	●	●							
*1	L□	Intermediate Support Bracket (for 00, LB)	●	●	●	●	●	●	●	●	●	●	
*1	N□	With Intermediate Support Bracket (for LB1)	●	●	●	●	●						
*4	H	Table Mounting Screw Size Up	●	●	●								
	U	Height Adjustment Plate	●	●	●	●	●	●	●	●	●	●	
	Blank	Port Position: F (Standard)	Cushion Needle Position: F (Standard)	●	●	●	●	●	●	●	●	●	●	
	R	Port Position: R (Centralized Port)	Cushion Needle Position: F	●	●	●	●	●	●	●	●	●	●	
	B	Port Position: F	Cushion Needle Position: B	●	●	●	●	●	●	●	●	●	●	
	T	Port Position: R (Centralized Port)	Cushion Needle Position: B	●	●	●	●	●	●	●	●	●	●	
	D	Port Position: D	Cushion Needle Position: F				●	●	●	●	●	●	●	
	S	Port Position: D	Cushion Needle Position: D					●	●	●	●	●	●	
	X	Port Position: F (Centralized Port)	Cushion Needle Position: F									●	●	

*1: The Code "□" in L□, N□ indicates the number of sets. If 2 sets are required, enter "L2" (for LB) or "N2" (for LB1). 2 pcs / 1 set
*2: For port and cushion needle position display codes, please refer to the external dimensions diagrams on P. 34 to 37.
*3: For standard types ø12 to ø25 equivalent, it is necessary to remove the cover, assemble the plate nut, and retrofit the full stroke adjustment bracket. A3 is an option with a mounting plate nut assembled for retrofitting the full stroke adjustment bracket without removing the cover.
*4: "H" means screw size is "M4" for ø12, ø16 equivalent and "M5" for ø20 equivalent.
*5: Be sure to check the combination of options in the "Option Combination Table".
*6: If ❶mounting method "LB1" is selected, options "D" or "S" cannot be selected.

Food Manufacturing Process Compatible Specification (Catalog No. CC-1271AA)

●Uses food grade grease that can be used in food manufacturing processes

SRL3-G -·····- FP1

Option Combination Table

●: Combinable ▨: Not Combinable

		Option														
		Full stroke adjustment both sides, with shock absorber	Full stroke adjustment R side only, with shock absorber	Full stroke adjustment L side only, with shock absorber	Full Stroke Adjustment Bracket Retrofit Type	Intermediate support bracket for 00, LB	Intermediate Support Bracket (for LB1)	Table Mounting Screw Size Up	Height Adjustment Plate	Port position F, Cushion needle position F (Standard)	Port position R, Cushion needle position F (Centralized port)	Port position F, Cushion needle position B	Port position R, Cushion needle position B(Centralized port)	Port position D, Cushion needle position F	Port position D, Cushion needle position D	Port position F, Cushion needle position F(Centralized port)
	Code	A	A1	A2	A3	L□	N□	H	U	Blank	R	B	T	D	S	X
Option	A		▨	▨	▨	●	●	●	●	●	●	●	●	●	●	●
	A1			▨	▨	●	●	●	●	●	●	●	●	●	●	●
	A2				▨	●	●	●	●	●	●	●	●	●	●	●
	A3					●	●	●	●	●	●	●	●	●	●	▨
	L□					▨	▨	●	●	●	●	●	●	●	●	●
	N□							●	●	●	●	●	●	●	●	▨
	H							▨	▨	●	●	●	●	●	●	▨
	U									●	●	●	●	●	●	●
	Blank									▨	▨	▨	▨	▨	▨	▨
	R										▨	▨	▨	▨	▨	▨
	B											▨	▨	▨	▨	▨
	T												▨	▨	▨	▨
	D													▨	▨	▨
	S														▨	▨
	X															▨

***1: Depending on the Bore Size, some combinations may not be possible, so be sure to check the option column in the "Model Number Notation Method"❽ on the previous page.**

*2: If ❶mounting method "LB1" is selected, ❽options “D” or “S” cannot be selected.

Switch Individual Model No. Notation

(For parts composition, please refer to P. 88 to 90.)

●Switch body+Mounting bracket set (*1)

SRL3 - M0H

❻Switch Model No.

●Switch body only

SW - M0H

❻Switch Model No.

●Mounting bracket complete set (*2)

・M Type Switch

SRL3 - M

・T Type Switch

SRL3 - T

● Lead wire holder (*3)

SRL3 - MH

*1: The switch body + mounting bracket set does not include a lead wire holder. If a lead wire holder is required, please order it separately.
*2: The mounting bracket is different for M type switch and T type switch.
*3: Lead wire holder is 10 pcs/1 set.

● How to order discrete shock absorber

(1 Shock absorber, 1 Hexagon Nut for fixing shock absorber)

SRL3 - 40 - NCK

❷Bore Size

Note: The Hexagon Nut for fixing SRL3-40 Shock Absorbers only differs from the NCK standard nut.

Applicable Shock Absorber Model No.

Model	Shock Absorber Model No.
SRL3-12	NCK-00-0.3-C
SRL3-16	NCK-00-0.3-C
SRL3-20	NCK-00-0.7-C
SRL3-25	NCK-00-1.2
SRL3-32	NCK-00-2.6
SRL3-40	NCK-00-7
SRL3-50	NCK-00-12
SRL3-63	NCK-00-12
SRL3-80	NCK-00-20
SRL3-100	NCK-00-20

● How to order discrete intermediate support bracket

For 00, LB

SRL3 - 40 - L (2 pcs / 1 set)

❷Bore Size

For LB1

SRL3 - 32 - N (2 pcs / 1 set)

❷Bore Size

● How to order full stroke adjusting bracket kit

SRL3 - 40 - A1 (1 Set)

❷Bore Size

(For parts composition, please refer to the full stroke adjustment bracket kit on P. 89.)

●Mounting Bracket Model No. Notation

(2 Brackets, 4 Mounting Bolts)

SRL3 - LB - 40

❶Mounting type ❷Bore Size

● How to order height adjustment plate set

(Plate, 4 Mounting Bolts)

SRL3 - 40 - U

❷Bore Size

Specifications

Item		SRL3-G									
Bore Size	mm	ø12 equivalent	ø16 equivalent	ø20 equivalent	ø25 equivalent	ø32 equivalent	ø40 equivalent	ø50 equivalent	ø63 equivalent	ø80 equivalent	ø100 equivalent
Operation Method		Double Acting Type									
Operating Fluid		Compressed Air									
Max Operating Pressure	MPa	0.7									
Min Operating Pressure	MPa	0.25			0.15				0.1		
Proof Pressure	MPa	1.05									
Ambient Temperature	°C	5 to 60									
Port Size		M5		Rc 1/8		Rc 1/4		Rc 3/8		Rc 1/2	
Stroke tolerance	mm	$^{+2.0}_{0}$ (up to 1000), $^{+2.5}_{0}$ (up to 3000), $^{+3.0}_{0}$ (up to 5000)									
Operating Piston Speed	mm/s	50 to 2000 (Standard Port Piping) *1									
Cushion		Air Cushion									
Lubrication		Not required (If lubricating, use Turbine Oil Class 1 ISO VG32. Note that once lubrication is started, it must be continued.)									

*1: The operating piston speed for centralized port piping varies depending on the stroke, so please consult us separately.

Allowable Absorption Energy

Bore Size (mm)	With Cushion		Without Cushion	With Shock Absorber (Initial Setting)	
	Allowable Absorption Energy (J)	Cushion Stroke (mm)	Allowable Absorption Energy (J)	Absorption Energy (J)	Effective Stroke (mm)
ø12 equivalent	0.03	14.5	0.003	2.4	5.5
ø16 equivalent	0.22	19.2	0.007	2.4	5.5
ø20 equivalent	0.59	22.2	0.010	5.7	7
ø25 equivalent	1.40	20.9	0.015	10	9
ø32 equivalent	2.57	23.5	0.030	18	13
ø40 equivalent	4.27	23.9	0.050	50	16.5
ø50 equivalent	9.13	24.9	0.072	86	21
ø63 equivalent	17.4	29.6	0.138	86	21
ø80 equivalent	40	45.8	0.393	143	25
ø100 equivalent	67	45.8	0.622	143	25

Stroke

Bore Size (mm)	Standard Stroke (mm)	Max Stroke (mm)	Min Stroke (mm)
ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100 equivalent	200, 300, 400, 500, 600, 700, 800, 900, 1000	5000	1

Note: Intermediate strokes can be manufactured in 1 mm increments.

M Type Switch Mounting Quantity and Minimum Stroke (mm)

Switch Qty.	1		2	
Switch Model No. / Bore Size (mm)	M□V	M□H	M□V	M□H
ø12 equivalent	10	10	30	45 (70)
ø16 equivalent	10	10	30	45 (70)
ø20 equivalent	10	10	30	45 (70)
ø25 equivalent	10	10	30	45 (70)
ø32 equivalent	10	10	30	45
ø40 equivalent	10	10	30	45
ø50 equivalent	15	15	30	45
ø63 equivalent	15	15	30	45
ø80 equivalent	25		50	
ø100 equivalent	25		50	

Note: In the case of full stroke adjustment, the minimum stroke with switch is shown in ( ).

T Type Switch Mounting Quantity and Minimum Stroke (mm)

Switch Qty.	1				2			
Switch Model No. / Bore Size (mm)	T□V	T2WLV	T□H	T2WLH	T□V	T2WLV	T□H	T2WLH
ø12 equivalent	5	5	5	5 (11)	45	35	50 (70)	56 (82)
ø16 equivalent	5	5	5	5 (11)	45	35	50 (70)	56 (82)
ø20 equivalent	5	5	5	5 (11)	45	35	50 (70)	56 (82)
ø25 equivalent	10	10	10	10 (16)	45	35	50 (70)	56 (82)
ø32 equivalent	10	10	10	10	45	35	50	56
ø40 equivalent	10	10	10	10	45	35	50	56
ø50 equivalent	10	10	10	10	45	35	50	56
ø63 equivalent	10	10	10	10	45	35	50	56
ø80 equivalent	15	15	15	15	45	35	50	56
ø100 equivalent	15	15	15	15	45	35	50	56

Note: In the case of full stroke adjustment, the minimum stroke with switch is shown in ( ).

Cylinder Weight

Unit: kg

Bore Size (mm)	Weight at 0 mm Stroke				Switch Mounting bracket Weight		St=100 mm Additional Weight per
	Basic type (00)	Foot type		Switch Weight	T Type	M Type	
		(LB)	(LB1)				
ø12 equivalent	0.24	0.25	0.26	Refer to the mass described in the switch specifications on P. 1457.	0.005	0.001	0.10
ø16 equivalent	0.32	0.33	0.35				0.13
ø20 equivalent	0.52	0.54	0.58				0.18
ø25 equivalent	1.0	1.1	1.1				0.28
ø32 equivalent	1.5	1.6	1.7				0.36
ø40 equivalent	2.4	2.5	-				0.53
ø50 equivalent	3.5	3.6	-				0.75
ø63 equivalent	6.1	6.4	-				1.11
ø80 equivalent	18.8	19.4	-				2.32
ø100 equivalent	26.6	27.6	-				3.38

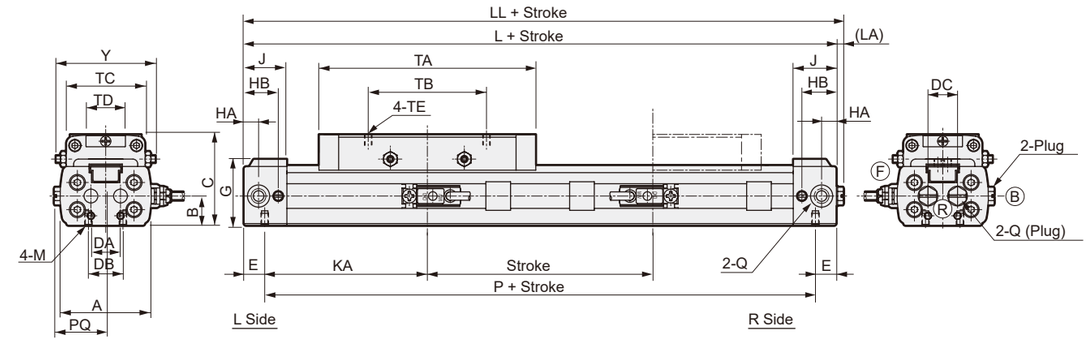
Theoretical Thrust Table

(Unit: N)

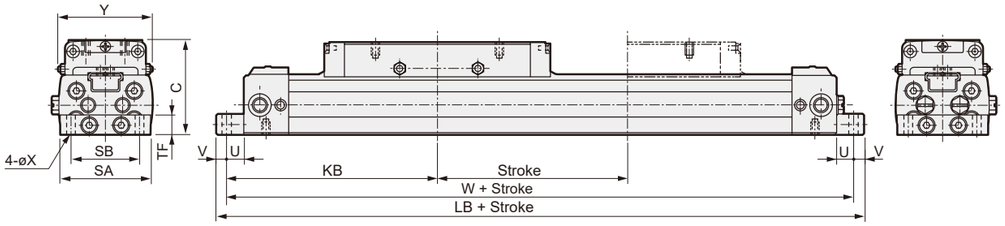
Bore Size (mm)	Operating Direction	Operating Pressure MPa								
		0.1	0.15	0.2	0.25	0.3	0.4	0.5	0.6	0.7
ø12 equivalent	Push/Pull	-	-	-	34.6	41.5	55.3	69.1	83.0	96.8
ø16 equivalent	Push/Pull	-	-	-	54.0	64.8	86.4	1.08×10^2	1.30×10^2	1.51×10^2
ø20 equivalent	Push/Pull	-	-	-	78.6	94.4	1.26×10^2	1.57×10^2	1.89×10^2	2.20×10^2
ø25 equivalent	Push/Pull	-	81.4	1.08×10^2	1.35×10^2	1.63×10^2	2.17×10^2	2.71×10^2	3.25×10^2	3.80×10^2
ø32 equivalent	Push/Pull	-	1.22×10^2	1.63×10^2	2.04×10^2	2.44×10^2	3.26×10^2	4.07×10^2	4.88×10^2	5.70×10^2
ø40 equivalent	Push/Pull	-	1.90×10^2	2.53×10^2	3.16×10^2	3.80×10^2	5.06×10^2	6.33×10^2	7.60×10^2	8.86×10^2
ø50 equivalent	Push/Pull	-	2.98×10^2	3.98×10^2	4.98×10^2	5.96×10^2	7.95×10^2	9.94×10^2	1.19×10^3	1.39×10^3
ø63 equivalent	Push/Pull	3.14×10^2	4.70×10^2	6.27×10^2	7.84×10^2	9.41×10^2	1.25×10^3	1.57×10^3	1.88×10^3	2.20×10^3
ø80 equivalent	Push/Pull	5.06×10^2	7.60×10^2	1.01×10^3	1.26×10^3	1.52×10^3	2.03×10^3	2.53×10^3	3.04×10^3	3.54×10^3
ø100 equivalent	Push/Pull	7.91×10^2	1.19×10^3	1.58×10^3	1.98×10^3	2.37×10^3	3.16×10^3	3.95×10^3	4.74×10^3	5.53×10^3

External Dimensions (Bore Size: ø12 to ø20 equivalent)

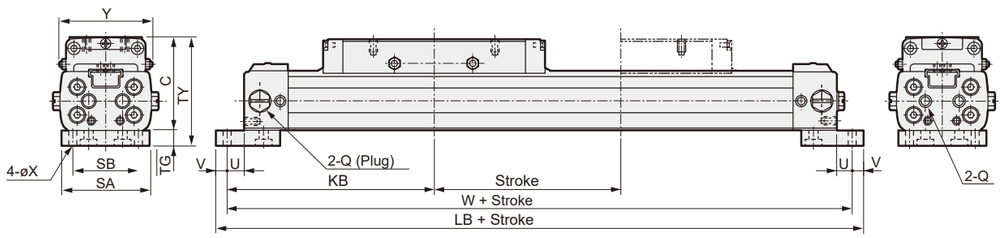
● SRL3-G-12 to 20



● With Foot Bracket SRL3-G-LB-12 to 20



● With Foot Bracket SRL3-G-LB1-12 to 20



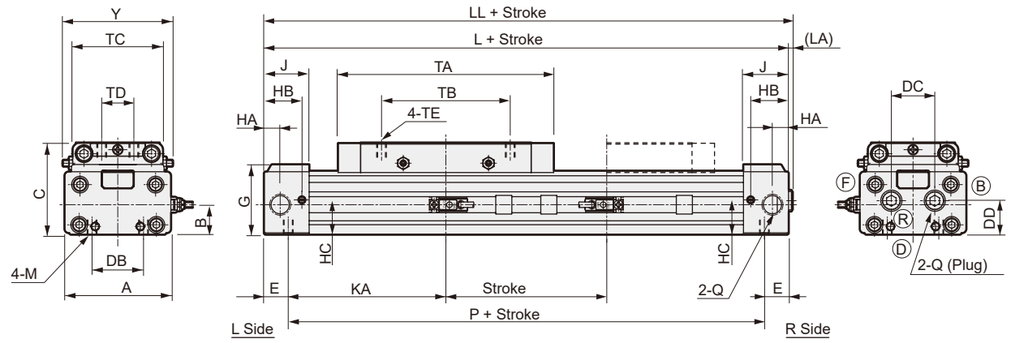
Code / Bore Size (mm)	A	B	C	DA	DB	DC	E	G	HA	HB	J	KA	L	LL	LA	M	P	PQ	Q	TA	TB	TC	TD	TE	Y
ø12 equivalent	33	10.5	33	8	10	11	8.5	24	6	14	17.5	59.5	136	139	3	M3 Depth 5	119	19	M5	81	42	29	13	M3 Depth 5	36 to 38
ø16 equivalent	37	12	37	12	14	12	8.5	27	6	14	17.5	66	149	152	3	M3 Depth 5	132	21	M5	88	48	32	15	M3 Depth 5	39 to 41
ø20 equivalent	44	14	42	16	16	16	10.5	31	8.5	18.5	22	74	169	171.5	2.5	M4 Depth 6.5	148	24.5	Rc 1/8	100	60	38	18	M4 Depth 6	43 to 45

Code / Bore Size (mm)	With Foot Bracket (LB)									With Foot Bracket (LB1)									
	KB	LB	SA	SB	TF	U	V	W	X	KB	LB	SA	SB	TG	TY	U	V	W	X
ø12 equivalent	74	156	32	24	8	6	4	148	3.4	74	156	32	24	6	39	6	4	148	3.4
ø16 equivalent	80.5	169	35	26	8	6	4	161	3.4	80.5	169	35	26	6	43	6	4	161	3.4
ø20 equivalent	90.5	193	43	33	10	6	6	181	4.5	90.5	193	43	33	8	50	6	6	181	4.5

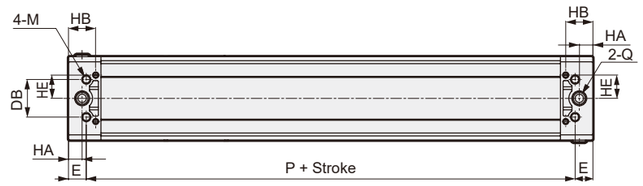
Note: For external dimensions diagrams with options and with each switch, please refer to P. 20 to 23, and 86.

External Dimensions (Bore Size: ø25 to ø63 equivalent)

● SRL3-G-25 to 63



● Bottom piping (option code: D/S)



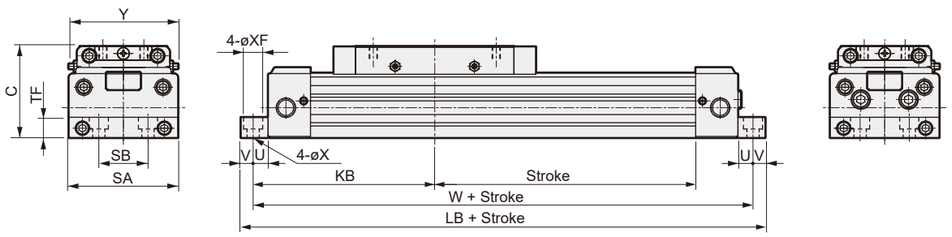
Code / Bore Size (mm)	A	B	C	DB	DC	DD	E	G	HA	HB	HC	HE	J	KA	L
ø25 equivalent	53	17	53	20	26	19	14	40.5	7.5	20	18.9	-	24	81	190
ø32 equivalent	66	18.5	57	32	27	21	15	43.5	10	23.5	21.5	17	28	98	226
ø40 equivalent	80	22	67	36	35	28	17	51.5	13	26	27	22.3	31	105	244
ø50 equivalent	96	28	82	45	35	35	23	61	15	33	35.3	11	39	106	258
ø63 equivalent	118	35	95	50	39	42	19	74	15	32	43	31	39	129	296

Code / Bore Size (mm)	LL	LA	M	P	Q	TA	TB	TC	TD	TE	Y
ø25 equivalent	192	2	M6 Depth 9	162	Rc 1/8	122	70	48	20	M5 Depth 6	58 to 61
ø32 equivalent	228.5	2.5	M6 Depth 9	196	Rc 1/4	134	80	56	20	M6 Depth 7.5	65 to 69
ø40 equivalent	246.5	2.5	M8 Depth 12	210	Rc 1/4	148	90	68	30	M6 Depth 9	77 to 81
ø50 equivalent	260.5	2.5	M8 Depth 12	212	Rc 3/8	152	100	80	30	M8 Depth 10.5	92 to 96
ø63 equivalent	298.5	2.5	M10 Depth 15	258	Rc 3/8	168	110	102	40	M8 Depth 11.5	114 to 118

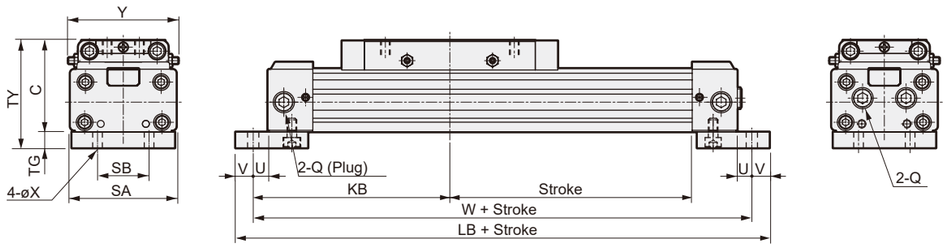
***1: Refer to P. 20 to 23, and 86 for dimensions with options and with switches.**
*2: Bottom porting is not available for ø25 equivalent.

External Dimensions (Bore Size: ø25 to ø63 equivalent)

● With Foot Bracket SRL3-G-LB-25 to 63



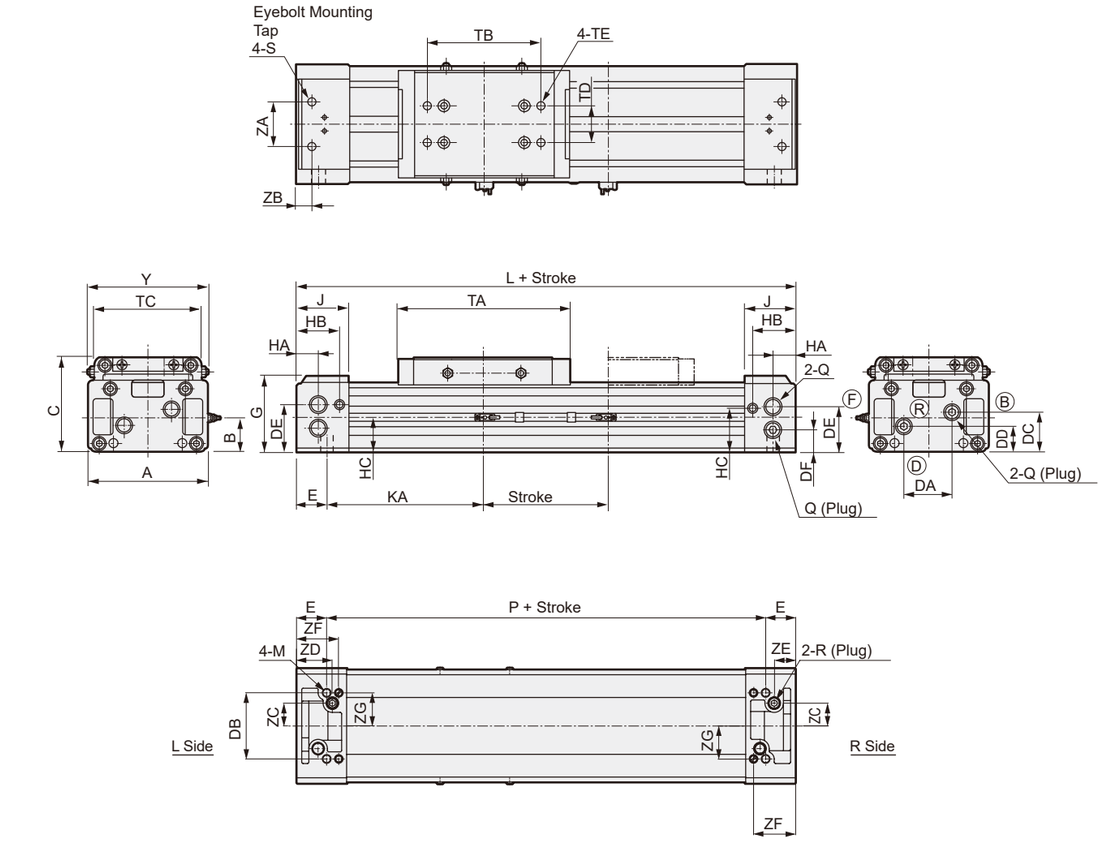
● With Foot Bracket SRL3-G-LB1-25, 32 (Supports ø40 to ø63 or equiv. mounting: there is no LB1)



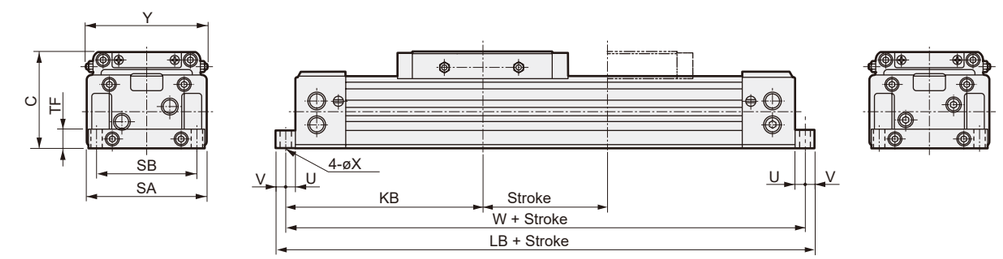
Code	With Foot Bracket (LB)										With Foot Bracket (LB1)									
Bore Size (mm)	KB	LB	SA	SB	TF	U	V	W	X	XF	KB	LB	SA	SB	TG	TY	U	V	W	X
ø25 equivalent	104	230	52	20	12	9	11	208	7	-	104	230	50	20	10	63	9	11	208	7
ø32 equivalent	122	266	64	32	12	9	11	244	7	-	122	266	64	32	10	67	9	11	244	7
ø40 equivalent	133	284	80	36	15	11	9	266	9	14 Counterbore Depth 8.6	-	-	-	-	-	-	-	-	-	-
ø50 equivalent	140	298	94	45	20	11	9	280	9	14 Counterbore Depth 8.6	-	-	-	-	-	-	-	-	-	-
ø63 equivalent	161	346	116	50	25	13	12	322	11	17.5 Counterbore Depth 10.8	-	-	-	-	-	-	-	-	-	-

External Dimensions (Bore Size: ø80 to ø100 equivalent)

● SRL3-G-80 to 100



● With Foot Bracket SRL3-G-LB-□□ -□□□

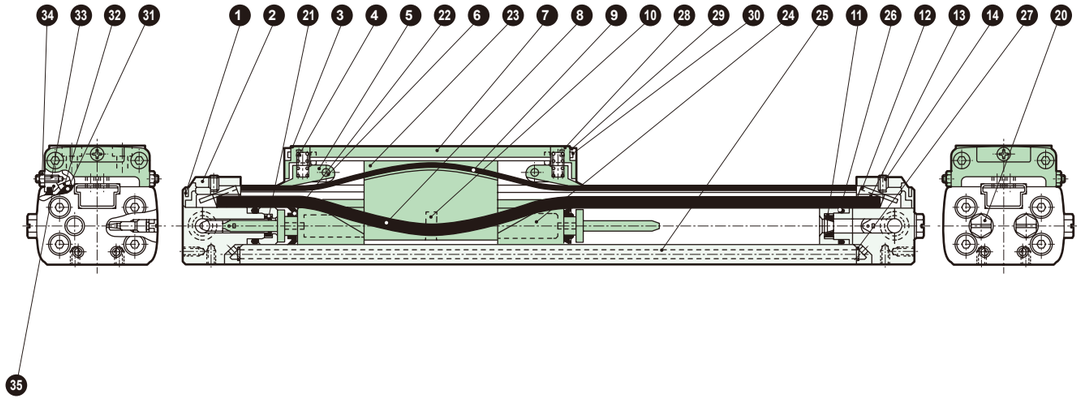


Code	A	B	C	DA	DB	DC	DD	DE	DF	E	G	HA	HB	HC	J	KA	L	M	P	Q	R	S
Bore Size (mm)																						
ø80 equivalent	162	49	130	64	93	58	38	65	33	42	106	30	59	64.5	70	208	500	M12 Depth 18	416	Rc 1/2	Rc 3/8	M12 Depth 23
ø100 equivalent	198	61.5	150	73	108	71.5	47.5	81.5	41.5	43	125	30	69	76.5	80	222	530	M12 Depth 18	444	Rc 1/2	Rc 1/2	M12 Depth 23

Code	TA	TB	TC	TD	TE	Y	ZA	ZB	ZC	ZD	ZE	ZF	ZG	With Foot Bracket LB								
Bore Size (mm)														KB	LB	SA	SB	TF	U	V	W	X
ø80 equivalent	228	150	146	50	M12 Depth 15	157 to 164	60	21	32	50	30	59	46.5	263	550	162	134	25	13	12	526	14
ø100 equivalent	238	160	170	60	M12 Depth 15	183 to 190	60	21	36.5	55	30	69	54	280	590	198	160	30	15	15	560	14

Note: For external dimensions diagrams with options and with each switch, please refer to P. 20 to 23, and 86.

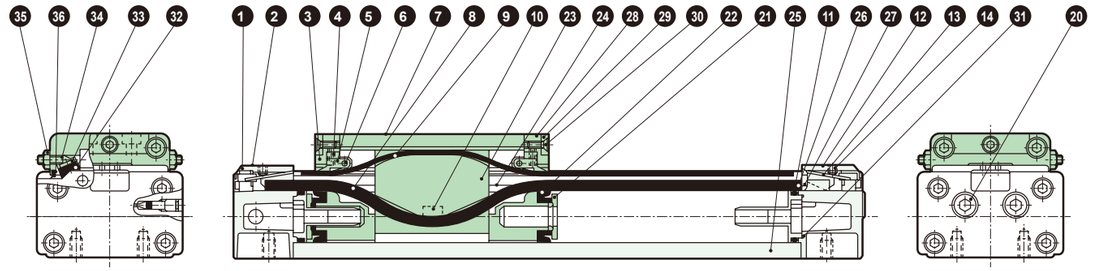
Internal Structure / Material (Bore Size: ø12 to ø40 equivalent)



No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Belt Cover	Polyamide		19	Cushion Needle	Steel	Zinc Chromate
2	Cover (L)	Aluminum Alloy	Baked Painting	20	Plug	ø12, ø16: Copper Alloy	ø12, ø16: Nickel Plating
3	Table Cover	Polyacetal				ø20 to ø40: Steel	ø20 to ø40: Zinc Chromate
4	Spring	Steel	Black Oxide	21	Cushion Seal	Urethane Rubber	
5	Belt Holder	Polyacetal		22	Piston Packing	Nitrile Rubber	
6	Parallel Pin (ø12 to ø20)	Stainless Steel		23	Yoke	Aluminum Alloy	Alumite
	Shaft (ø25 to ø40)	Steel	Zinc Chromate	24	Piston	Polyacetal	
7	Table	Aluminum Alloy	Alumite	25	Cylinder Tube	Aluminum Alloy	Alumite
8	Seal Belt	Urethane Rubber		26	Cylinder Gasket	Nitrile Rubber	
9	Dustproof Belt	Stainless Steel, Nitrile Rubber		27	O-ring for Centralized Port	Nitrile Rubber	
10	Magnet			28	Double-sided Tape		
11	Cushion Adapter	Polyacetal		29	Plate	ø12 to ø20: Stainless Steel	
12	Cover (R)	Aluminum Alloy	Baked Painting			ø25 to ø40: Alloy Steel	ø25 to ø40: Zinc Chromate
13	Belt Spacer	Steel	Zinc Chromate	30	Cross-Recessed Tapping Screw	Stainless Steel	
14	Hexagon Socket Set Screw	Alloy Steel	Zinc Chromate	31	Slider	Polyacetal	
15	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate	32	Slider Plate	Steel	
16	Hexagon Socket Head Cap Screw	Stainless Steel		33	Adjustment Screw	Alloy Steel	Zinc Chromate
17	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate	34	Nut	Steel	Zinc Chromate
18	Needle Gasket	Nitrile Rubber		35	Scraper	Polyacetal	

For maintenance parts, please visit the CKD Equipment Product Site
(https: //www.ckd.co.jp/kiki/en/) → "model No." → Maintenance Parts.

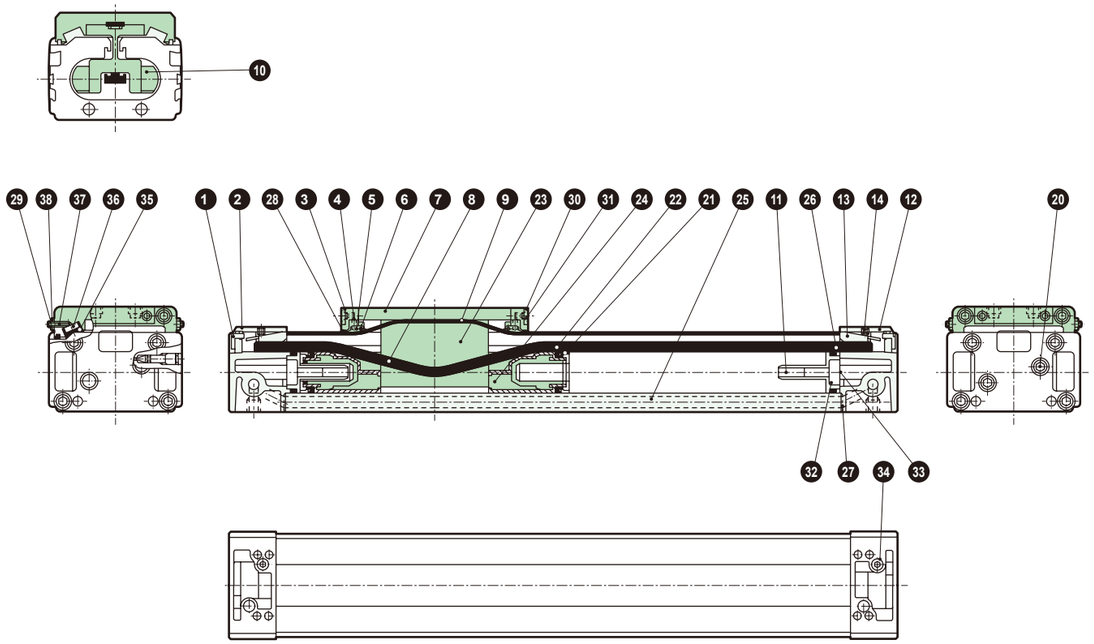
Internal Structure / Material (Bore Size: ø50, ø63 equivalent)



No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Belt Cover	Polyamide		19	Cushion Needle	Steel	Zinc Chromate
2	Cover (L)	Aluminum Alloy	Baked Painting	20	Plug	Steel	Zinc Chromate
3	Table Cover	Polyacetal		21	Cushion Seal	Urethane Rubber	
4	Spring	Steel	Black Oxide	22	Piston Packing	Nitrile Rubber	
5	Belt Holder	Polyacetal		23	Yoke	Aluminum Alloy	Alumite
6	Shaft	Steel	Zinc Chromate	24	Piston	Polyacetal	
7	Table	Aluminum Alloy	Alumite	25	Cylinder Tube	Aluminum Alloy	Alumite
8	Seal Belt	Urethane Rubber		26	Cylinder Gasket	Nitrile Rubber	
9	Dustproof Belt	Stainless Steel, Nitrile Rubber		27	O-ring for Centralized Port	Nitrile Rubber	
10	Magnet			28	Double-sided Tape		
11	Cushion Ring	Polyacetal		29	Plate	Alloy Steel	Zinc Chromate
12	Cover (R)	Aluminum Alloy	Baked Painting	30	Cross-Recessed Tapping Screw	Stainless Steel	
13	Belt Spacer	Steel	Zinc Chromate	31	Cushion Ring Gasket	Nitrile Rubber	
14	Hexagon Socket Set Screw	Alloy Steel	Zinc Chromate	32	Slider	Polyacetal	
15	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate	33	Slider Plate	Steel	Zinc Chromate
16	Hexagon Socket Head Cap Screw	Stainless Steel		34	Adjustment Screw	Alloy Steel	Zinc Chromate
17	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate	35	Nut	Steel	Zinc Chromate
18	Needle Gasket	Nitrile Rubber		36	Scraper	Polyacetal	

For maintenance parts, please visit the CKD Equipment Product Site
(https: //www.ckd.co.jp/kiki/en/) → "model No." → Maintenance Parts.

Internal Structure / Material (Bore Size: ø80, ø100 equivalent)

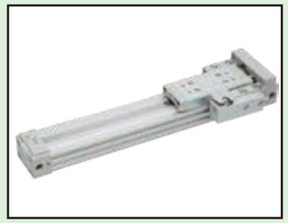


No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Belt Cover	Polyamide		20	Plug	Steel	Zinc Chromate
2	Cover (L)	Aluminum Alloy	Baked Painting	21	Cushion Seal	Urethane Rubber	
3	Table Cover	Polyacetal		22	Piston Packing	Nitrile Rubber	
4	Spring	Steel	Black Oxide	23	Yoke	Aluminum Alloy	Alumite
5	Belt Holder	Polyacetal		24	Piston	Polyacetal	
6	Shaft	Steel	Zinc Chromate	25	Cylinder Tube	Aluminum Alloy	Alumite
7	Table	Aluminum Alloy	Alumite	26	Cylinder Gasket	Nitrile Rubber	
8	Seal Belt	Urethane Rubber		27	O-ring for Centralized Port	Nitrile Rubber	
9	Dustproof Belt	Stainless Steel, Nitrile Rubber		28	Felt (1)	Wool	
10	Magnet			29	Felt (2)	Wool	
11	Cushion Ring	Polyacetal		30	Plate	Alloy Steel	Zinc Chromate
12	Cover (R)	Aluminum Alloy	Baked Painting	31	Cross-Recessed Tapping Screw	Stainless Steel	
13	Belt Spacer	Steel	Zinc Chromate	32	Cushion Ring Gasket (1)	Nitrile Rubber	
14	Hexagon Socket Set Screw	Alloy Steel	Zinc Chromate	33	Cushion Ring Gasket (2)	Nitrile Rubber	
15	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate	34	Plug	Steel	Zinc Chromate
16	Hexagon Socket Head Cap Screw	Stainless Steel		35	Slider	Polyacetal	
17	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate	36	Slider Plate	Steel	Zinc Chromate
18	Needle Gasket	Nitrile Rubber		37	Adjustment Screw	Alloy Steel	Zinc Chromate
19	Cushion Needle	Steel	Zinc Chromate	38	Nut	Steel	Zinc Chromate

For maintenance parts, please visit the CKD Equipment Product Site (https: //www.ckd.co.jp/kiki/en/) → "model No." → Maintenance Parts.

MEMO

Rodless Type
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
Cylinder Switch
Ending



Rodless Cylinder Double Acting / Fall Prevention Type

SRL3-Q Series

● Bore Size: ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100 or equiv.

Circuit Diagram Code

RoHS

Model No. Notation

Without Switch
(Built-in magnet for switch)

SRL3-Q - 00 - 12 [ ] B - 200 ——— B

Model No. ❶ ❷ ❸ ❹ ❺ ❽

With Switch
(Built-in magnet for switch)

SRL3-Q - 00 - 12 [ ] B - 200 - M0H - R - B

Model No. ❷Bore Size ❹Cushion ❻Switch Model No. ❽Option
❶Mounting type ❸Piping thread type ❺Stroke ❼Number of Switches

❶Mounting type

Mounting brackets are pre-assembled on the product and shipped.

Code	Content	
00	Basic type	
LB	Axial Foot Type	
LB1	Axial Foot Type (ø12 to ø32 equivalent only)	

Note: ❷Have Bore Sizes equivalent to ø12, ø16, ø20, ø25, and ø32 ❽For option codes "R" and "T", the mounting style will be "00" or "LB1".
(❽Option Code "R" and "T" with mounting type "LB" cannot be manufactured because piping is not possible.)

❷Bore Size (mm)

Code	Content
12	ø12 equivalent
16	ø16 equivalent
20	ø20 equivalent
25	ø25 equivalent
32	ø32 equivalent
40	ø40 equivalent
50	ø50 equivalent
63	ø63 equivalent
80	ø80 equivalent
100	ø100 equivalent

❸Piping thread type

Code	Content
Blank	M5 (ø12, ø16 equivalent) Rc Thread (ø20 to ø100 equivalent)
N	NPT Thread (ø20 equivalent or larger) (Custom-made)
G	G Thread (ø20 equivalent or larger) (Custom-made)

❹Cushion

Code	Content
B	With Cushion on Both Sides
R	With R Side Cushion
L	With L Side Cushion
N	Without Cushion

❺Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø12 to ø100 equivalent	5 to 5000	Every 1 mm

Note: For the minimum stroke with switch, please refer to P. 46.

❻Switch Model No.

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

	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	-	10 to 30	-	5 to 30	M2H□	M2V□	
	2-Color		-	10 to 30	-	5 to 30	-	M2WV□	
	1-Color	3-wire (NPN)	-	30 or less	-	100 or less	M3H□	M3V□	
	2-Color		-	30 or less	-	100 or less	-	M3WV□	
	1-Color (Custom order)	3-wire (PNP)	-	30 or less	-	100 or less	M3PH□	M3PV□	
	2-Color	2-wire	-	24 ± 10%	-	5 to 20	T2WH□	T2WV□	
		3-wire (NPN)	-	30 or less	-	50 or less	T3WH□	T3WV□	
	2-Color for AC Magnetic Field	2-wire	-	24 ± 10%	-	5 to 20	T2YD□	-	
			—		-		T2YDT□	-	
Reed	1-Color	2-wire	110	12/24	7 to 20	5 to 50	M0H□	M0V□	
	No Indicator LED		110	5/12/24	20 or less	50 or less	M5H□	M5V□	

*1: For "□" in the switch model number, enter the code selected from the "Lead wire length" table.
*2: Switches other than the model numbers listed above are also available. (Custom Product) For details, see P. 1457.

* Lead wire length

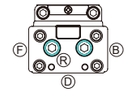
Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)

Example) Lead wire length
1 m M0V
3 m M0V3
5 m M0V5

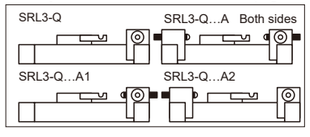
❼Number of Switches

Code	Content
R	With 1 pc on R side
L	With 1 pc on L side
D	With 2 pcs
T	With 3 pcs
4	With 4 pcs (If 4 or more, enter the number of switches)

❽Option

	Code	Description	Bore Size (ø) equivalent 12	16	20	25	32	40	50	63	80	100	
	A	Full stroke adjustment both sides, with shock absorber	●	●	●	●	●	●	●	●	●	●	
	A1	Full stroke adjustment R side only, with shock absorber	●	●	●	●	●	●	●	●	●	●	
	A2	Full stroke adjustment L side only, with shock absorber	●	●	●	●	●	●	●	●	●	●	
	A3	Full Stroke Adjustment Bracket Retrofit Type	●	●	●	●							
	Y	Floating Joint	●	●	●	●	●	●	●	●	●	●	
	Y1	Low Profile Floating Joint	●	●	●	●							
*2	L*	Intermediate Support Bracket (for 00, LB)	●	●	●	●	●	●	●	●	●	●	
*2	N*	With Intermediate Support Bracket (for LB1)	●	●	●	●	●						
*5	H	Table Mounting Screw Size Larger	●	●	●								
	U	Height Adjustment Plate	●	●	●	●	●	●	●	●	●	●	
	Blank	Port Position: F (Standard)	Cushion Needle Position: F (Standard)	●	●	●	●	●	●	●	●	●	●	
	R	Port Position: R (Centralized Port)	Cushion Needle Position: F	●	●	●	●	●	●	●	●	●	●	
	B	Port Position: F	Cushion Needle Position: B	●	●	●	●	●	●	●	●	●	●	
	T	Port Position: R (Centralized Port)	Cushion Needle Position: B	●	●	●	●	●	●	●	●	●	●	
	D	Port Position: D	Cushion Needle Position: F				●	●	●	●	●	●	●	
	S	Port Position: D	Cushion Needle Position: D					●	●	●	●	●	●	
	X	Port Position: F (Centralized Port)	Cushion Needle Position: F									●	●	

*1: Since the full stroke adjustment bracket on the R side is a standard part for fall prevention, only the shock absorber is added to the R side when A1 is specified. When A is indicated, the R side is equipped with fall prevention, full stroke adjustment, and shock absorber, and the L side is equipped with full stroke adjustment and shock absorber. (Figure below)



*2: The Code "□" in L□, N□ indicates the number of sets. If 2 sets are required, enter "L2" (for LB) or "N2" (for LB1). 2 pcs / 1 set
*3: For port and cushion needle position display symbols, please refer to the external dimensions diagrams on P. 48 to 50.
*4: For standard types ø12 to ø25 equivalent, it is necessary to remove the cover, assemble the plate nut, and retrofit the full stroke adjustment bracket. A3 is an option with a mounting plate nut assembled for retrofitting the full stroke adjustment bracket without removing the cover.
*5: "H" means screw size is "M4" for ø12, ø16 equivalent and "M5" for ø20 equivalent.
*6: Be sure to check the combination of options in the "Option Combination Table" on the next page.
*7: If ❶mounting method "LB1" is selected, options "D" or "S" cannot be selected.

Rechargeable Battery Compatible Specification (Catalog No. CC-1226AA)

●Design compatible with rechargeable battery manufacturing process

SRL3-Q - ···· - P4*

*Please contact us for details.

Option Combination Table

●: Combinable ▒: Not Combinable

	Code	A	A1	A2	A3	Y	Y1	L□	N□	H	U	Blank	R	B	T	D	S	X
		Full stroke adjustment both sides, with shock absorber	Full stroke adjustment R side only, with shock absorber	Full stroke adjustment L side only, with shock absorber	Full Stroke Adjustment Bracket Retrofit Type	Floating Joint	Low Profile Floating Joint	Intermediate support bracket (for 00, LB)	Intermediate Support Bracket (for LB1)	Table Mounting Screw Size Up	Height Adjustment Plate	Port position F, Cushion needle position F (Standard)	Port position R, Cushion needle position F (Centralized port)	Port position F, Cushion needle position B	Port position R, Cushion needle position B(Centralized port)	Port position D, Cushion needle position F	Port position D, Cushion needle position D	Port position F, Cushion needle position F(Centralized port)
Option	A		●	●	▒	●	●	●	●	●	●	●	●	●	●	●	●	●
	A1	●		●	▒	●	●	●	●	●	●	●	●	●	●	●	●	●
	A2	●	●		▒	●	●	●	●	●	●	●	●	●	●	●	●	●
	A3	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	▒
	Y	●	●	●	●		▒	●	●	▒	▒	●	●	●	●	●	●	●
	Y1	●	●	●	●	▒		●	●	▒	▒	●	●	●	●	●	●	▒
	L□	●	●	●	●	●	●		▒	●	●	●	●	●	●	●	●	●
	N□	●	●	●	●	●	●	▒		●	●	●	●	●	●	●	●	▒
	H	●	●	●	●	●	●	●	●		▒	●	●	●	●	●	●	▒
	U	●	●	●	●	●	●	●	●	▒		●	●	●	●	●	●	●
	Blank	●	●	●	●	●	●	●	●	●	●		▒	▒	▒	▒	▒	▒
	R	●	●	●	●	●	●	●	●	●	●	▒		▒	▒	▒	▒	▒
	B	●	●	●	●	●	●	●	●	●	●	▒	▒		▒	▒	▒	▒
	T	●	●	●	●	●	●	●	●	●	●	▒	▒	▒		▒	▒	▒
	D	●	●	●	●	●	●	●	●	●	●	▒	▒	▒	▒		▒	▒
	S	●	●	●	●	●	●	●	●	●	●	▒	▒	▒	▒	▒		▒
	X	●	●	●	●	●	▒	●	▒	▒	●	▒	▒	▒	▒	▒	▒	

***1: Depending on the Bore Size, some combinations may not be possible, so be sure to check the option column in the "Model Number Notation Method" ❽ on the previous page.**

*2: If ❶mounting method "LB1" is selected, ❽options “D” or “S” cannot be selected.

Switch Individual Model No. Indication **(For parts composition, please refer to Pages 88 to 90.)**

●Switch body+Mounting bracket set (*1)

SRL3 - M0H

❻Switch Model No.

●Switch body only

SW - M0H

❻Switch Model No.

●Mounting bracket complete set (*2)

• M Type Switch

SRL3 - M

• T Type Switch

SRL3 - T

● Lead wire holder (*3)

SRL3 - MH

*1: The switch body + mounting bracket set does not include a lead wire holder. If a lead wire holder is required, please order it separately.
*2: The mounting bracket is different for M type switch and T type switch.
*3: Lead wire holder is 10 pcs/1 set.

● How to order discrete shock absorber

(1 Shock absorber, 1 Hexagon Nut for fixing shock absorber)

SRL3 - 40 - NCK

❷Bore Size

Note: Note that the Hexagon Nut only for Shock Absorbers fixing for SRL3-40 is different from the NCK standard nut.

Applicable Shock Absorber Model No.

Model	Shock Absorber Model No.
SRL3-12	NCK-00-0.3-C
SRL3-16	NCK-00-0.3-C
SRL3-20	NCK-00-0.7-C
SRL3-25	NCK-00-1.2
SRL3-32	NCK-00-2.6
SRL3-40	NCK-00-7
SRL3-50	NCK-00-12
SRL3-63	NCK-00-12
SRL3-80	NCK-00-20
SRL3-100	NCK-00-20

●Floating Joint Set Model No. Notation

(Mount, Mount Base, Pin, Flat Washer, Pan Head Screw with Spring Washer)

SRL3 - 40 - Y

❷Bore Size

● How to order discrete intermediate support bracket

For 00, LB

SRL3 - 40 - L (2 pcs / 1 set)

❷Bore Size

For LB1

SRL3 - 32 - N (2 pcs / 1 set)

❷Bore Size

● How to order full stroke adjusting bracket kit

SRL3 - 40 - A1 (1 Set)

❷Bore Size

(For parts composition, please refer to the full stroke adjustment bracket kit on P. 89.)

●Mounting Bracket Model No. Notation

(2 Brackets, 4 Mounting Bolts)

SRL3 - LB - 40

❶ Mounting type ❷Bore Size

● How to order height adjustment plate set

(Plate, 4 Mounting Bolts)

SRL3 - 40 - U

❷Bore Size

Specifications

Item		SRL3-Q									
Bore Size mm		ø12 Equivalent	ø16 Equivalent	ø20 Equivalent	ø25 Equivalent	ø32 Equivalent	ø40 Equivalent	ø50 Equivalent	ø63 Equivalent	ø80 Equivalent	ø100 Equivalent
Operation Method		Double Acting Type									
Operating Fluid		Compressed Air									
Max Operating Pressure MPa		0.7									
Min Operating Pressure MPa		0.2			0.15			0.1			
Proof Pressure MPa		1.05									
Ambient Temperature °C		5 to 60									
Port Size	Cylinder Part	M5		Rc 1/8		Rc 1/4		Rc 3/8		Rc 1/2	
	Fall Prevention Part	M5		Rc 1/8							
Stroke tolerance mm		$^{+2.0}_{0}$ (to 1000) $^{+2.5}_{0}$ (to 3000) $^{+3.0}_{0}$ (to 5000)									
Operating Piston Speed mm/s		50 to 2000 (Standard Port Piping) *1									
Cushion		Air Cushion									
Lubrication		Not required (If lubricating, use Turbine Oil Class 1 ISO VG32. Note that once lubrication is started, it must be continued.)									
Fall Prevention Mechanism		Installed on Cover R Side									
Holding Force N		Maximum Thrust × 0.7									

*1: ①When the piston moves at 500 to 2000 mm/s, reduce the speed when entering the position locking mechanism to 500 mm/s or less. For common port piping, the working piston speed varies depending on the stroke. Contact CKD.
②As a deceleration method, please use an external shock absorber or a deceleration circuit.
③Apply grease periodically to the sliding part of the lock lever.

Allowable Absorption Energy

Bore Size (mm)	With Cushion		Without Cushion	With Shock Absorber (Initial Setting)	
	Allowable Absorption Energy (J)	Cushion Stroke (mm)	Allowable Absorption Energy (J)	Absorption Energy (J)	Effective Stroke (mm)
ø12 equivalent	0.03	14.5	0.003	2.4	5.5
ø16 equivalent	0.22	19.2	0.007	2.4	5.5
ø20 equivalent	0.59	22.2	0.010	5.7	7
ø25 equivalent	1.40	20.9	0.015	10	9
ø32 equivalent	2.57	23.5	0.030	18	13
ø40 equivalent	4.27	23.9	0.050	50	16.5
ø50 equivalent	9.13	24.9	0.072	86	21
ø63 equivalent	17.4	29.6	0.138	86	21
ø80 equivalent	40	45.8	0.393	143	25
ø100 equivalent	67	45.8	0.622	143	25

Stroke

Bore Size (mm)	Standard Stroke (mm)	Max Stroke (mm)	Min Stroke (mm)
ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100 equivalent	200, 300, 400, 500, 600, 700, 800, 900, 1000	5000	5

Note: Intermediate strokes can be manufactured in 1 mm increments.

M Type Switch Mounting Quantity and Minimum Stroke (mm)

Switch Qty.	1		2	
Switch Model No. / Bore Size (mm)	M□V	M□H	M□V	M□H
ø12 equivalent	10	10	30	70
ø16 equivalent	10	10	30	70
ø20 equivalent	10	10	30	70
ø25 equivalent	10	10	30	70
ø32 equivalent	10	10	30	45
ø40 equivalent	10	10	30	45
ø50 equivalent	15	15	30	45
ø63 equivalent	15	15	30	45
ø80 equivalent	25		50	
ø100 equivalent	25		50	

T Type Switch Mounting Quantity and Minimum Stroke (mm)

Switch Qty.	1		2	
Switch Model No. / Bore Size (mm)	T□V	T□H	T□V	T□H
ø12 equivalent	5	5	45	70
ø16 equivalent	5	5	45	70
ø20 equivalent	5	5	45	70
ø25 equivalent	10	10	45	70
ø32 equivalent	10	10	45	50
ø40 equivalent	10	10	45	50
ø50 equivalent	10	10	45	50
ø63 equivalent	10	10	45	50
ø80 equivalent	15	15	45	50
ø100 equivalent	15	15	45	50

Before use, be sure to read the precautions for use for Drop prevention type on P. 106 to 109.

Cylinder Weight

Unit: kg

Bore Size (mm)	Weight at 0 mm Stroke				Switch Mounting Bracket Weight		St=Additional weight per 100 mm stroke
	Basic type (00)	Foot type		Switch Weight	T Type	M Type	
		(LB)	(LB1)				
ø12 equivalent	0.38	0.39	0.40	Refer to the mass described in the switch specifications on P. 1457.	0.005	0.001	0.10
ø16 equivalent	0.47	0.48	0.50				0.13
ø20 equivalent	0.74	0.76	0.80				0.18
ø25 equivalent	1.5	1.6	1.6				0.28
ø32 equivalent	2.4	2.5	2.6				0.36
ø40 equivalent	3.6	3.7	-				0.53
ø50 equivalent	6.0	6.1	-				0.75
ø63 equivalent	8.8	9.1	-				1.11
ø80 equivalent	22.4	23.0	-				2.32
ø100 equivalent	30.5	31.5	-				3.38

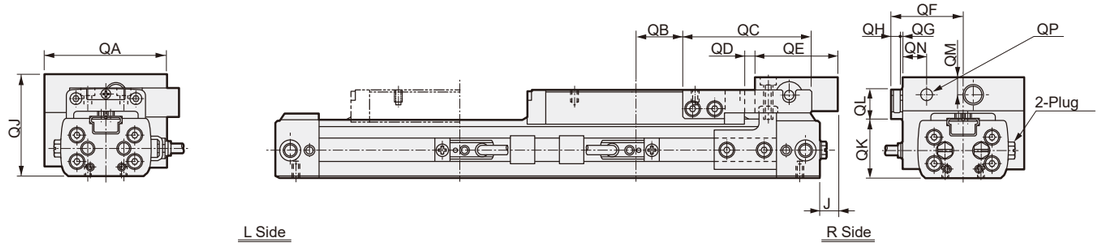
Theoretical Thrust Table

(Unit: N)

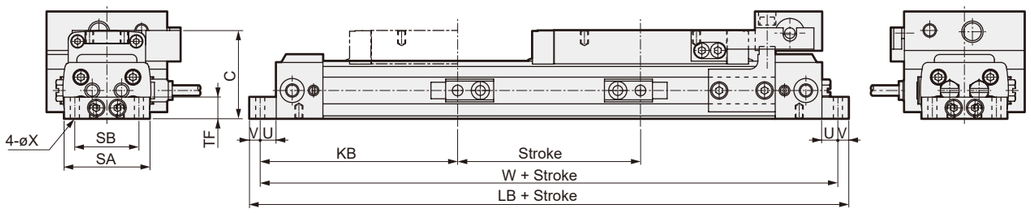
Bore Size (mm)	Operating Direction	Operating Pressure MPa							
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7
ø12 equivalent	Push/Pull	-	-	27.7	41.5	55.3	69.1	83.0	96.8
ø16 equivalent	Push/Pull	-	-	43.2	64.8	86.4	1.08×10^{2}	1.30×10^{2}	1.51×10^{2}
ø20 equivalent	Push/Pull	-	-	62.9	94.4	1.26×10^{2}	1.57×10^{2}	1.89×10^{2}	2.20×10^{2}
ø25 equivalent	Push/Pull	-	81.4	1.08×10^{2}	1.63×10^{2}	2.17×10^{2}	2.71×10^{2}	3.25×10^{2}	3.80×10^{2}
ø32 equivalent	Push/Pull	-	1.22×10^{2}	1.63×10^{2}	2.44×10^{2}	3.26×10^{2}	4.07×10^{2}	4.88×10^{2}	5.70×10^{2}
ø40 equivalent	Push/Pull	-	1.90×10^{2}	2.53×10^{2}	3.80×10^{2}	5.06×10^{2}	6.33×10^{2}	7.60×10^{2}	8.86×10^{2}
ø50 equivalent	Push/Pull	-	2.98×10^{2}	3.98×10^{2}	5.96×10^{2}	7.95×10^{2}	9.94×10^{2}	1.19×10^{3}	1.39×10^{3}
ø63 equivalent	Push/Pull	3.14×10^{2}	4.70×10^{2}	6.27×10^{2}	9.41×10^{2}	1.25×10^{3}	1.57×10^{3}	1.88×10^{3}	2.20×10^{3}
ø80 equivalent	Push/Pull	5.06×10^{2}	7.60×10^{2}	1.01×10^{3}	1.52×10^{3}	2.03×10^{3}	2.53×10^{3}	3.04×10^{3}	3.54×10^{3}
ø100 equivalent	Push/Pull	7.91×10^{2}	1.19×10^{3}	1.58×10^{3}	2.37×10^{3}	3.16×10^{3}	3.95×10^{3}	4.74×10^{3}	5.53×10^{3}

External Dimensions (Bore Size: ø12 to ø25 equivalent)

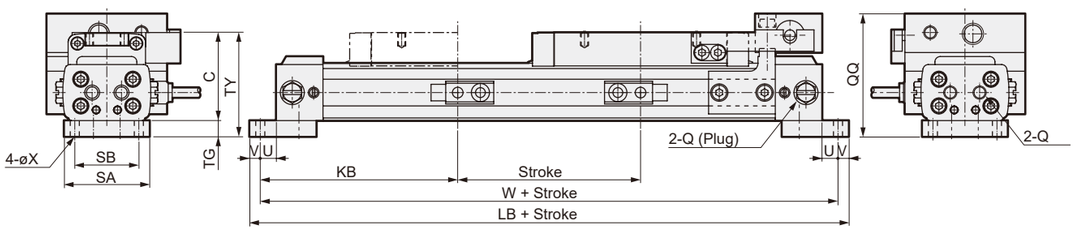
● SRL3-Q



●With Foot Bracket (LB)



●With Foot Bracket (LB1)



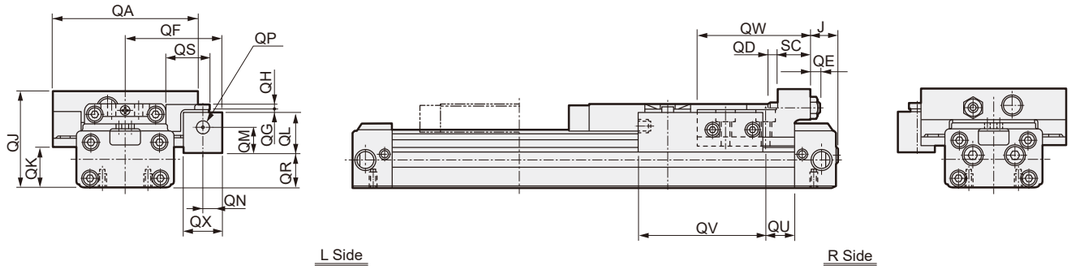
Code / Bore Size (mm)	J	QA	QB	QC	QD	QE	QF	QG	QH	QJ	QK	QL	QM	QN	QP	QQ
ø12 equivalent	0	45	19	46	2.5	25	27.5	1	4	40	21.5	12.5	7	9.5	M5	46
ø16 equivalent	0	49	19	52	2.5	28	29.5	1	4	42	25	12	7	9.5	M5	48
ø20 equivalent	-1	57	24	53	2.5	31	33.5	1	4	48	29	13	8	10.5	Rc 1/8	56
ø25 equivalent	5.5	77	26	67.5	2.5	37	43.5	1	4	62.5	36	17	8	10.5	Rc 1/8	72.5

Code	With Foot Bracket (LB)										With Foot Bracket (LB1)												
Bore Size (mm)	C	KB	LB	SA	SB	TF	U	V	W	X	C	KB	LB	Q	QQ	SA	SB	TG	TY	U	V	W	X
ø12 equivalent	33	74	156	32	24	8	6	4	148	3.4	33	74	156	M5	46	32	24	6	39	6	4	148	3.4
ø16 equivalent	37	80.5	169	35	26	8	6	4	161	3.4	37	80.5	169	M5	48	35	26	6	43	6	4	161	3.4
ø20 equivalent	42	90.5	193	43	33	10	6	6	181	4.5	42	90.5	193	Rc 1/8	56	43	33	8	50	6	6	181	4.5
ø25 equivalent	53	104	230	52	20	12	9	11	208	7	53	104	230	Rc 1/8	72.5	50	20	10	63	9	11	208	7

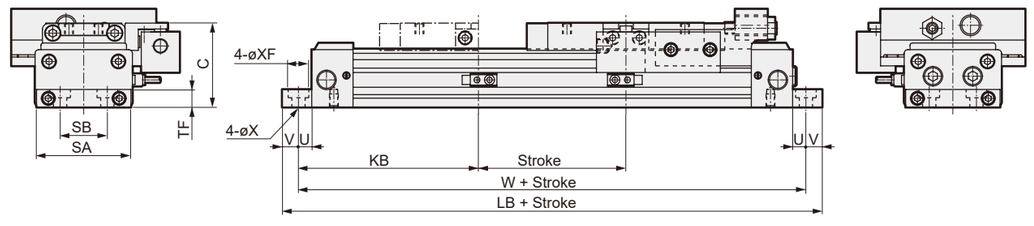
***1: For dimensions other than those listed above, please refer to P. 16 to 19, and 86.**
***2: vRefer to P. 22, 23, 51 and 52 for dimensions diagrams, and dimensions diagrams with options and accessories.**

External Dimensions (Bore Size: ø32 to ø63 equivalent)

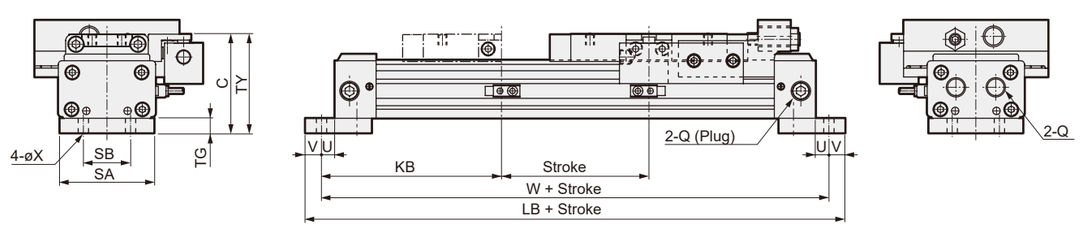
● SRL-Q



● With Foot Bracket (LB)



●With Foot Bracket (LB1)



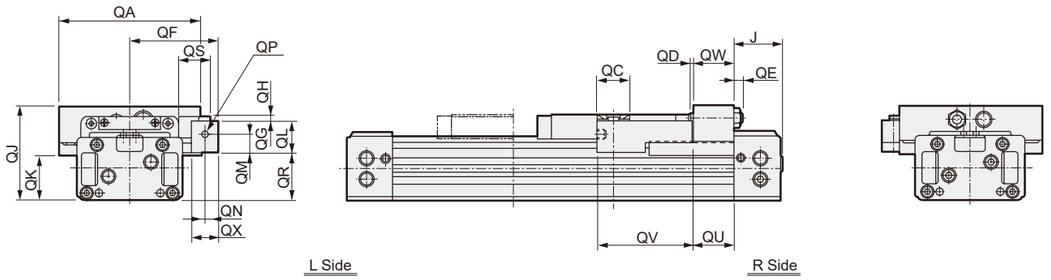
Code / Bore Size (mm)	J	QA	QD	QE	QF	QG	QH	QJ	QK	QL	QM	QN	QP	QQ	QR	QS	QU	QV	QW	QX	SC
ø32 equivalent	19.5	98	7	6	65	2	4	66.5	28	27.5	18	13	Rc 1/8	88.5	23.5	29	21	84	76	26	22
ø40 equivalent	11.5	112	7	11	72	2	4	78.5	34	27.5	18	13	Rc 1/8	-	31.5	29	27	84	87	26	32
ø50 equivalent	9.5	136	8	9	84	2	5	99	40	33	21.5	15	Rc 1/8	-	42	36	12.5	100	102	30	38
ø63 equivalent	20.5	158	8	14	95	2	5	112	50	33	21.5	15	Rc 1/8	-	55	36	31.5	100	91	30	38

Code	With Foot Bracket (LB)											With Foot Bracket (LB1)												
Bore Size (mm)	C	KB	LB	SA	SB	TF	U	V	W	X	XF	C	KB	LB	Q	QQ	SA	SB	TG	TY	U	V	W	X
ø32 equivalent	57	122	266	64	32	12	9	11	244	7	-	57	122	266	Rc 1/4	88.5	64	32	10	67	9	11	244	7
ø40 equivalent	67	133	284	80	36	15	11	9	266	9	14 Counterbore Depth 8.6	-	-	-	-	-	-	-	-	-	-	-	-	-
ø50 equivalent	82	140	298	94	45	20	11	9	280	9	14 Counterbore Depth 8.6	-	-	-	-	-	-	-	-	-	-	-	-	-
ø63 equivalent	95	161	346	116	50	25	13	12	322	11	17.5 Counterbore Depth 10.8	-	-	-	-	-	-	-	-	-	-	-	-	-

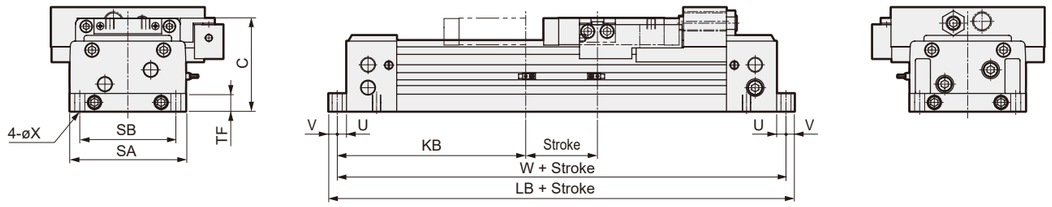
***1: For dimensions other than those listed above, please refer to P. 16 to 19 and 86.**
***2: Refer to P. 22, 23, 51 and 52 for dimensions diagram, and dimensions diagrams with options and switches.**

External Dimensions (Bore Size: ø80, ø100 equivalent)

● SRL3-Q



●With Foot Bracket (LB)



Code / Bore Size (mm)	J	QA	QC	QD	QE	QF	QG	QH	QJ	QK	QL	QM	QN	QP	QR	QS	QU	QV	QW	QX
ø80 equivalent	70	214	50	6	14	133	2	7	145	69	47.5	29	20	Rc 1/8	73.5	48	62	143	60	40
ø100 equivalent	80	250	50	6	14	145	2	7	164	88	47.5	29	20	Rc 1/8	92.5	48	62	148	60	40

Code / Bore Size (mm)	With Foot Bracket (LB)									
	C	KB	LB	SA	SB	TF	U	V	W	X
ø80 equivalent	130	263	550	162	134	25	13	12	526	14
ø100 equivalent	150	280	590	198	160	30	15	15	560	14

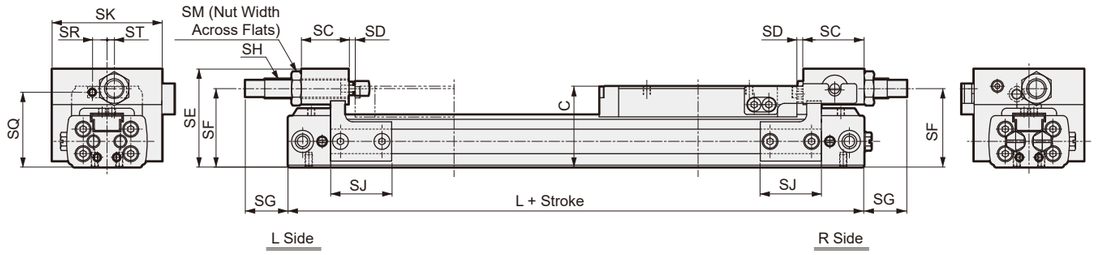
***1: For dimensions other than those listed above, please refer to P. 16 to 19 and 86.**
***2: Refer to P. 22, 23, 51 and 52 for dimensions diagram, and dimensions diagrams with options and switches.**

External Dimensions with Options

● **Full stroke adjustable with shock absorber**

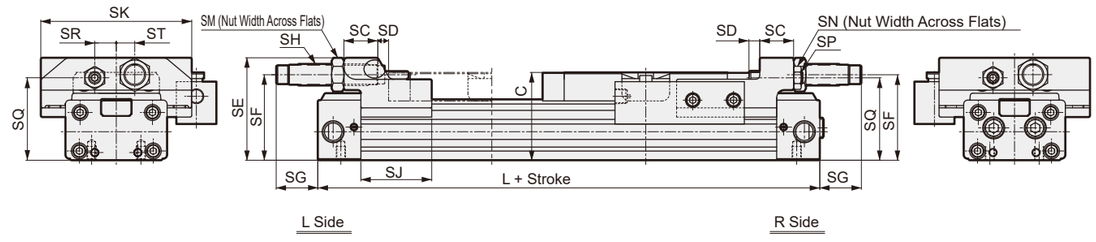
Note: Option: In case of A or A1, adjust the stroke with the entire unit on the fall prevention side, and do not perform fine adjustment with the shock absorber and Hexagon Socket Set Screw. If fine adjustment is performed with the shock absorber and Hexagon Socket Set Screw on the fall prevention side, the positional relationship between the lock lever and the fall prevention body will shift, and reliable locking will not be possible.

• ø12 to ø25 equivalent



Code / Bore Size (mm)	SC	SD	SE	SF	SG			SH		SJ	SK	SM	SN	SP	SQ	SR	ST	C	L
					At MAX	At MIN	Adjustment Range	Thread Diameter	Max Absorption Energy J										
ø12 equivalent	19.5	2.5	40	32	17.5	7.5	10	M8×0.75	3	25	45	12	5.5	M3	30.5	6	3	33	136
ø16 equivalent	18	4	42	35	14.5	4.5	10	M8×0.75	3	25	49	12	5.5	M3	34	6	4	37	149
ø20 equivalent	22.5	3.5	48	40	14.5	4.5	10	M10×1.0	7	39	57	14	7	M4	38	8	5	42	169
ø25 equivalent	20	2.5	62.5	51.5	14.5	4.5	10	M12×1.0	12	50	77	17	10	M6	50	12	10	53	190

• ø32 to ø63 equivalent



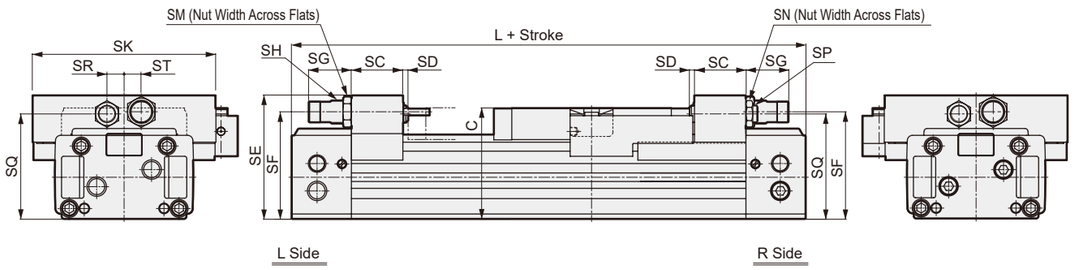
Code / Bore Size (mm)	SC	SD	SE	SF	SG			SH		SJ	SK	SM	SN	SP	SQ	SR	ST	C	L
					At MAX	At MIN	Adjustment Range	Thread Diameter	Max Absorption Energy J										
ø32 equivalent	22	7	66.5	55.5	27	17	10	M14×1.5	26	46	98	19	13	M8	53.5	14	12	57	226
ø40 equivalent	32	7	78.5	65.5	34	24	10	M20×1.5	70	51	112	24	17	M10	63.5	17	12	67	244
ø50 equivalent	38	8	99	80	55	45	10	M25×1.5	120	53	136	32	19	M12	77.5	22	17	82	258
ø63 equivalent	38	8	112	93.5	44	34	10	M25×1.5	120	64	158	32	24	M16	89	25	20	95	296

External Dimensions with Options

● Full stroke adjustable with shock absorber

Note: Option: In case of A or A1, adjust the stroke with the entire unit on the fall prevention side, and do not perform fine adjustment with the shock absorber and Hexagon Socket Set Screw. If fine adjustment is performed with the shock absorber and Hexagon Socket Set Screw on the fall prevention side, the positional relationship between the lock lever and the fall prevention body will shift, and reliable locking will not be possible.

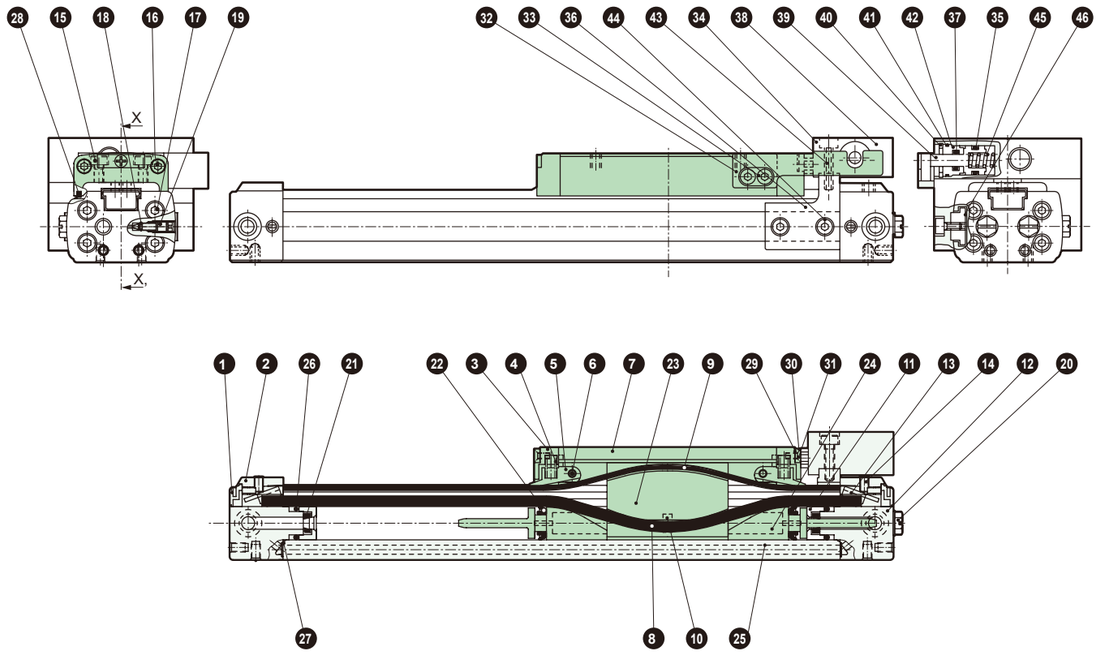
・ø80 to ø100 equivalent



Code / Bore Size (mm)	SC	SD	SE	SF	SG			SH		SK	SM	SN	SP	SQ	SR	ST	C	L
					At MAX	At MIN	Adjustment Range	Thread Diameter	Max Absorption Energy J									
ø80 equivalent	60	6	145	125.5	50	40	10	M27×1.5	200	214	32	27	M20	123	20	20	130	500
ø100 equivalent	60	6	164	144.5	50	40	10	M27×1.5	200	250	32	27	M20	142	20	20	150	530

MEMO

Internal Structure / Material (Bore Size: ø12 to ø25 equivalent)

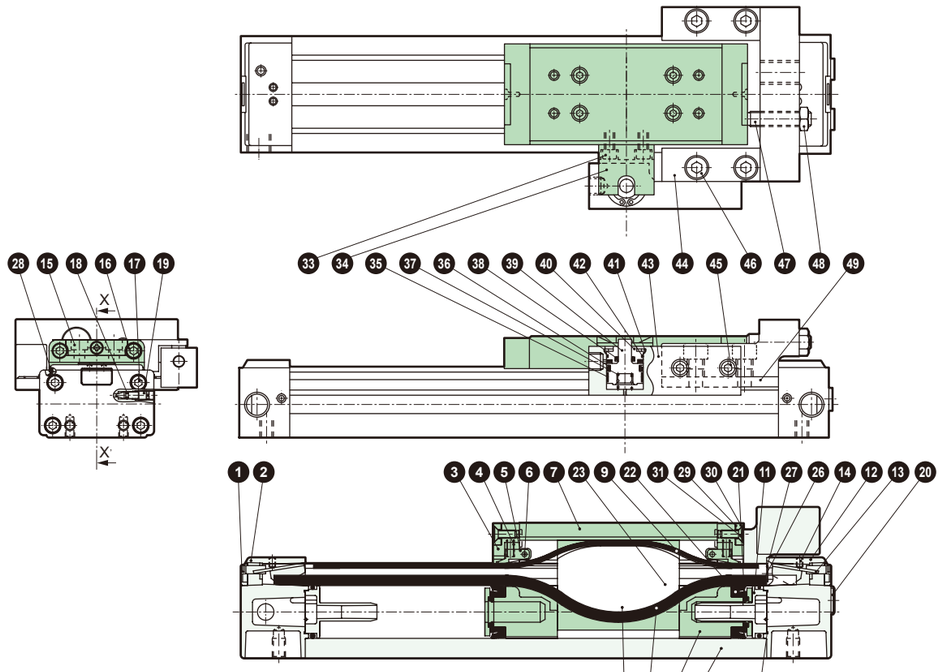


X-X, Cross-sectional view

Part No.	Part Name	Material	Remarks
1	Belt Cover	Polyamide	
2	Cover (L)	Aluminum Alloy	Baked Painting
3	Table Cover	Polyacetal	
4	Spring	Steel	Black Oxide
5	Belt Holder	Polyacetal	
6	Parallel Pin (ø12 to ø20) Shaft (ø25)	Stainless Steel Steel	 Zinc Chromate
7	Table	Aluminum Alloy	Alumite
8	Seal Belt	Urethane Rubber	
9	Dustproof Belt	Stainless Steel, Nitrile Rubber	
10	Magnet		
11	Cushion Adapter	Polyacetal	
12	Cover (R)	Aluminum Alloy	Baked Painting
13	Belt Spacer	Steel	Zinc Chromate
14	Hexagon Socket Set Screw	Alloy Steel	Zinc Chromate
15	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
16	Hexagon Socket Head Cap Screw	Stainless Steel	
17	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
18	Needle Gasket	Nitrile Rubber	
19	Cushion Needle	Steel	Zinc Chromate
20	Plug	ø12, ø16: Copper Alloy ø20 to ø25: Steel	ø12, ø16: Nickel Plating ø20 to ø25: Zinc Chromate
21	Cushion Seal	Urethane Rubber	
22	Piston Packing	Nitrile Rubber	
23	Yoke	Aluminum Alloy	Alumite
24	Piston	Polyacetal	
25	Cylinder Tube	Aluminum Alloy	Alumite
26	Cylinder Gasket	Nitrile Rubber	
27	O-ring for Centralized Port	Nitrile Rubber	
28	Scraper	Polyacetal	
29	Double-sided Tape		
30	Plate	ø12 to ø20: Stainless Steel ø25: Alloy Steel	 ø25: Zinc Chromate
31	Cross-Recessed Tapping Screw	Stainless Steel	
32	Lock Lever	Alloy Steel	Chrome Plating
33	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
34	Stopper	Steel	Black Oxide
35	Piston Packing	Nitrile Rubber	
36	Adapter	Steel	Zinc Chromate
37	Rod Seal	Nitrile Rubber	
38	Fall Prevention Body	Aluminum Alloy	Alumite
39	Lock Pin (Stopper Piston)	Alloy Steel	Chrome Plating
40	C-Type Retaining Ring for Holes	Steel	
41	Gasket	Nitrile Rubber	
42	Rod Cover	Aluminum Alloy	Alumite
43	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
44	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
45	Spring	Steel	Electrodeposition Coating
46	Plate Nut	Alloy Steel	Black Oxide

For maintenance parts, please visit the CKD Equipment Product Site (https: //www.ckd.co.jp/kiki/en/) → "model No." → Maintenance Parts.

Internal Structure / Material (Bore Size: ø32 to ø63 equivalent)

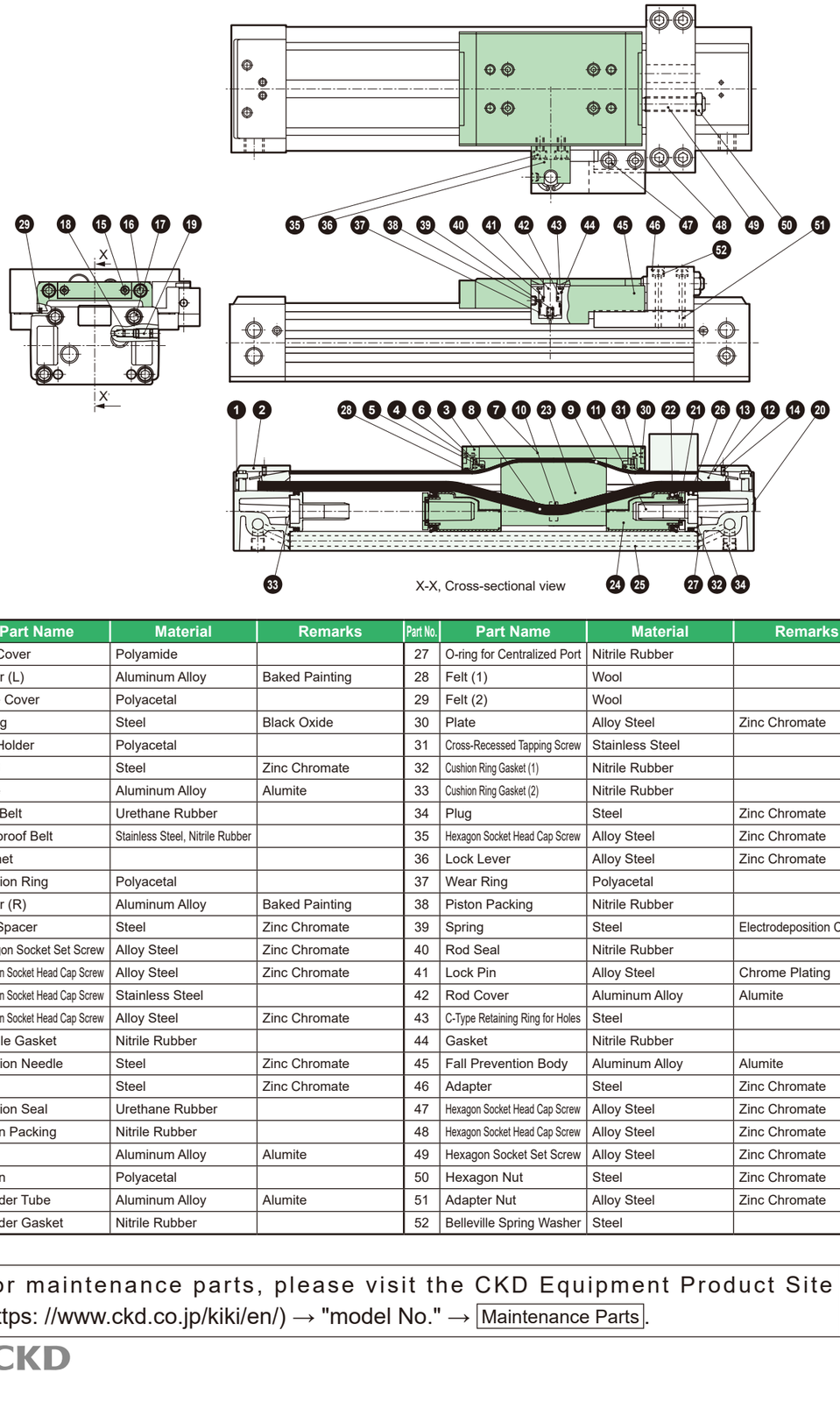


X-X, Cross-sectional view

Part No.	Part Name	Material	Remarks
1	Belt Cover	Polyamide	
2	Cover (L)	Aluminum Alloy	Baked Painting
3	Table Cover	Polyacetal	
4	Spring	Steel	Black Oxide
5	Belt Holder	Polyacetal	
6	Shaft	Steel	Zinc Chromate
7	Table	Aluminum Alloy	Alumite
8	Seal Belt	Urethane Rubber	
9	Dustproof Belt	Stainless Steel, Nitrile Rubber	
10	Magnet		
11	Cushion Ring	Polyacetal	
12	Cover (R)	Aluminum Alloy	Baked Painting
13	Belt Spacer	Steel	Zinc Chromate
14	Hexagon Socket Set Screw	Alloy Steel	Zinc Chromate
15	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
16	Hexagon Socket Head Cap Screw	Stainless Steel	
17	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
18	Needle Gasket	Nitrile Rubber	
19	Cushion Needle	Steel	Zinc Chromate
20	Plug	Steel	Zinc Chromate
21	Cushion Seal	Urethane Rubber	
22	Piston Packing	Nitrile Rubber	
23	Yoke	Aluminum Alloy	Alumite
24	Piston	Polyacetal	
25	Cylinder Tube	Aluminum Alloy	Alumite
26	Cylinder Gasket	Nitrile Rubber	
27	O-ring for Centralized Port	Nitrile Rubber	
28	Scraper	Polyacetal	
29	Double-sided Tape		
30	Plate	Alloy Steel	Zinc Chromate
31	Cross-Recessed Tapping Screw	Stainless Steel	
32	Cushion Ring Gasket	Nitrile Rubber	ø50, ø63 only
33	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
34	Lock Lever	Alloy Steel	Zinc Chromate
35	Wear Ring	Polyacetal	
36	Piston Packing	Nitrile Rubber	
37	Spring	Steel	Electrodeposition Coating
38	Rod Seal	Nitrile Rubber	
39	Lock Pin	Alloy Steel	Chrome Plating
40	Rod Cover	Aluminum Alloy	Alumite
41	C-Type Retaining Ring for Holes	Steel	
42	Gasket	Nitrile Rubber	
43	Fall Prevention Body	Aluminum Alloy	Alumite
44	Adapter	Steel	Zinc Chromate
45	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
46	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
47	Hexagon Socket Set Screw	Alloy Steel	Zinc Chromate
48	Hexagon Nut	Steel	Zinc Chromate
49	Adapter Nut	Alloy Steel	Zinc Chromate

For maintenance parts, please visit the CKD Equipment Product Site (https: //www.ckd.co.jp/kiki/en/) → "model No." → Maintenance Parts.

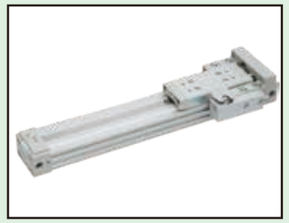
Internal Structure / Material (Bore Size: ø80, ø100 equivalent)



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Belt Cover	Polyamide		27	O-ring for Centralized Port	Nitrile Rubber	
2	Cover (L)	Aluminum Alloy	Baked Painting	28	Felt (1)	Wool	
3	Table Cover	Polyacetal		29	Felt (2)	Wool	
4	Spring	Steel	Black Oxide	30	Plate	Alloy Steel	Zinc Chromate
5	Belt Holder	Polyacetal		31	Cross-Recessed Tapping Screw	Stainless Steel	
6	Shaft	Steel	Zinc Chromate	32	Cushion Ring Gasket (1)	Nitrile Rubber	
7	Table	Aluminum Alloy	Alumite	33	Cushion Ring Gasket (2)	Nitrile Rubber	
8	Seal Belt	Urethane Rubber		34	Plug	Steel	Zinc Chromate
9	Dustproof Belt	Stainless Steel, Nitrile Rubber		35	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
10	Magnet			36	Lock Lever	Alloy Steel	Zinc Chromate
11	Cushion Ring	Polyacetal		37	Wear Ring	Polyacetal	
12	Cover (R)	Aluminum Alloy	Baked Painting	38	Piston Packing	Nitrile Rubber	
13	Belt Spacer	Steel	Zinc Chromate	39	Spring	Steel	Electrodeposition Coating
14	Hexagon Socket Set Screw	Alloy Steel	Zinc Chromate	40	Rod Seal	Nitrile Rubber	
15	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate	41	Lock Pin	Alloy Steel	Chrome Plating
16	Hexagon Socket Head Cap Screw	Stainless Steel		42	Rod Cover	Aluminum Alloy	Alumite
17	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate	43	C-Type Retaining Ring for Holes	Steel	
18	Needle Gasket	Nitrile Rubber		44	Gasket	Nitrile Rubber	
19	Cushion Needle	Steel	Zinc Chromate	45	Fall Prevention Body	Aluminum Alloy	Alumite
20	Plug	Steel	Zinc Chromate	46	Adapter	Steel	Zinc Chromate
21	Cushion Seal	Urethane Rubber		47	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
22	Piston Packing	Nitrile Rubber		48	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
23	Yoke	Aluminum Alloy	Alumite	49	Hexagon Socket Set Screw	Alloy Steel	Zinc Chromate
24	Piston	Polyacetal		50	Hexagon Nut	Steel	Zinc Chromate
25	Cylinder Tube	Aluminum Alloy	Alumite	51	Adapter Nut	Alloy Steel	Zinc Chromate
26	Cylinder Gasket	Nitrile Rubber		52	Belleville Spring Washer	Steel	

For maintenance parts, please visit the CKD Equipment Product Site (https: //www.ckd.co.jp/kiki/en/) → "model No." → Maintenance Parts.

MEMO



Rodless Cylinder Double Acting, Resin guide, Drop prevention type

SRL3-GQ Series

● Bore Size: ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100 or equivalent

Circuit Diagram Code 

RoHS

Model No. Notation

Without Switch
(Built-in magnet for switch)

SRL3-GQ - 00 - 12 [ ] B - 200 ——— B

Model No. ❶ ❷ ❸ ❹ ❺ ❽

With Switch
(Built-in magnet for switch)

SRL3-GQ - 00 - 12 [ ] B - 200 - M0H - R - B

Model No. ❶Mounting type ❷Bore Size ❸Piping thread type ❹Cushion ❺Stroke ❻Switch Model No. ❼Number of Switches ❽Option

❶Mounting type

Mounting brackets are pre-assembled on the product and shipped.

Code	Content	
00	Basic type	
LB	Axial Foot Type	
LB1	Axial Foot Type (ø12 to ø32 equivalent only)	

Note: When the Bore Size of ❷ is equivalent to ø12, 16, 20, 25, or 32, and the option code ❽ is "R" or "T", the mounting style is "00" or "LB1". (Mounting style "LB" cannot be manufactured with option code ❽ "R" and "T" because piping is not possible.)

❷Bore Size (mm)

Code	Content
12	ø12 equivalent
16	ø16 equivalent
20	ø20 equivalent
25	ø25 equivalent
32	ø32 equivalent
40	ø40 equivalent
50	ø50 equivalent
63	ø63 equivalent
80	ø80 equivalent
100	ø100 equivalent

❸Piping thread type

Code	Content
Blank	M5 (ø12, ø16 equivalent) Rc Thread (ø20 to ø100 equivalent)
N	NPT Thread (ø20 equivalent or larger) (Custom-made)
G	G Thread (ø20 equivalent or larger) (Custom-made)

❹Cushion

Code	Content
B	With Cushion on Both Sides
R	With R Side Cushion
L	With L Side Cushion
N	Without Cushion

❺Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø12 to ø100 equivalent	5 to 5000	Every 1 mm

Note: For the minimum stroke with switch, please refer to P. 62.

❻Switch Model No.

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

	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	-	10 to 30	-	5 to 30	M2H□	M2V□	
	2-Color		-	10 to 30	-	5 to 30	-	M2WV□	
	1-Color	3-wire (NPN)	-	30 or less	-	100 or less	M3H□	M3V□	
	2-Color		-	30 or less	-	100 or less	-	M3WV□	
	1-Color (Custom order)	3-wire (PNP)	-	30 or less	-	100 or less	M3PH□	M3PV□	
	2-Color	2-wire	-	24 ± 10%	-	5 to 20	T2WH□	T2WV□	
		3-wire (NPN)	-	30 or less	-	50 or less	T3WH□	T3WV□	
	2-Color for AC Magnetic Field	2-wire	-	24 ± 10%	-	5 to 20	T2YD□	-	
			-		-		T2YDT□	-	
Reed	1-Color	2-wire	110	12/24	-	5 to 50	M0H□	M0V□	
	No Indicator LED		110	5/12/24	-	50 or less	M5H□	M5V□	

*1: For "□" in the switch model number, enter the code selected from the "Lead wire length" table.
*2: Switches other than the model numbers listed above are also available. (Custom Product) For details, see P. 1457.

* Lead wire length

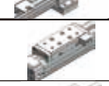
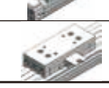
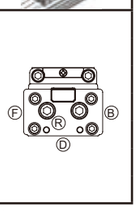
Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)

Example) Lead wire length
1 m M0V
3 m M0V3
5 m M0V5

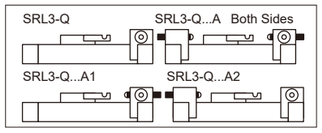
❼Number of Switches

Code	Content
R	With 1 pc on R side
L	With 1 pc on L side
D	With 2 pcs
T	With 3 pcs
4	With 4 pcs (If 4 or more, enter the number of switches)

❽ Option

	Code	Description	Bore Size (ø) equivalent 12	16	20	25	32	40	50	63	80	100	
	A	Full stroke adjustment both sides, with shock absorber	●	●	●	●	●	●	●	●	●	●	
	A1	Full stroke adjustment R side only, with shock absorber	●	●	●	●	●	●	●	●	●	●	
	A2	Full stroke adjustment L side only, with shock absorber	●	●	●	●	●	●	●	●	●	●	
	A3	Full Stroke Adjustment Bracket Retrofit Type	●	●	●	●							
*2	L*	Intermediate Support Bracket (for 00, LB)	●	●	●	●	●	●	●	●	●	●	
*2	N*	With Intermediate Support Bracket (for LB1)	●	●	●	●	●						
*5	H	Table Mounting Screw Size Up	●	●	●								
	U	Height Adjustment Plate	●	●	●	●	●	●	●	●	●	●	
	Blank	Port Position: F (Standard) / Cushion Needle Position: F (Standard)	●	●	●	●	●	●	●	●	●	●	
	R	Port Position: R (Centralized Port) / Cushion Needle Position: F	●	●	●	●	●	●	●	●	●	●	
	B	Port Position: F / Cushion Needle Position: B	●	●	●	●	●	●	●	●	●	●	
	T	Port Position: R (Centralized port) / Cushion Needle Position: B	●	●	●	●	●	●	●	●	●	●	
	D	Port Position: D / Cushion Needle Position: F				●	●	●	●	●	●	●	
	S	Port Position: D / Cushion Needle Position: D					●	●	●	●	●	●	
	X	Port Position: F (Centralized Port) / Cushion Needle Position: F									●	●	

*1: Since the full stroke adjustment bracket on the R side is standard equipment for the drop prevention type, only the shock absorber is added to the R side when A1 is specified. When A is indicated, the R side is equipped with fall prevention, full stroke adjustment, and shock absorber, and the L side is equipped with full stroke adjustment and shock absorber. (Figure below)



2: The "" in L* and N* indicates the number of sets. If 2 sets are required, enter "L2" (for LB) or "N2" (for LB1). 2 pcs./set
*3: For port and cushion needle position display symbols, please refer to the external dimensions diagrams on P. 64 to 66.
*4: In the case of the standard with ø12 to ø25, remove the cover, attach a flat nut and install the full stroke adjusting bracket. A3 is an option with a mounting plate nut assembled for retrofitting the full stroke adjustment bracket without removing the cover.
*5:In "H", the thread size for ø12 and ø16 is "M4" and the thread size for ø20 is "M5".
*6: Be sure to check the combination of options in the "Option Combination Table" on the next page.
*7: If ❶mounting method "LB1" is selected, options "D" or "S" cannot be selected.

Option Combination Table

●: Combinable ⬜: Not Combinable

		Option														
		Full Stroke Adjustment Both Sides, Shock Absorber	Full stroke adjustment R side only, with shock absorber	Full stroke adjustment L side only, with shock absorber	Full Stroke Adjustment Bracket Retrofit Type	Intermediate support bracket (for 00, LB)	Intermediate Support Bracket (for LB1)	Table Mounting Screw Size Up	Height Adjustment Plate	Port position F, Cushion needle position F (Standard)	Port position R, Cushion needle position F (Centralized port)	Port position F, Cushion needle position B	Port position R, Cushion needle position B (Centralized port)	Port position D, Cushion needle position F	Port position D, Cushion needle position D	Port position F, Cushion needle position F (Centralized port)
	Code	A	A1	A2	A3	L□	N□	H	U	Blank	R	B	T	D	S	X
Option	A	＼				●	●	●	●	●	●	●	●	●	●	●
	A1		＼			●	●	●	●	●	●	●	●	●	●	●
	A2			＼		●	●	●	●	●	●	●	●	●	●	●
	A3				＼	●	●	●	●	●	●	●	●	●	●	
	L□					＼		●	●	●	●	●	●	●	●	●
	N□						＼	●	●	●	●	●	●	●	●	
	H							＼		●	●	●	●	●	●	
	U								＼	●	●	●	●	●	●	●
	Blank									＼						
	R										＼					
	B											＼				
	T												＼			
	D													＼		
	S														＼	
	X															＼

***1: Depending on the Bore Size, some combinations may not be possible, so be sure to check the ❽option column in the "Model Number Notation Method" on the previous page.**

*2: If ❶mounting method "LB1" is selected, ❽options “D” or “S” cannot be selected.

Switch Individual Model No. Notation **(For parts composition, please refer to P. 88 to 90.)**

●Switch body+Mounting bracket set (*1)

SRL3 - M0H

❻Switch Model No.

●Switch body only

SW - M0H

❻Switch Model No.

●Mounting bracket complete set (*2)

• M Type Switch

SRL3 - M

• T Type Switch

SRL3 - T

Note: The mounting bracket differs between M type switch and T type switch.

● Lead wire holder (*3)

SRL3 - MH

*1: The switch body + mounting bracket set does not include a lead wire holder. If a lead wire holder is required, please order it separately.
*2: The mounting bracket is different for M type switch and T type switch.
*3: Lead wire holder is 10 pcs./set.

● How to order discrete shock absorber

SRL3 - 40 - NCK

❷Bore Size

(1 Shock absorber, 1 Hexagon Nut for fixing shock absorber)

Note: Note that the Hexagon Nut only for Shock Absorbers fixing for SRL3-40 is different from the NCK standard nut.

Applicable Shock Absorber Model No.

Model	Shock Absorber Model No.
SRL3-12	NCK-00-0.3-C
SRL3-16	NCK-00-0.3-C
SRL3-20	NCK-00-0.7-C
SRL3-25	NCK-00-1.2
SRL3-32	NCK-00-2.6
SRL3-40	NCK-00-7
SRL3-50	NCK-00-12
SRL3-63	NCK-00-12
SRL3-80	NCK-00-20
SRL3-100	NCK-00-20

● How to order discrete intermediate support bracket

For 00, LB

SRL3 - 40 - L (2 pcs / 1 set)

❷Bore Size

For LB1

SRL3 - 32 - N (2 pcs / 1 set)

❷Bore Size

●Mounting Bracket Model No. Notation

SRL3 - LB - 40

❶ Mounting type ❷Bore Size

(2 Brackets, 4 Mounting Bolts)

● How to order height adjustment plate set

SRL3 - 40 - U

❷Bore Size

(Plate, 4 Mounting Bolts)

● How to order full stroke adjusting bracket kit

SRL3 - 40 - A1 (1 Set)

❷Bore Size

(For parts composition, please refer to the full stroke adjustment bracket kit on P. 89.)

Specifications

Item		SRL3-GQ									
Bore Size	mm	ø12 equivalent	ø16 equivalent	ø20 equivalent	ø25 equivalent	ø32 equivalent	ø40 equivalent	ø50 equivalent	ø63 equivalent	ø80 equivalent	ø100 equivalent
Operation Method		Double Acting Type									
Operating Fluid		Compressed Air									
Max Operating Pressure	MPa	0.7									
Min Operating Pressure	MPa	0.25			0.15			0.1			
Proof Pressure	MPa	1.05									
Ambient Temperature	°C	5 to 60									
Port Size	Cylinder Part	M5		Rc 1/8		Rc 1/4		Rc 3/8		Rc 1/2	
	Fall Prevention Part	M5		Rc 1/8							
Stroke tolerance	mm	$^{+2.0}_{0}$ (up to 1000), $^{+2.5}_{0}$ (up to 3000), $^{+3.0}_{0}$ (up to 5000)									
Operating Piston Speed	mm/s	50 to 2000 (Standard Port Piping) *1									
Cushion		Air Cushion									
Lubrication		Not required (If lubricating, use Turbine Oil Class 1 ISO VG32. Note that once lubrication is started, it must be continued.)									
Fall Prevention Mechanism		Installed on Cover R Side									
Holding Force	N	Maximum Thrust × 0.7									

*1: ①When the piston moves at 500 to 2000 mm/s, reduce the speed when entering the position locking mechanism to 500 mm/s or less. Also, the operating piston speed for centralized port piping varies depending on the stroke, so please consult us separately.
②As a deceleration method, please use an external shock absorber or a deceleration circuit.
③Apply grease periodically to the sliding part of the lock lever.

Allowable Absorption Energy

Bore Size (mm)	With Cushion		Without Cushion	With Shock Absorber (Initial Setting)	
	Allowable Absorption Energy (J)	Cushion Stroke (mm)	Allowable Absorption Energy (J)	Absorption Energy (J)	Effective Stroke (mm)
ø12 equivalent	0.03	14.5	0.003	2.4	5.5
ø16 equivalent	0.22	19.2	0.007	2.4	5.5
ø20 equivalent	0.59	22.2	0.010	5.7	7
ø25 equivalent	1.40	20.9	0.015	10	9
ø32 equivalent	2.57	23.5	0.030	18	13
ø40 equivalent	4.27	23.9	0.050	50	16.5
ø50 equivalent	9.13	24.9	0.072	86	21
ø63 equivalent	17.4	29.6	0.138	86	21
ø80 equivalent	40	45.8	0.393	143	25
ø100 equivalent	67	45.8	0.622	143	25

Stroke

Bore Size (mm)	Standard Stroke (mm)	Max Stroke (mm)	Min Stroke (mm)
ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100 equivalent	200, 300, 400, 500, 600, 700, 800, 900, 1000	5000	5

Note: Intermediate strokes can be manufactured in 1 mm increments.

M Type Switch Mounting Quantity and Min Stroke (mm)

Switch Qty.	1		2	
Switch Model No. / Bore Size (mm)	M□V	M□H	M□V	M□H
ø12 equivalent	10	10	30	70
ø16 equivalent	10	10	30	70
ø20 equivalent	10	10	30	70
ø25 equivalent	10	10	30	70
ø32 equivalent	10	10	30	45
ø40 equivalent	10	10	30	45
ø50 equivalent	15	15	30	45
ø63 equivalent	15	15	30	45
ø80 equivalent	25		50	
ø100 equivalent	25		50	

T Type Switch Mounting Quantity and Min Stroke (mm)

Switch Qty.	1		2	
Switch Model No. / Bore Size (mm)	T□V	T□H	T□V	T□H
ø12 equivalent	5	5	45	70
ø16 equivalent	5	5	45	70
ø20 equivalent	5	5	45	70
ø25 equivalent	10	10	45	70
ø32 equivalent	10	10	45	50
ø40 equivalent	10	10	45	50
ø50 equivalent	10	10	45	50
ø63 equivalent	10	10	45	50
ø80 equivalent	15	15	45	50
ø100 equivalent	15	15	45	50

Be sure to read the Safety precautions for Drop prevention type on P. 106 to 109 before use.

Cylinder Weight

Unit: kg

Bore Size (mm)	Weight at 0 mm Stroke			Switch Weight	Switch Mounting Bracket Weight		St=Additional weight per 100 mm stroke
	Basic type (00)	Foot type			T Type	M Type	
		(LB)	(LB1)				
ø12 equivalent	0.38	0.39	0.40	Refer to the mass described in the switch specifications on P. 1457.	0.005	0.001	0.10
ø16 equivalent	0.47	0.48	0.50				0.13
ø20 equivalent	0.74	0.76	0.80				0.18
ø25 equivalent	1.5	1.6	1.6				0.28
ø32 equivalent	2.4	2.5	2.6				0.36
ø40 equivalent	3.6	3.7	-				0.53
ø50 equivalent	6.0	6.1	-				0.75
ø63 equivalent	8.8	9.1	-				1.11
ø80 equivalent	22.4	23.0	-				2.32
ø100 equivalent	30.5	31.5	-				3.38

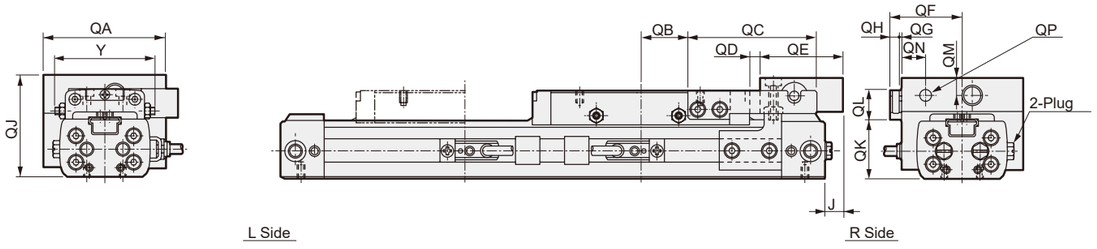
Theoretical Thrust Table

(Unit: N)

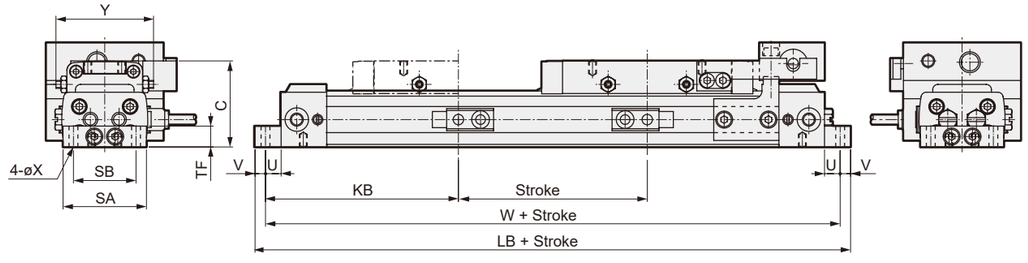
Bore Size (mm)	Operating Direction	Operating Pressure MPa								
		0.1	0.15	0.2	0.25	0.3	0.4	0.5	0.6	0.7
ø12 equivalent	Push/Pull	-	-	-	34.6	41.5	55.3	69.1	83.0	96.8
ø16 equivalent	Push/Pull	-	-	-	54.0	64.8	86.4	1.08×10^2	1.30×10^2	1.51×10^2
ø20 equivalent	Push/Pull	-	-	-	78.6	94.4	1.26×10^2	1.57×10^2	1.89×10^2	2.20×10^2
ø25 equivalent	Push/Pull	-	81.4	1.08×10^2	1.35×10^2	1.63×10^2	2.17×10^2	2.71×10^2	3.25×10^2	3.80×10^2
ø32 equivalent	Push/Pull	-	1.22×10^2	1.63×10^2	2.04×10^2	2.44×10^2	3.26×10^2	4.07×10^2	4.88×10^2	5.70×10^2
ø40 equivalent	Push/Pull	-	1.90×10^2	2.53×10^2	3.16×10^2	3.80×10^2	5.06×10^2	6.33×10^2	7.60×10^2	8.86×10^2
ø50 equivalent	Push/Pull	-	2.98×10^2	3.98×10^2	4.94×10^2	5.96×10^2	7.95×10^2	9.94×10^2	1.19×10^3	1.39×10^3
ø63 equivalent	Push/Pull	3.14×10^2	4.70×10^2	6.27×10^2	7.84×10^2	9.41×10^2	1.25×10^3	1.57×10^3	1.88×10^3	2.20×10^3
ø80 equivalent	Push/Pull	5.06×10^2	7.60×10^2	1.01×10^3	1.26×10^3	1.52×10^3	2.03×10^3	2.53×10^3	3.04×10^3	3.54×10^3
ø100 equivalent	Push/Pull	7.91×10^2	1.19×10^3	1.58×10^3	1.98×10^3	2.37×10^3	3.16×10^3	3.95×10^3	4.74×10^3	5.53×10^3

External dimensions diagram (Bore Size: Equivalent to ø12 to ø25)

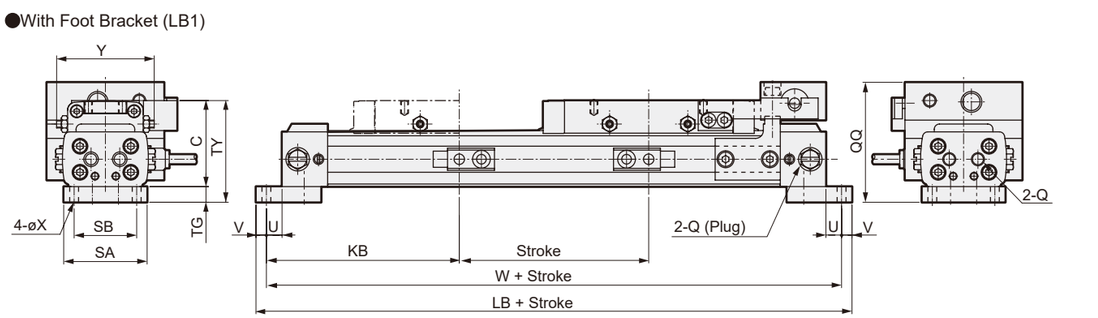
● SRL3-GQ



●With Foot Bracket (LB)



●With Foot Bracket (LB1)



Code / Bore Size (mm)	A	B	C	DA	DB	DC	DD	E	G	HA	HB	HC	J	JJ	KA	L	LL	LA	M	P	PQ	Q
ø12 equivalent	33	10.5	33	8	10	11	-	8.5	24	6	14	-	17.5	0	59.5	136	139	3	M3 Depth 5	119	19	M5
ø16 equivalent	37	12	37	12	14	12	-	8.5	27	6	14	-	17.5	0	66	149	152	3	M3 Depth 5	132	21	M5
ø20 equivalent	44	14	42	16	16	16	-	10.5	31	8.5	18.5	-	22	-1	74	169	171.5	2.5	M4 Depth 6.5	148	24.5	Rc 1/8
ø25 equivalent	53	17	53	-	20	26	19	14	40.5	7.5	20	18.9	24	5.5	81	190	192	2	M6 Depth 9	162	-	Rc 1/8

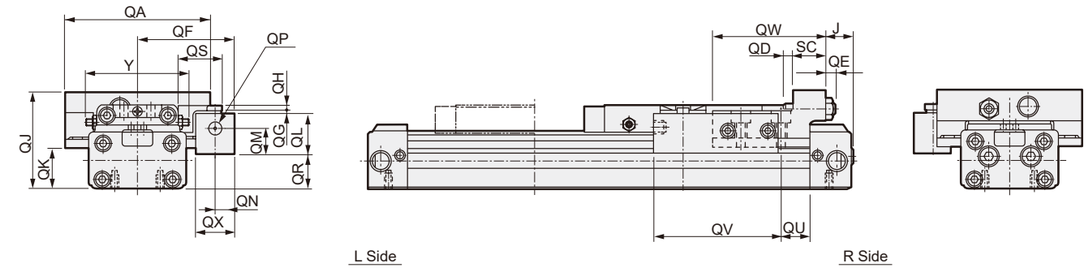
Code / Bore Size (mm)	QA	QB	QC	QD	QE	QF	QG	QH	QJ	QK	QL	QM	QN	QP	TA	TB	TC	TD	TE	Y
ø12 equivalent	45	19	46	2.5	25	27.5	1	4	40	21.5	12.5	12.5	9.5	M5	81	42	29	13	M3 Depth 5	36 to 38
ø16 equivalent	49	19	52	2.5	28	29.5	1	4	42	25	25	12	9.5	N5	88	48	32	15	M3 Depth 5	39 to 41
ø20 equivalent	57	24	53	2.5	31	33.5	1	4	48	29	29	13	10.5	Rc 1/8	100	60	38	18	M4 Depth 6	43 to 45
ø25 equivalent	77	26	67.5	2.5	37	43.5	1	4	62.5	36	36	17	10.5	Rc 1/8	122	70	48	20	M5 Depth 6	58 to 61

Code	With Foot Bracket (LB)											With Foot Bracket (LB1)											
Bore Size (mm)	C	KB	LB	SA	SB	TF	U	V	W	X	Y	C	KB	LB	Q	QQ	SA	SB	TG	TY	U	V	W	X	Y
ø12 equivalent	33	74	156	32	24	8	6	4	148	3.4	36 to 38	33	74	156	M5	46	32	24	6	39	6	4	148	3.4	36 to 38
ø16 equivalent	37	80.5	169	35	26	8	6	4	161	3.4	39 to 41	37	80.5	169	M5	48	35	26	6	43	6	4	161	3.4	39 to 41
ø20 equivalent	42	90.5	193	43	33	10	6	6	181	4.5	43 to 45	42	90.5	193	Rc 1/8	56	43	33	8	50	6	6	181	4.5	43 to 45
ø25 equivalent	53	104	230	52	20	12	9	11	208	7	58 to 61	53	104	230	Rc 1/8	72.5	52	20	10	63	9	11	208	7	58 to 61

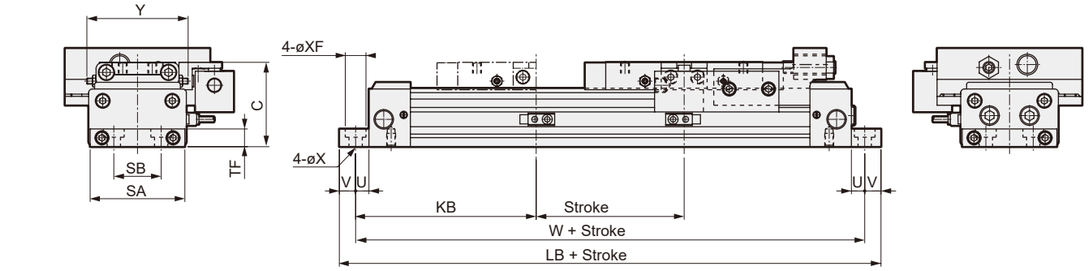
***1: For dimensions other than those listed above, please refer to P. 16 to 19 and 86.**
***2: Refer to P. 22, 23, 51 and 52 for dimensions diagram, and dimensions diagrams with options and switches.**

External dimensions diagram (Bore Size: Equivalent to ø32 to ø63)

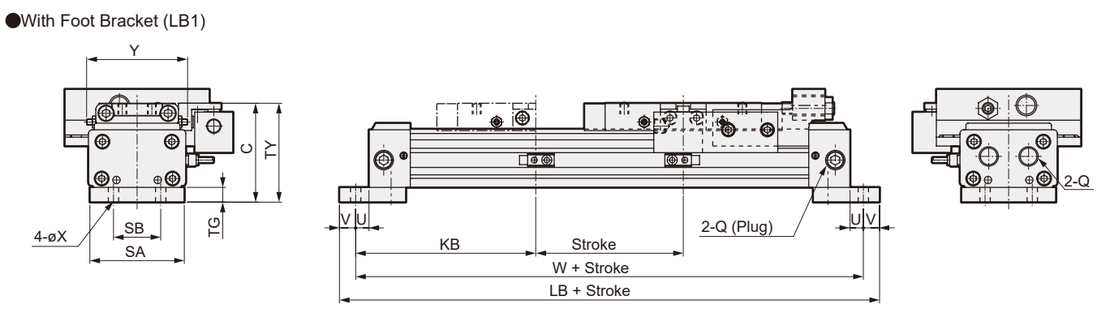
● SRL3-GQ



●With Foot Bracket (LB1)



●With Foot Bracket (LB1)



Code / Bore Size (mm)	A	B	C	DB	DC	DD	E	G	HA	HB	HC	HE	J	JJ	KA	L	LL	LA	M	P
ø32 equivalent	66	18.5	57	32	27	21	15	43.5	10	23.5	21.5	17	28	19.5	98	226	228.5	2.5	M6 Depth 9	196
ø40 equivalent	80	22	67	36	35	28	17	51.5	13	26	27	22.3	31	11.5	105	244	246.5	2.5	M8 Depth 12	210
ø50 equivalent	96	28	82	45	35	35	23	61	15	33	35.3	11	39	9.5	106	258	260.5	2.5	M8 Depth 12	212
ø63 equivalent	118	35	95	50	39	42	19	74	15	32	43	31	39	20.5	129	296	298.5	2.5	M10 Depth 15	258

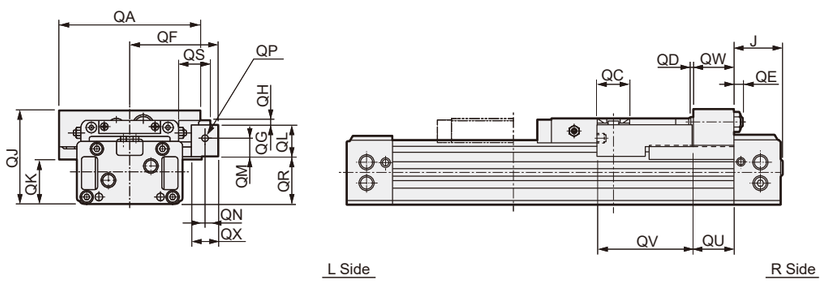
Code / Bore Size (mm)	Q	QA	QD	QE	QF	QG	QH	QJ	QK	QL	QM	QN	QP	TA	TB	TC	TD	TE	Y
ø32 equivalent	Rc 1/4	98	7	6	65	2	4	66.5	28	27.5	18	13	Rc 1/8	134	80	56	20	M6 Depth 7.5	65 to 69
ø40 equivalent	Rc 1/4	112	7	11	72	2	4	78.5	34	27.5	18	13	Rc 1/8	148	90	68	30	M6 Depth 9	77 to 81
ø50 equivalent	Rc 3/8	136	8	9	84	2	5	99	40	33	21.5	15	Rc 1/8	152	100	80	30	M8 Depth 10.5	92 to 96
ø63 equivalent	Rc 3/8	158	8	14	95	2	5	112	50	33	21.5	15	Rc 1/8	168	110	102	40	M8 Depth 11.5	114 to 118

Code	With Foot Bracket (LB)												With Foot Bracket (LB1)													
Bore Size (mm)	C	KB	LB	SA	SB	TF	U	V	W	X	XF	Y	C	KB	LB	Q	QQ	SA	SB	TG	TY	U	V	W	X	XF	Y
ø32 equivalent	57	122	266	64	32	12	9	11	244	7	-	65 to 69	57	122	266	Rc 1/4	88.5	64	32	10	67	9	11	244	7	-	65 to 69
ø40 equivalent	67	133	284	80	36	15	11	9	266	9	14 Counterbore Depth 8.6	77 to 81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ø50 equivalent	82	140	298	94	45	20	11	9	280	9	14 Counterbore Depth 8.6	92 to 96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ø63 equivalent	95	161	346	116	50	25	13	12	322	11	17.5 Counterbore Depth 10.8	114 to 118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

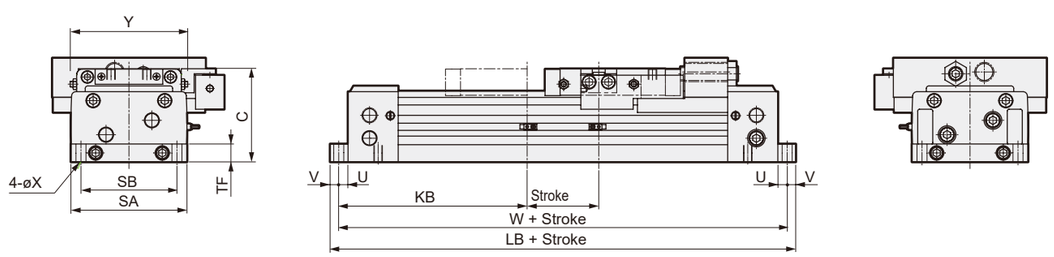
***1: For dimensions other than those listed above, please refer to P. 16 to 19 and 86.**
***2: Refer to P. 22, 23, 51 and 52 for dimensions diagram, and dimensions diagrams with options and switches.**

External dimensions diagram (Bore Size: Equivalent to ø80, ø100)

● SRL3-GQ



●With Foot Bracket (LB)



Code / Bore Size (mm)	A	B	C	DA	DB	DC	DD	DE	DF	E	G	HA	HB	HC	J	KA	L	M	P	Q	QA
ø80 equivalent	162	49	130	64	93	58	38	65	33	42	106	30	59	64.5	70	208	500	M12 Depth 18	416	Rc 1/2	214
ø100 equivalent	198	61.5	150	73	108	71.5	47.5	81.5	41.5	43	125	30	69	76.5	80	222	530	M12 Depth 18	444	Rc 1/2	250

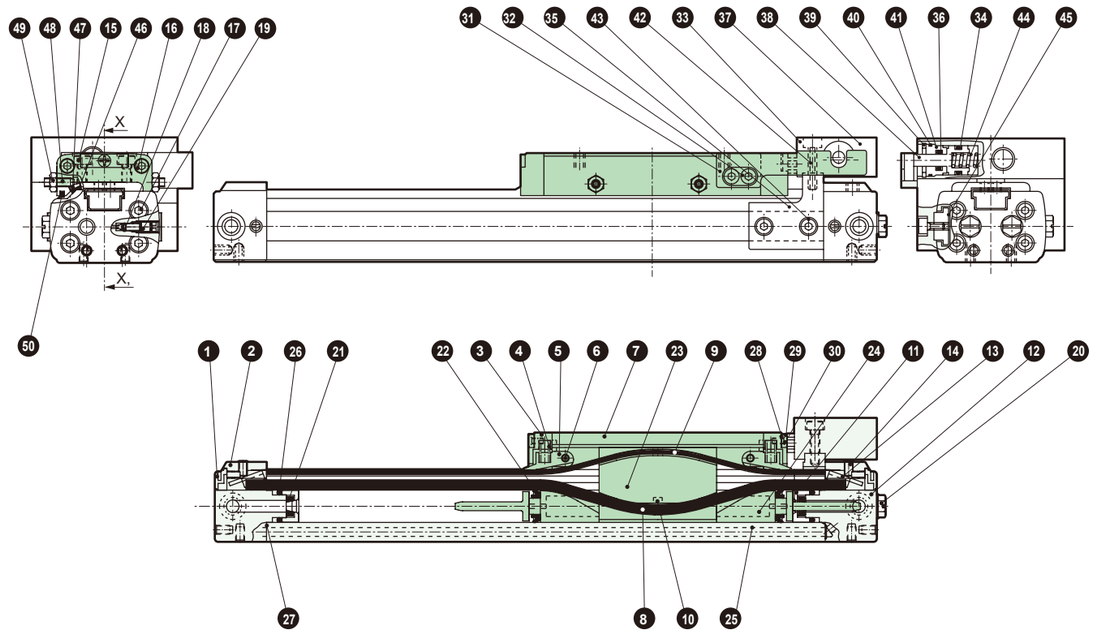
Code / Bore Size (mm)	QC	QD	QE	QF	QG	QH	QJ	QK	QL	QM	QN	QP	QR	QS	QU	QV	QW	QX	R	S	TA	TB
ø80 equivalent	50	6	14	133	2	7	145	69	47.5	29	20	Rc 1/8	73.5	48	62	143	60	40	Rc 3/8	M12 Depth 23	228	150
ø100 equivalent	50	6	14	145	2	7	164	88	47.5	29	20	Rc 1/8	92.5	48	62	148	60	40	Rc 1/2	M12 Depth 23	238	160

Code / Bore Size (mm)	TC	TD	TE	Y	ZA	ZB	ZC	ZD	ZE	ZF	ZG
ø80 equivalent	146	50	M12 Depth 15	157 to 164	60	21	32	50	30	59	46.5
ø100 equivalent	170	60	M12 Depth 15	183 to 190	60	21	36.5	55	30	69	54

Code	With Foot Bracket (LB)										
Bore Size (mm)	C	KB	LB	SA	SB	TF	U	V	W	X	Y
ø80 equivalent	130	263	550	162	134	25	13	12	526	14	157 to 164
ø100 equivalent	150	280	590	198	160	30	15	15	560	14	183 to 190

***1: For dimensions other than those listed above, please refer to P. 16 to 19 and 86.**
***2: Refer to P. 22, 23, 51 and 52 for dimensions diagram, and dimensions diagrams with options and switches.**

Internal Structure / Material (Bore Size: ø12 to ø25 equivalent)

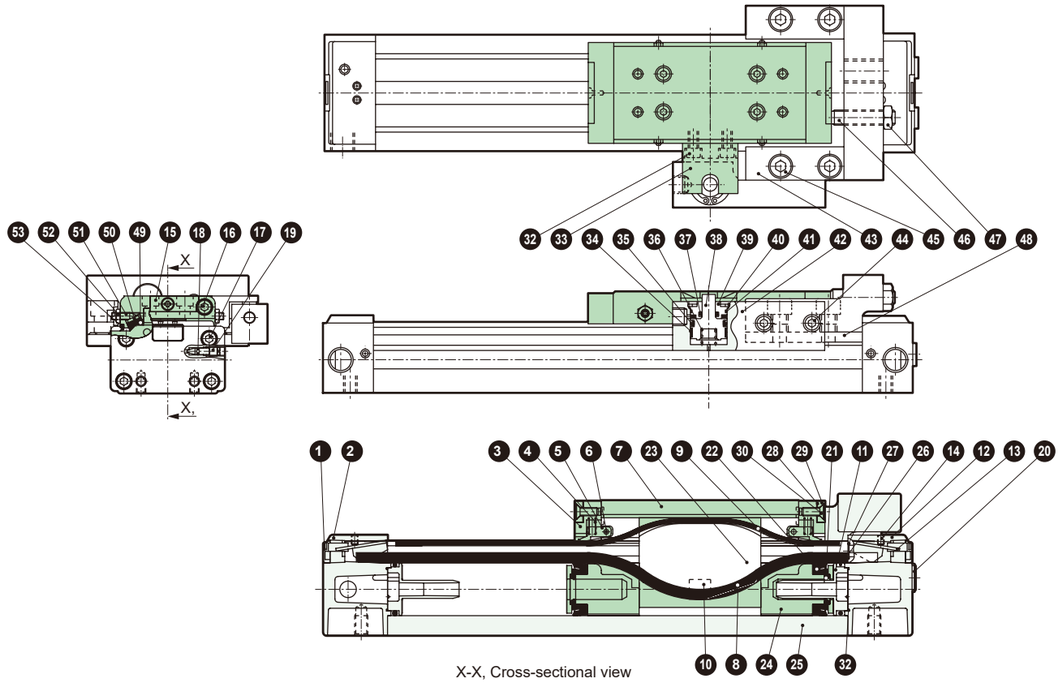


X-X, Cross-sectional view

Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Belt Cover	Polyamide		26	Cylinder Gasket	Nitrile Rubber	
2	Cover (L)	Aluminum Alloy	Baked Painting	27	O-ring for Centralized Port	Nitrile Rubber	
3	Table Cover	Polyacetal		28	Double-sided Tape		
4	Spring	Steel	Black Oxide	29	Plate	ø12 to ø20: Stainless Steel ø25: Alloy Steel	ø25: Zinc Chromate
5	Belt Holder	Polyacetal					
6	Parallel Pin (ø12 to ø20)	Stainless Steel		30	Cross-Recessed Tapping Screw	Stainless Steel	
	Shaft (ø25)	Steel	Zinc Chromate	31	Lock Lever	Alloy Steel	Chrome Plating
7	Table	Aluminum Alloy	Alumite	32	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
8	Seal Belt	Urethane Rubber		33	Stopper	Steel	Black Oxide
9	Dustproof Belt	Stainless Steel, Nitrile Rubber		34	Piston Packing	Nitrile Rubber	
10	Magnet			35	Adapter	Steel	Zinc Chromate
11	Cushion Adapter	Polyacetal		36	Rod Seal	Nitrile Rubber	
12	Cover (R)	Aluminum Alloy	Baked Painting	37	Fall Prevention Body	Aluminum Alloy	Alumite
13	Belt Spacer	Steel	Zinc Chromate	38	Lock Pin (Stopper Piston)	Alloy Steel	Chrome Plating
14	Hexagon Socket Set Screw	Alloy Steel	Zinc Chromate	39	C-Type Retaining Ring for Holes	Steel	
15	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate	40	Gasket	Nitrile Rubber	
16	Hexagon Socket Head Cap Screw	Stainless Steel		41	Rod Cover	Aluminum Alloy	Alumite
17	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate	42	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
18	Needle Gasket	Nitrile Rubber		43	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
19	Cushion Needle	Steel	Zinc Chromate	44	Spring	Steel	Electrodeposition Coating
20	Plug	ø12, ø16: Copper Alloy ø20 to ø25: Steel	ø12, ø16: Nickel Plating ø20 to ø25: Zinc Chromate	45	Plate Nut	Alloy Steel	Black Oxide
				46	Slider	Polyacetal	
21	Cushion Seal	Urethane Rubber		47	Slider Plate	Steel	
22	Piston Packing	Nitrile Rubber		48	Adjustment Screw	Alloy Steel	Zinc Chromate
23	Yoke	Aluminum Alloy	Alumite	49	Nut	Steel	Zinc Chromate
24	Piston	Polyacetal		50	Scraper	Polyacetal	
25	Cylinder Tube	Aluminum Alloy	Alumite				

For maintenance parts, please visit the CKD Equipment Product Site (https: //www.ckd.co.jp/kiki/en/) → "model No." → Maintenance Parts.

Internal Structure / Material (Bore Size: ø32 to ø63 equivalent)

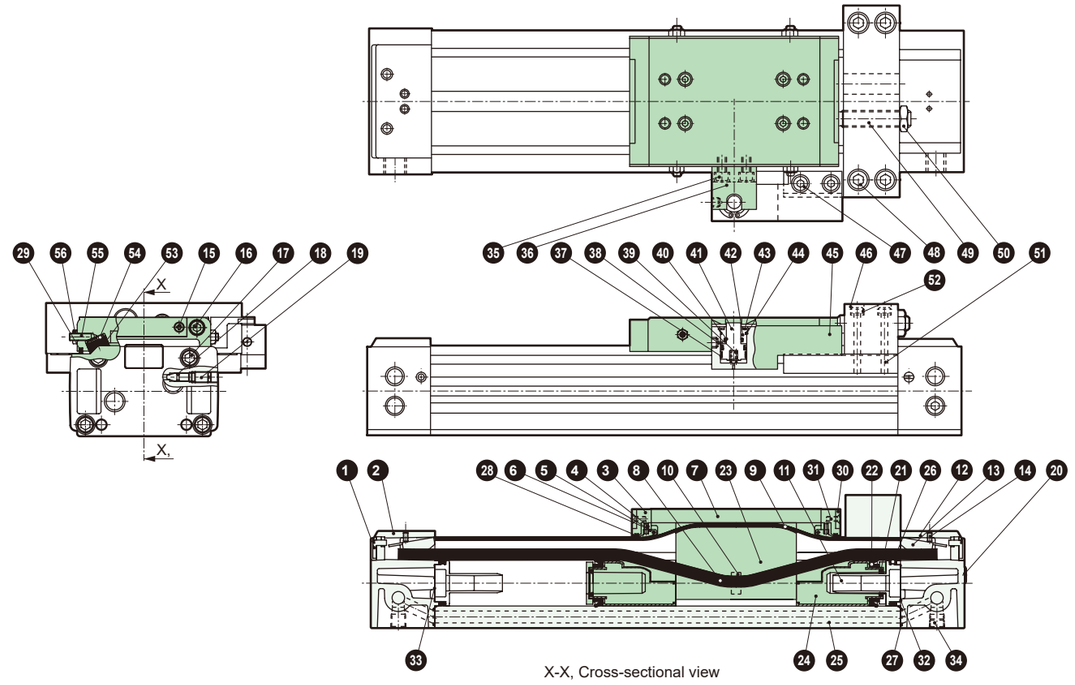


X-X, Cross-sectional view

Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Belt Cover	Polyamide		28	Double-sided Tape		
2	Cover (L)	Aluminum Alloy	Baked Painting	29	Plate	Alloy Steel	Zinc Chromate
3	Table Cover	Polyacetal		30	Cross-Recessed Tapping Screw	Stainless Steel	
4	Spring	Steel	Black Oxide	31	Cushion Ring Gasket	Nitrile Rubber	ø50, ø63 only
5	Belt Holder	Polyacetal		32	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
6	Shaft	Steel	Zinc Chromate	33	Lock Lever	Alloy Steel	Zinc Chromate
7	Table	Aluminum Alloy	Alumite	34	Wear Ring	Polyacetal	
8	Seal Belt	Urethane Rubber		35	Piston Packing	Nitrile Rubber	
9	Dustproof Belt	Stainless Steel, Nitrile Rubber		36	Spring	Steel	Electrodeposition Coating
10	Magnet			37	Rod Seal	Nitrile Rubber	
11	Cushion Ring	Polyacetal		38	Lock Pin	Alloy Steel	Chrome Plating
12	Cover (R)	Aluminum Alloy	Baked Painting	39	Rod Cover	Aluminum Alloy	Alumite
13	Belt Spacer	Steel	Zinc Chromate	40	C-Type Retaining Ring for Holes	Steel	
14	Hexagon Socket Set Screw	Alloy Steel	Zinc Chromate	41	Gasket	Nitrile Rubber	
15	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate	42	Fall Prevention Body	Aluminum Alloy	Alumite
16	Hexagon Socket Head Cap Screw	Stainless Steel		43	Adapter	Steel	Zinc Chromate
17	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate	44	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
18	Needle Gasket	Nitrile Rubber		45	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
19	Cushion Needle	Steel	Zinc Chromate	46	Hexagon Socket Set Screw	Alloy Steel	Zinc Chromate
20	Plug	Steel	Zinc Chromate	47	Hexagon Nut	Steel	Zinc Chromate
21	Cushion Seal	Urethane Rubber		48	Adapter Nut	Alloy Steel	Zinc Chromate
22	Piston Packing	Nitrile Rubber		49	Slider	Polyacetal	
23	Yoke	Aluminum Alloy	Alumite	50	Slider Plate	Steel	Zinc Chromate
24	Piston	Polyacetal		51	Adjustment Screw	Alloy Steel	Zinc Chromate
25	Cylinder Tube	Aluminum Alloy	Alumite	52	Nut	Steel	Zinc Chromate
26	Cylinder Gasket	Nitrile Rubber		53	Scraper	Polyacetal	
27	O-ring for Centralized Port	Nitrile Rubber					

For maintenance parts, please visit the CKD Equipment Product Site
(https: //www.ckd.co.jp/kiki/en/) → "model No." → Maintenance Parts.

Internal Structure / Material (Bore Size: ø80, ø100 equivalent)



X-X, Cross-sectional view

Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Belt Cover	Polyamide		29	Felt (2)	Wool	
2	Cover (L)	Aluminum Alloy	Baked Painting	30	Plate	Alloy Steel	Zinc Chromate
3	Table Cover	Polyacetal		31	Cross-Recessed Tapping Screw	Stainless Steel	
4	Spring	Steel	Black Oxide	32	Cushion Ring Gasket (1)	Nitrile Rubber	
5	Belt Holder	Polyacetal		33	Cushion Ring Gasket (2)	Nitrile Rubber	
6	Shaft	Steel	Zinc Chromate	34	Plug	Steel	Zinc Chromate
7	Table	Aluminum Alloy	Alumite	35	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
8	Seal Belt	Urethane Rubber		36	Lock Lever	Alloy Steel	Zinc Chromate
9	Dustproof Belt	Stainless Steel, Nitrile Rubber		37	Wear Ring	Polyacetal	
10	Magnet			38	Piston Packing	Nitrile Rubber	
11	Cushion Ring	Polyacetal		39	Spring	Steel	Electrodeposition Coating
12	Cover (R)	Aluminum Alloy	Baked Painting	40	Rod Seal	Nitrile Rubber	
13	Belt Spacer	Steel	Zinc Chromate	41	Lock Pin	Alloy Steel	Chrome Plating
14	Hexagon Socket Set Screw	Alloy Steel	Zinc Chromate	42	Rod Cover	Aluminum Alloy	Alumite
15	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate	43	C-Type Retaining Ring for Holes	Steel	
16	Hexagon Socket Head Cap Screw	Stainless Steel		44	Gasket	Nitrile Rubber	
17	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate	45	Fall Prevention Body	Aluminum Alloy	Alumite
18	Needle Gasket	Nitrile Rubber		46	Adapter	Steel	Zinc Chromate
19	Cushion Needle	Steel	Zinc Chromate	47	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
20	Plug	Steel	Zinc Chromate	48	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Chromate
21	Cushion Seal	Urethane Rubber		49	Hexagon Socket Set Screw	Alloy Steel	Zinc Chromate
22	Piston Packing	Nitrile Rubber		50	Hexagon Nut	Steel	Zinc Chromate
23	Yoke	Aluminum Alloy	Alumite	51	Adapter Nut	Alloy Steel	Zinc Chromate
24	Piston	Polyacetal		52	Belleville Spring Washer	Steel	
25	Cylinder Tube	Aluminum Alloy	Alumite	53	Slider	Polyacetal	
26	Cylinder Gasket	Nitrile Rubber		54	Slider Plate	Steel	Zinc Chromate
27	O-ring for Centralized Port	Nitrile Rubber		55	Adjustment Screw	Alloy Steel	Zinc Chromate
28	Felt (1)	Wool		56	Nut	Steel	Zinc Chromate

For maintenance parts, please visit the CKD Equipment Product Site
(https: //www.ckd.co.jp/kiki/en/) → "model No." → Maintenance Parts.

Rodless Cylinder Double Acting / Full Cowl Type

SRL3-J Series

● Bore Size: ø25, ø32, ø40, ø50, ø63 or equiv.

Circuit Diagram Code 

RoHS

Model No. Notation

Without Switch
(Built-in magnet for switch)

SRL3-J - 00 - 25 [ ] B - 200 ——— B

Model No. ❶ ❷ ❸ ❹ ❺ ❽

With Switch
(Built-in magnet for switch)

SRL3-J - 00 - 25 [ ] B - 200 - M0H - R - B

Model No. ❷Bore Size ❹Cushion ❻Switch Model No. ❽Option
❶Mounting type ❸Piping thread type ❺Stroke ❼Number of Switches

❶Mounting type

Mounting brackets are pre-assembled on the product and shipped.

Code	Content	
00	Basic type	
LJ	Axial Foot Type (For Centralized Piping) (ø25, ø32 equivalent)	

❷Bore Size (mm)

Code	Content
25	ø25 equivalent
32	ø32 equivalent
40	ø40 equivalent
50	ø50 equivalent
63	ø63 equivalent

❸Piping thread type

Code	Content
Blank	M5 (ø12, ø16 equivalent) Rc Thread (ø20 to ø100 equivalent)
N	NPT Thread (ø20 equivalent or larger) (Custom-made)
G	G Thread (ø20 equivalent or larger) (Custom-made)

❹Cushion

Code	Content
B	With Cushion on Both Sides
R	With R Side Cushion
L	With L Side Cushion
N	Without Cushion

❺Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø25 to ø63 equivalent	1 to 3000	Every 1 mm

Note: For the minimum stroke with switch, please refer to P. 74.

❻Switch Model No.

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

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	-	10 to 30	-	5 to 30	M2H□	M2V□	
	2-Color		-	10 to 30	-	5 to 30	-	M2WV□	
	1-Color	3-wire (NPN)	-	30 or less	-	100 or less	M3H□	M3V□	
	2-Color		-	30 or less	-	100 or less	-	M3WV□	
	1-Color (Custom order)	3-wire (PNP)	-	30 or less	-	100 or less	M3PH□	M3PV□	
	2-Color	2-wire	-	24 ± 10%	-	5 to 20	T2WH□	T2WV□	
		3-wire (NPN)	-	30 or less	-	50 or less	T3WH□	T3WV□	
	2-Color Improved Water Resistance	2-wire	-	24 ± 10%	-	5 to 20	T2WLH□	T2WLV□	 *2
	2-Color for AC Magnetic Field		-	24 ± 10%	-		T2YD□	-	
			—		-		T2YDT□	-	
	2-Color		-	10 to 30	-		T2YLH□	T2YLV□	
	2-Color	3-wire (NPN)	-	10 to 28	-	50 or less	T3YLH□	T3YLV□	
Reed	1-Color	2-wire	110	12/24	-	5 to 50	M0H□	M0V□	
	No Indicator LED		110	5/12/24	-	50 or less	M5H□	M5V□	

*4

*Lead wire length, connector specification

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)
W	M8 Connector, 1PIN (+), 4PIN (−) Lead Wire 0.3 m

*4: Only T2WLH and T2WLV can be selected.

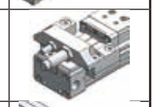
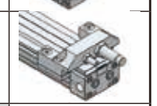
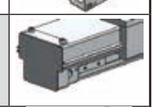
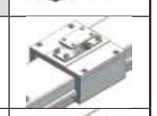
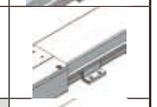
Example) Lead wire length
1 m M0V
3 m M0V3
5 m M0V5

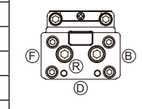
*1: For "□" in the switch model number, enter the code selected from the "Lead wire length, connector specification" table.
*2: This does not guarantee the water resistance of the cylinder.
*3: Switches other than the model numbers listed above are also available. (Custom Product) For details, see P. 1457.

❼Number of Switches

Code	Content
R	With 1 pc on R side
L	With 1 pc on L side
D	With 2 pcs
T	With 3 pcs
4	With 4 pcs (If 4 or more, enter the number of switches)

❽Option

Code	Description	Bore Size (ø) equivalent 25	32	40	50	63	
A	Full stroke adjustment both sides, With shock absorber	●	●	●	●	●	
A1	Full stroke adjustment R side only, With shock absorber	●	●	●	●	●	
A2	Full stroke adjustment L side only, With shock absorber	●	●	●	●	●	
A3	Full Stroke Adjustment Bracket Retrofit Type	●					
Y	Floating Joint	●	●	●	●	●	
3 L	Intermediate Support Bracket (for 00)	●	●	●	●	●	
3 N	With Intermediate Support Bracket (for LJ)	●	●				

Code	Port Position	Cushion Needle Position	25	32	40	50	63	
Blank	F (Standard)	F (Standard)	●	●	●	●	●	
R	R (Centralized Port)	F	●	●	●	●	●	
B	F	B	●	●	●	●	●	
T	R (Centralized Port)	B *6, *7	●	●	●	●	●	
D	D	F	●	●	●	●	●	
S	D	D		●	●	●	●	

*1: The diagrams for A, A1, and A2 show the inside of the dust-proof cover.
*2: In the case of the standard with ø25, reM0Ve the cover, attach a flat nut and install the full stroke adjusting bracket. "A3" is an option with a mounting plate nut assembled for retrofitting without reM0Ving the cover.
3: The "" in L* and N* indicates the number of sets. If 2 sets are required, enter "L2" (for 00) or "N2" (for LJ). 2 pcs / 1 set.
*4: For port and cushion needle position display symbols, please refer to the external dimensions diagrams on P. 76 to 79.
*5: When installing piping fittings or speed controllers, it is recommended to use the attached extension fittings.
*6: When using centralized piping ports (R side ports), reM0Ve the side cover before use.
*7: Common piping port (port position R) of ø25 and ø32 is ❶ available only for mounting bracket LJ. "00" cannot be selected for ❶mounting type.

Switch Individual Model No. Notation

(For component parts, please refer to P. 91.)

●Switch body+Mounting bracket set (*1)

SRL3 - M0H

●Switch body only

SW - M0H

6 Switch Model No.

●Mounting bracket complete set (*2)

・M Type Switch

SRL3 - M

・T Type Switch

SRL3 - T

● Lead wire holder (*3)

SRL3 - MH

*1: The switch body + mounting bracket set does not include a lead wire holder. If a lead wire holder is required, please order it separately.
*2: The mounting bracket is different for M type switch and T type switch.
*3: Lead wire holder is 10 pcs/1 set.

● How to order discrete shock absorber

(1 Shock absorber, 1 Hexagon Nut for fixing shock absorber)

SRL3 - 40 - NCK

2 Bore Size

Note: Note that the Hexagon Nut only for Shock Absorbers fixing for SRL3-40 is different from the NCK standard nut.

Applicable Shock Absorber Model No.

Model No.	Applicable Shock Absorber
SRL3-J-25	NCK-00-1.2
SRL3-J-32	NCK-00-2.6
SRL3-J-40	NCK-00-7
SRL3-J-50/63	NCK-00-12

●Floating Joint Set Model No. Notation

(Mount, Mount Base, Pin, Flat Washer, Pan Head Screw with Spring Washer, 4 Mounting Bolts)

SRL3 - 40 - Y

2 Bore Size

● How to order discrete intermediate support bracket

For 00

SRL3 - 40 - L (2 pcs./set)

2 Bore Size

For LJ

SRL3 - 32 - N (2 pcs./set)

2 Bore Size

● How to order cover kit

SRL3-J - 40 - 200 - COVER-KIT

2 Bore Size　5 Stroke

● How to order adaptor kit

SRL3-J - 40 - ADAPTOR-KIT

2 Bore Size

● How to order full stroke adjusting bracket kit

SRL3-J - 40 - A1 (1 Set)

2 Bore Size

For component parts, please refer to P. 94.

●Mounting Bracket Model No. Notation

(2 Brackets, 4 Mounting Bolts)

SRL3-J - LJ - 32

2 Bore Size

MEMO

Rodless Type
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
Cylinder Switch
Ending

Specifications

Item	SRL3-J				
Bore Size	ø25 equivalent	ø32 equivalent	ø40 equivalent	ø50 equivalent	ø63 equivalent
Operation Method	Double Acting Type				
Operating Fluid	Compressed Air				
Max Operating Pressure MPa	0.7				
Min Operating Pressure MPa	0.1				0.05
Proof Pressure MPa	1.05				
Ambient Temperature °C	5 to 60				
Port Size	Rc1/8	Rc1/4		Rc3/8	
Stroke tolerance mm	$^{+2.0}_{0}$ (to 1000), $^{+2.5}_{0}$(to 3000)				
Operating Piston Speed mm/s	50 to 2000 (Standard Port Piping) *1				
Cushion	Air Cushion				
Lubrication	Not required (If lubricating, use Turbine Oil Class 1 ISO VG 32. Note that once lubrication is started, it must be continued.)				

*1: The operating piston speed for centralized port piping varies depending on the stroke, so please consult us separately.

Allowable Absorption Energy

Bore Size (mm)	With Cushion		Without Cushion	With Shock Absorber (Initial Setting)	
	Allowable Absorption Energy (J)	Cushion Stroke (mm)	Allowable Absorption Energy (J)	Absorption Energy (J)	Effective Stroke (mm)
ø25 equivalent	1.40	20.9	0.015	10	9
ø32 equivalent	2.57	23.5	0.030	18	13
ø40 equivalent	4.27	23.9	0.050	50	16.5
ø50 equivalent	9.13	24.9	0.072	86	21
ø63 equivalent	17.4	29.6	0.138	86	21

Stroke

Equiv. Bore Size	Standard Stroke (mm)	Max Stroke (mm)	Minimum Stroke (mm)
ø25, ø32, ø40, ø50, ø63 equivalent	200, 300, 400, 500, 600, 700, 800, 900, 1000	3000	1

Note: Intermediate strokes can be manufactured in 1 mm increments.

M Type Switch Mounting Quantity and Min Stroke (mm)

Switch Qty.	1		2	
Switch Model No. / Bore Size (mm)	M□V	M□H	M□V	M□H
ø25 equivalent	10	10	30	45 (70)
ø32 equivalent	10	10	30	45
ø40 equivalent	10	10	30	45
ø50 equivalent	15	15	30	45
ø63 equivalent	15	15	30	45

Note: In the case of full stroke adjustment, the minimum stroke with switch is shown in ( ).

T Type Switch Mounting Quantity and Min Stroke (mm)

Switch Qty.	1				2			
Switch Model No. / Bore Size (mm)	T□V	T2WLV	T□H	T2WLH	T□V	T2WLV	T□H	T2WLH
ø25 equivalent	10	10	10	10 (16)	45	35	50 (70)	56 (82)
ø32 equivalent	10	10	10	10	45	35	50	56
ø40 equivalent	10	10	10	10	45	35	50	56
ø50 equivalent	10	10	10	10	45	35	50	56
ø63 equivalent	10	10	10	10	45	35	50	56

Note: In the case of full stroke adjustment, the minimum stroke with switch is shown in ( ).

Cylinder Weight

(kg)

Item / Equiv. Bore Size	Weight at 0 mm Stroke: Basic type	Weight at 0 mm Stroke: Switch Weight	Switch Mounting Bracket Weight: T Type	Switch Mounting Bracket Weight: M Type	Added weight per stroke = 100 mm
ø25 equivalent	2.37	Refer to the mass described in the switch specifications on P. 1457.	0.005	0.001	0.37
ø32 equivalent	3.34				0.46
ø40 equivalent	4.78				0.65
ø50 equivalent	7.27				0.90
ø63 equivalent	11.23				1.28

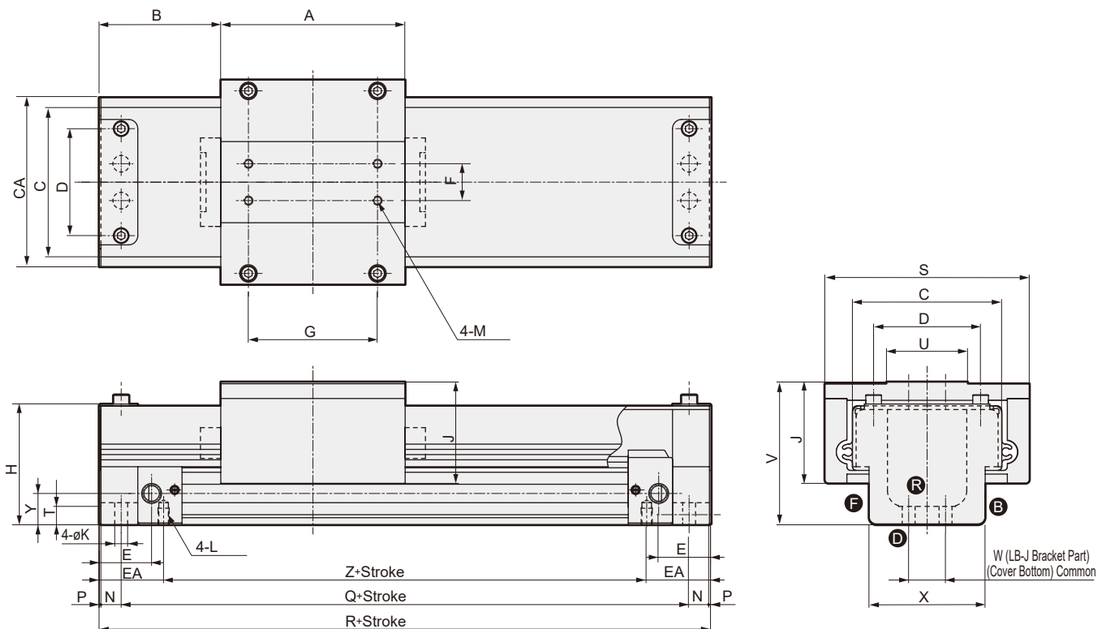
Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa: 0.05	0.1	0.2	0.3	0.4	0.5	0.6	0.7
ø25 equivalent	Push/Pull	-	54.2	1.08×10^{2}	1.63×10^{2}	2.17×10^{2}	2.71×10^{2}	3.25×10^{2}	3.80×10^{2}
ø32 equivalent	Push/Pull	-	81.4	1.63×10^{2}	2.44×10^{2}	3.26×10^{2}	4.07×10^{2}	4.88×10^{2}	5.70×10^{2}
ø40 equivalent	Push/Pull	-	1.27×10^{2}	2.53×10^{2}	3.80×10^{2}	5.06×10^{2}	6.33×10^{2}	7.60×10^{2}	8.86×10^{2}
ø50 equivalent	Push/Pull	-	1.99×10^{2}	3.98×10^{2}	5.96×10^{2}	7.95×10^{2}	9.94×10^{2}	1.19×10^{3}	1.39×10^{3}
ø63 equivalent	Push/Pull	1.57×10^{2}	3.14×10^{2}	6.27×10^{2}	9.41×10^{2}	1.25×10^{3}	1.57×10^{3}	1.88×10^{3}	2.20×10^{3}

External Dimensions (Bore Size: ø25 equivalent)

●ø25 equivalent



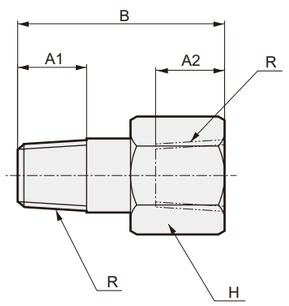
Code / Bore Size (mm)	A	B	C	CA	D	E	EA	F	G	H	J	K	L	M
ø25 equivalent	100	66	81	91.9	58	28.5	35	20	70	65.5	55	7	M6 Depth 9	M5 Through

Code / Bore Size (mm)	N	P	Q	R	S	T	U	V	W	X	Y	Z
ø25 equivalent	11	1	208	232	111	10	44	77.5	20	63	17	162

*1: SRL3-J has the same mounting dimensions as SRL3-LB (P. 18).
*2: Extension joints (2 pcs) are attached and shipped. When mounting piping joints or speed controllers, we recommend using extension joints.
*3: For external dimensions diagrams with each switch, please refer to P. 87.

Accessory External Dimensions

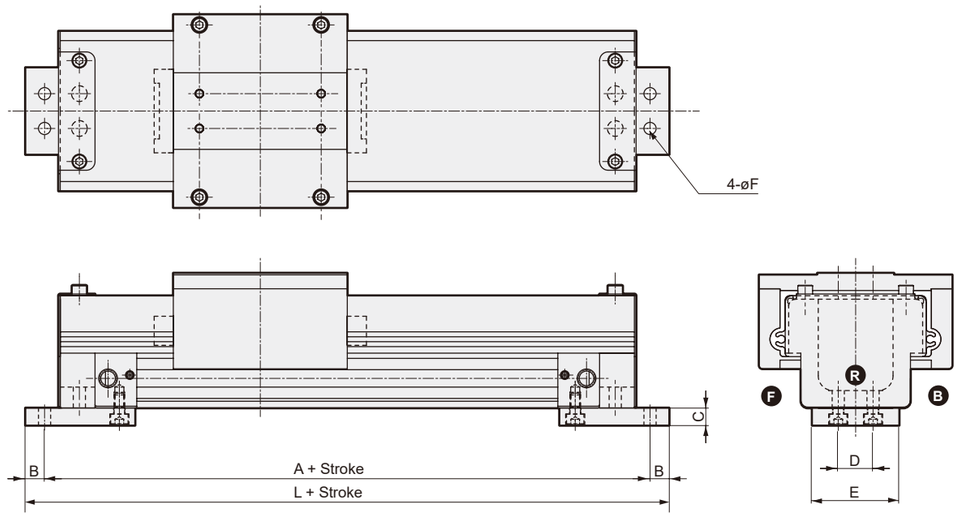
●Extension Joint



Code	A1	A2	B	R	H
SRL3-J-PF01	8	8	28.5	Rc 1/8	14
SRL3-J-PF02	11	11	33	Rc 1/4	17
SRL3-J-PF03	12	12	37	Rc 3/8	21

External Dimensions (Bore Size: ø25 equivalent)

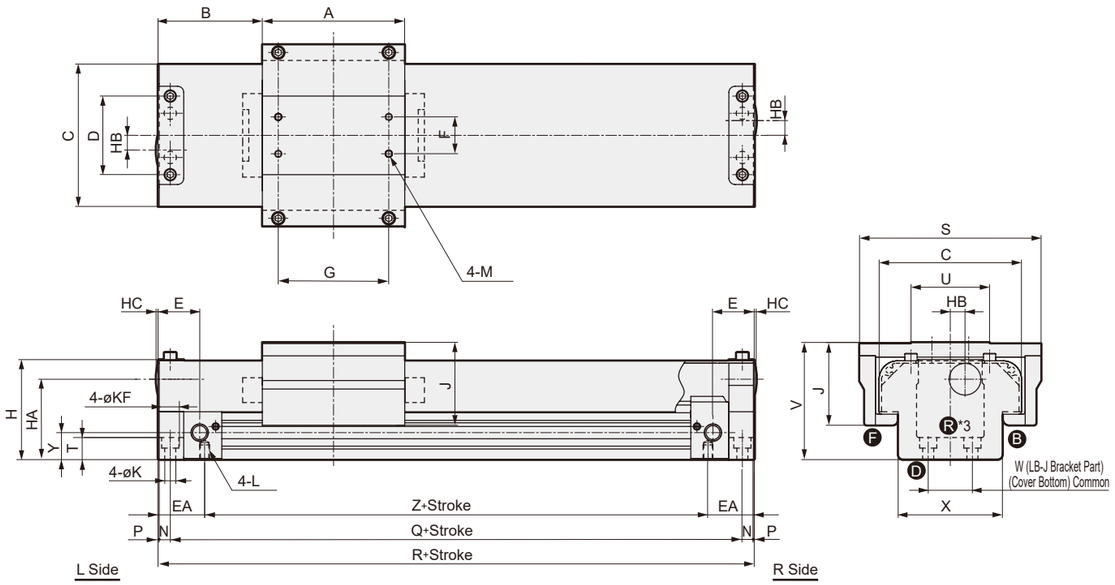
● Axial foot (for common piping) (LJ)



Code / Bore Size (mm)	A	B	C	D	E	F	L
ø25 equivalent	248	11	10	20	50	7	270

*1: The dimensions are the same for full stroke adjustment with shock absorber (A□).
*2: For external dimensions diagrams with each switch, please refer to P. 87.

External Dimensions (Bore Size: ø32 to ø63 equivalent)



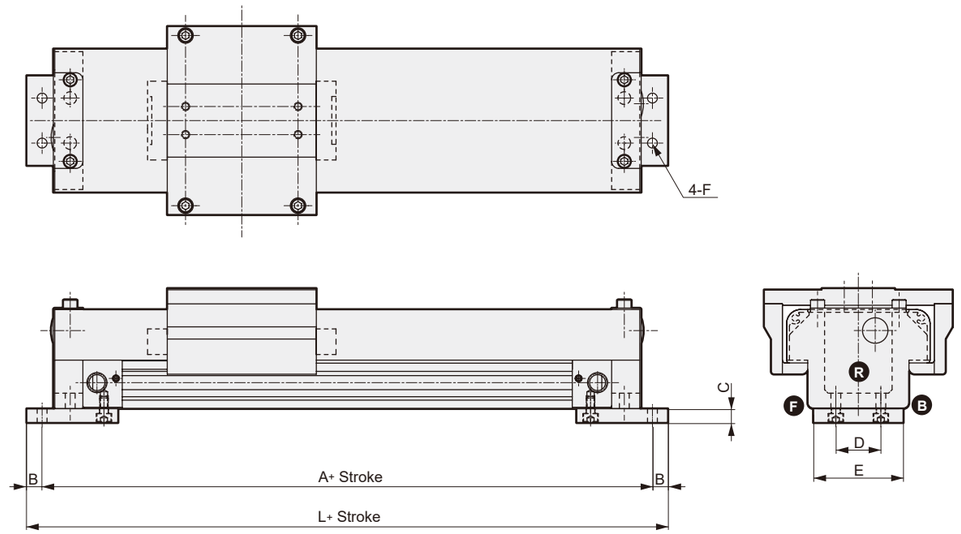
Code / Bore Size (mm)	A	B	C	D	E	EA	F	G	H	HA	HB	HC	J	K	KF
ø32 equivalent	106	81	102	58	31	36	20	80	71.5	55.5	12	2	61	7	-
ø40 equivalent	116	85	116	64	34	38	30	90	81.5	65.5	12	2	67.5	9	14 Counterbore Depth 8.6
ø50 equivalent	120	90	140	84	36	44	30	100	102	80	17	2	85	9	14 Counterbore Depth 8.6
ø63 equivalent	136	106	162	95	41	45	40	110	115	93.5	20	2	91	11	17.5 Counterbore Depth 10.8

Code / Bore Size (mm)	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z
ø32 equivalent	M6 Depth 9	M6 Through	11	1	244	268	134	11	52	85.5	32	72	18.5	196
ø40 equivalent	M8 Depth 12	M6 Through	9	1	266	286	148	18	64	95.5	36	85	22	210
ø50 equivalent	M8 Depth 12	M8 Through	9	1	280	300	178	22.5	74	119	45	109	28	212
ø63 equivalent	M10 Depth 15	M8 Through	12	1	322	348	200	28	96	132	50	129	35	258

*1: SRL3-J has the same mounting dimensions as SRL3-LB (P. 18).
*2: Extension joints (2 pcs) are attached and shipped.
*3: R port position cannot be selected for ø32 with mounting type "00".
*4: For external dimensions diagrams with each switch, please refer to P. 87.

External Dimensions (Bore Size: ø32 equivalent)

● Axial foot (for common piping) (LJ)

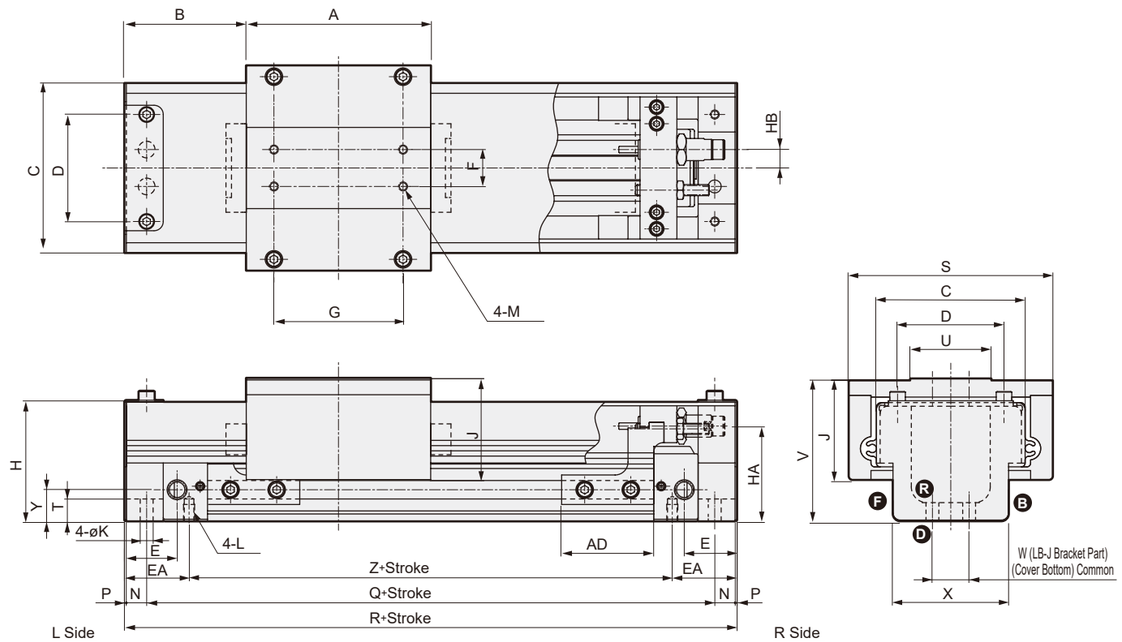


Code / Bore Size (mm)	A	B	C	D	E	F	L
ø32 equivalent	284	11	10	32	64	7	306

*1: The dimensions are the same for full stroke adjustment with shock absorber (A□).
*2: For external dimensions diagrams with each switch, please refer to P. 87.

External Dimensions with Options (Bore Size: ø25 equivalent)

● Full stroke adjustable with shock absorber



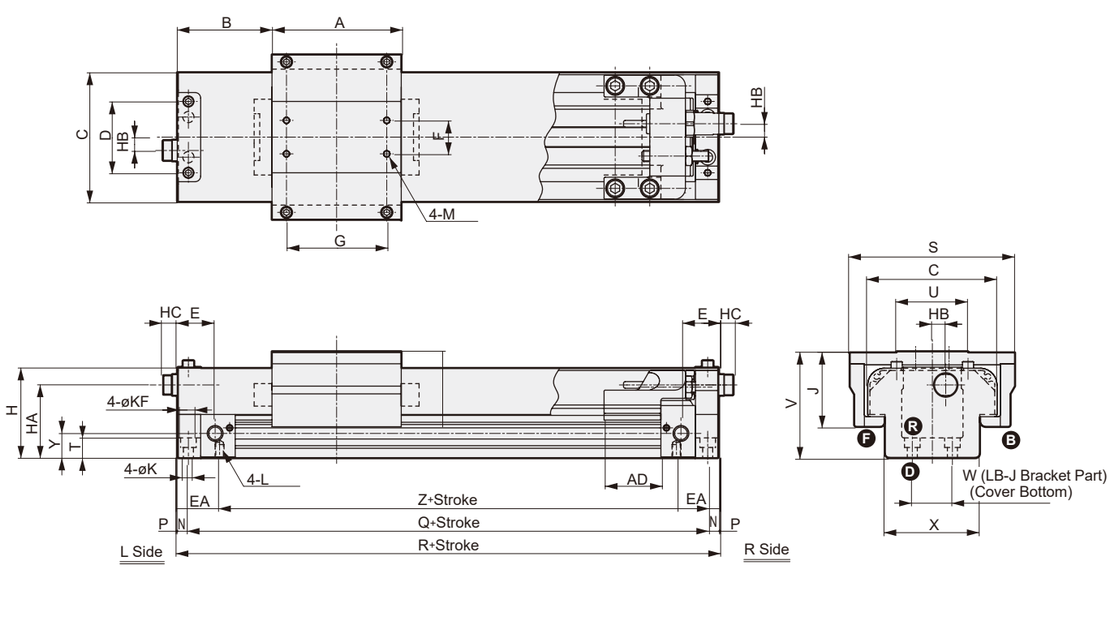
Code / Bore Size (mm)	A	AD	B	C	D	E	EA	F	G	H	HA	HB	J	K
ø25 equivalent	100	50	66	81	58	28.5	35	20	70	65.5	51.5	10	55	7

Code / Bore Size (mm)	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z
ø25 equivalent	M6 Depth 9	M5 Through	11	1	208	232	111	10	44	77.5	20	63	17	162

*1: SRL3-J has the same mounting dimensions as SRL3-LB (P. 18).
*2: Extension joints (2 pcs) are attached and shipped.

External Dimensions with Options (Bore Size: ø32 to ø63 equivalent)

● Full stroke adjustable with shock absorber



Code / Bore Size (mm)	A	AD	B	C	D	E	EA	F	G	H	HA	HB	HC MAX	J	K	KF	L	M
ø32 equivalent	106	46	81	102	58	31	36	20	80	70.5	55.5	12	6	61	7	-	M16 Depth 9	M6 Through
ø40 equivalent	116	51	85	116	64	34	38	30	90	80.5	65.5	12	13	67.5	9	14 Counterbore Depth 8.6	M8 Depth 12	M6 Through
ø50 equivalent	120	53	90	140	84	36	44	30	100	101	80	17	34	85	9	14 Counterbore Depth 8.6	M8 Depth 12	M8 Through
ø63 equivalent	136	64	106	162	95	41	45	40	110	114	93.5	20	18	91	11	17.5 Counterbore Depth 10.8	M10 Depth 15	M8 Through

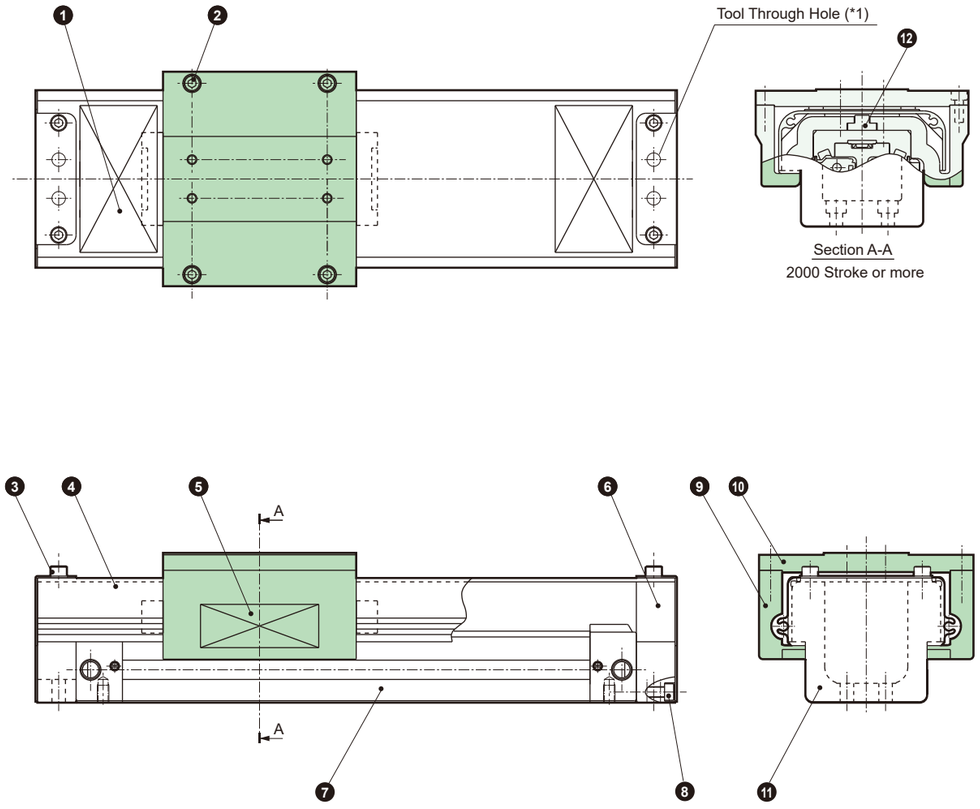
Code / Bore Size (mm)	N	P	Q	R	S	T	U	V	W	X	Y	Z
ø32 equivalent	11	1	244	268	134	11	52	85.5	32	72	18.5	196
ø40 equivalent	9	1	266	286	148	18	64	95.5	36	85	22	210
ø50 equivalent	9	1	280	300	178	22.5	74	119	45	109	28	212
ø63 equivalent	12	1	322	348	200	28	96	132	50	129	35	258

*1: SRL3-J has the same mounting dimensions as SRL3-LB (P. 18).
*2: Extension joints (2 pcs) are attached and shipped.

Internal Structure / Material

For the internal structure of the main body, it is the same as the standard type SRL3 series, so please refer to P. 24.

●ø25 equivalent



Item	Part Name	Material	Remarks	Item	Part Name	Material	Remarks
1	Caution nameplate (Beware of tripping)	Polypropylene		7	Rodless Cylinder		SRL3 (CKD)
2	Hexagon Socket Head Cap Screw	Stainless Steel		8	Hexagon Socket Head Cap Screw	Alloy Steel	
3	Hexagon Socket Head Cap Screw	Stainless Steel		9	Table Adapter	Aluminum Alloy	Alumite
4	Cover	Aluminum Alloy	Alumite	10	Table Plate	Aluminum Alloy	Alumite
5	Caution nameplate (Beware of pinching)	Polypropylene		11	Side Cover	Aluminum Alloy	Alumite
6	LB-J Bracket	Aluminum Alloy	Alumite	12	Table Spacer	Polyacetal	

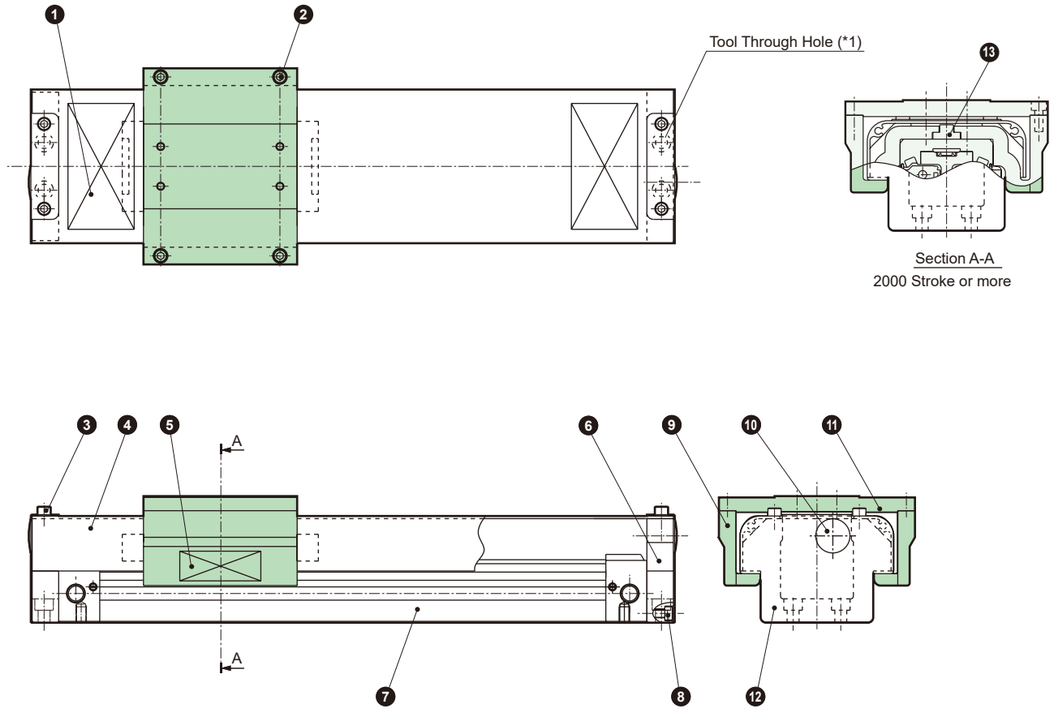
*1: When installing the product, reM0Ve the side cover and tighten with a hexagonal wrench using this hole.
*2: Extension joints (2 pcs) are attached and shipped.

For maintenance parts, please visit the CKD Equipment Product Site (https: //www.ckd.co.jp/kiki/en/) → "model No." → Maintenance Parts.

Internal Structure / Material

For the internal structure of the main body, it is the same as the standard type SRL3 series, so please refer to P. 24, 25.

● ø32 to ø63 or equiv.



Item	Part Name	Material	Remarks	Item	Part Name	Material	Remarks
1	Caution nameplate (Beware of tripping)	Polypropylene		8	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Plating
2	Hexagon Socket Head Cap Screw	Stainless Steel		9	Table Adapter	Aluminum Alloy	Alumite
3	Hexagon Socket Head Cap Screw	Stainless Steel		10	Hole Plug	Polyamide	
4	Cover	Aluminum Alloy	Alumite	11	Table Plate	Aluminum Alloy	Alumite
5	Caution nameplate (Beware of pinching)	Polypropylene		12	Side Cover	Aluminum Alloy	Alumite
6	LB-J Bracket	Aluminum Alloy	Alumite	13	Table Spacer	Polyacetal	
7	Rodless Cylinder		SRL3 (CKD)				

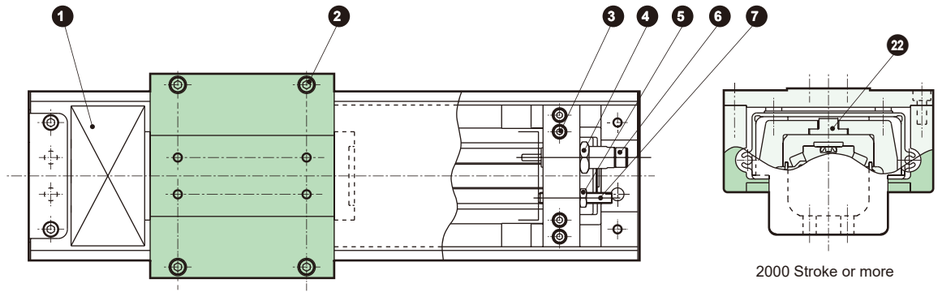
*1: When installing the product, reM0Ve the side cover and tighten with a hexagonal wrench using this hole.
*2: Extension joints (2 pcs) are attached and shipped.

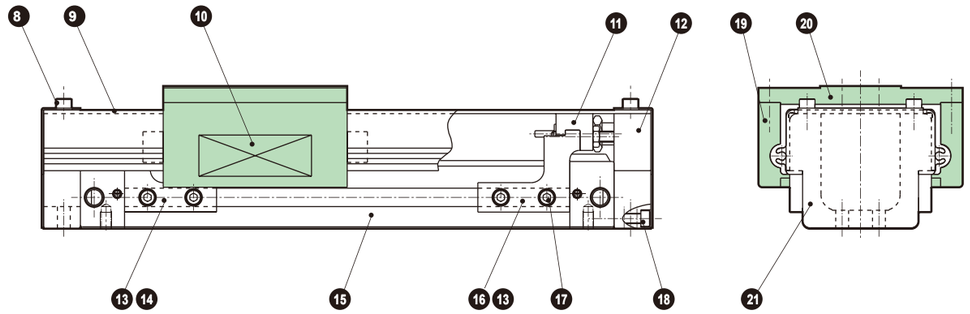
For maintenance parts, please visit the CKD Equipment Product Site (https: //www.ckd.co.jp/kiki/en/) → "model No." → Maintenance Parts.

Internal Structure / Material

For the internal structure of the main body, it is the same as the standard type SRL3 series, so please refer to P. 24.

● Full stroke adjustable with Shock Absorbers (ø25 or equivalent)





Item	Part Name	Material	Remarks	Item	Part Name	Material	Remarks
1	Caution nameplate (Beware of tripping)	Polypropylene		12	LB-J Bracket	Aluminum Alloy	Alumite
2	Hexagon Socket Head Cap Screw	Stainless Steel		13	Plate Nut	Alloy Steel	Black Oxide
3	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Plating	14	Adapter (R)	Steel	Zinc Plating
4	Hexagon Nut	Steel	Zinc Plating	15	Rodless Cylinder		SRL3 (CKD)
5	Hexagon Nut	Steel	Zinc Plating	16	Adapter (L)	Steel	Zinc Plating
6	Shock absorber			17	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Plating
7	Hexagon Socket Set Screw	Alloy Steel	Zinc Plating	18	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Plating
8	Hexagon Socket Head Cap Screw	Stainless Steel		19	Table Adapter	Aluminum Alloy	Alumite
9	Cover	Aluminum Alloy	Alumite	20	Table Plate	Aluminum Alloy	Alumite
10	Caution nameplate (Beware of pinching)	Polypropylene		21	Side Cover	Aluminum Alloy	Alumite
11	Plate	Aluminum Alloy	Alumite	22	Table Spacer	Polyacetal	

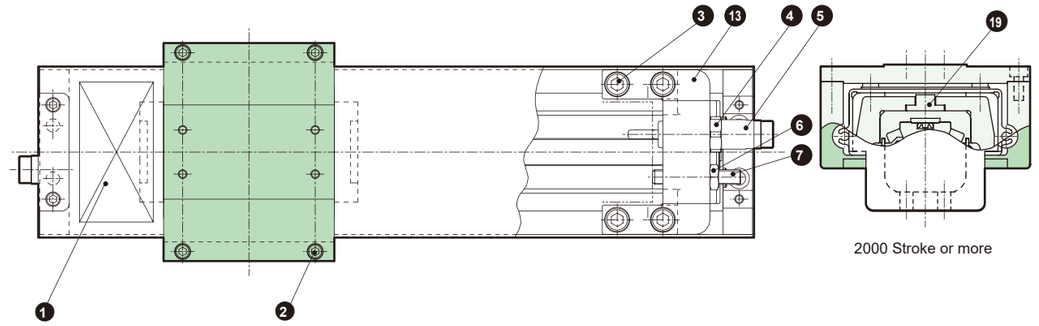
Note: Extension fittings (2 pcs.) are included with the shipment.

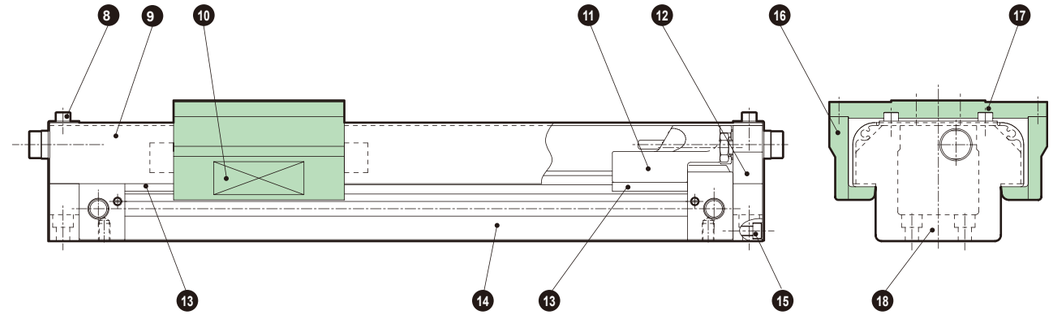
For maintenance parts, please visit the CKD Equipment Product Site (https: //www.ckd.co.jp/kiki/en/) → "model No." → Maintenance Parts.

Internal Structure / Material

For the internal structure of the main body, it is the same as the standard type SRL3 series, so please refer to P. 24, 25.

● Full stroke adjustable with Shock Absorbers (ø32 to ø63 or equivalent)





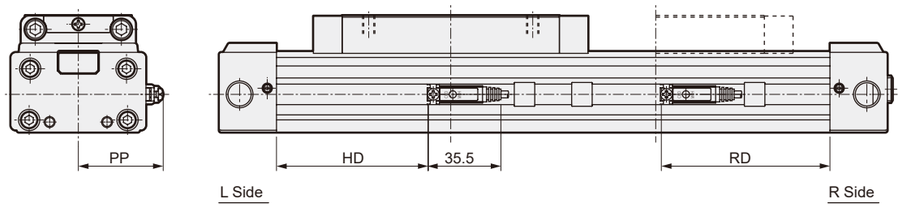
Item	Part Name	Material	Remarks	Item	Part Name	Material	Remarks
1	Caution nameplate (Beware of tripping)	Polypropylene		11	Adapter	Steel	Zinc Plating
2	Hexagon Socket Head Cap Screw	Stainless Steel		12	LB-J Bracket	Aluminum Alloy	Alumite
3	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Plating	13	Adapter Nut	Steel	Zinc Plating
4	Hexagon Nut	Steel	Zinc Plating	14	Rodless Cylinder		SRL3 (CKD)
5	Shock absorber			15	Hexagon Socket Head Cap Screw	Alloy Steel	Zinc Plating
6	Hexagon Nut	Steel	Zinc Plating	16	Table Adapter	Aluminum Alloy	Alumite
7	Hexagon Socket Set Screw	Alloy Steel	Zinc Plating	17	Table Plate	Aluminum Alloy	Alumite
8	Hexagon Socket Head Cap Screw	Stainless Steel		18	Side Cover	Aluminum Alloy	Alumite
9	Cover	Aluminum Alloy	Alumite	19	Table Spacer	Polyacetal	
10	Caution nameplate (Beware of pinching)	Polypropylene					

Note: Extension fittings (2 pcs.) are included with the shipment.

For maintenance parts, please visit the CKD Equipment Product Site (https: //www.ckd.co.jp/kiki/en/) → "model No." → Maintenance Parts.

SRL3 Series External Dimensions with Switch

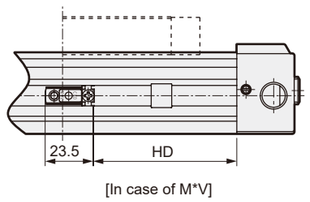
●M0H/V, M5H/V, M2H/V, M2WV, M3H/V, M3WV, M3PH/V
・SRL3-Standard, G, Q, GQ



Code / Bore Size (mm)	PP	HD	RD
ø12 equivalent	24.5	40.5	60.5
ø16 equivalent	26.5	47	67
ø20 equivalent	29.5	52.5	72.5
ø25 equivalent	34.5	60	82
ø32 equivalent	41.5	74	96

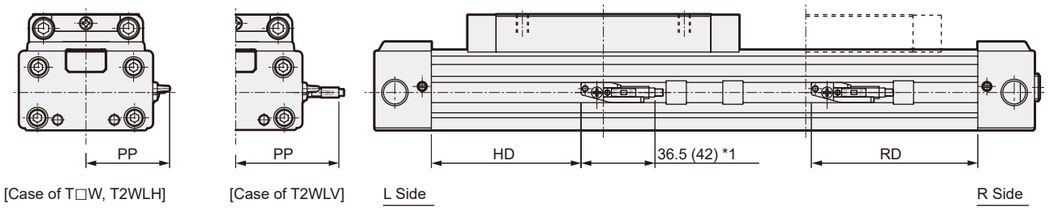
Code / Bore Size (mm)	PP	HD	RD
ø40 equivalent	48.5	80	102
ø50 equivalent	56.5	79	101
ø63 equivalent	67.5	98	120
ø80 equivalent	87.5	170	190
ø100 equivalent	105.5	175	195

Note: For switch mountability, refer to the model number display method for each variation.



[In case of M*V]

●T2WH/V, T3WH/V, T2WLH/V
・SRL3-Standard, G, Q, GQ

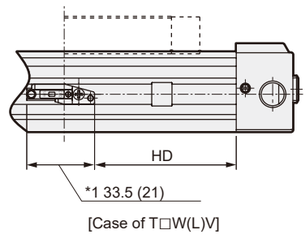


[Case of T□W, T2WLH] [Case of T2WLV] L Side R Side

Code / Bore Size (mm)	PP T□W, T2WLH	PP T2WLV	HD	RD
ø12 equivalent	24.3	34	32	69
ø16 equivalent	26.3	36	38	76
ø20 equivalent	29.3	39	44	81
ø25 equivalent	34.3	44	52	90
ø32 equivalent	41.3	51	66	104

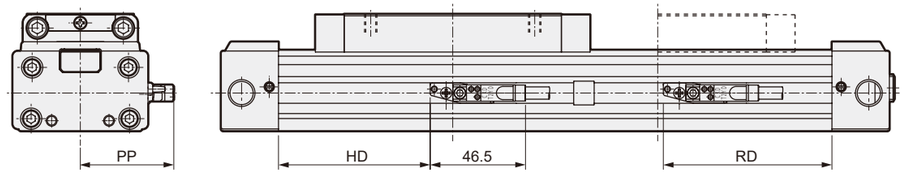
Code / Bore Size (mm)	PP T□W, T2WLH	PP T2WLV	HD	RD
ø40 equivalent	48.3	58	72	110
ø50 equivalent	56.3	66	71	109
ø63 equivalent	67.3	77	90	128
ø80 equivalent	87.3	97	161	199
ø100 equivalent	105.3	115	166	204

*1: For T2WLH/V, dimensions are in ( ).
*2: For switch mountability, refer to the model number display method for each variation.



[Case of T□W(L)V]

●T2YD, T2YDT
・SRL3-Standard, G, Q, GQ



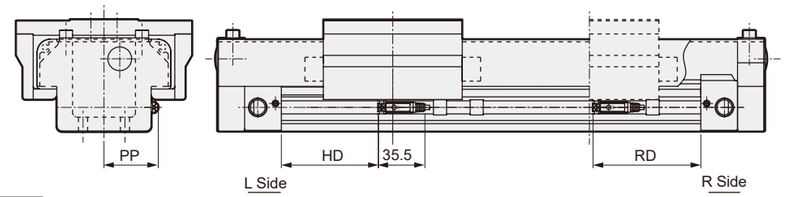
Code / Bore Size (mm)	PP	HD	RD
ø12 equivalent	28.4	36	65
ø16 equivalent	30.4	42	72
ø20 equivalent	33.4	48	77
ø25 equivalent	38.4	56	86
ø32 equivalent	45.4	70	100

Code / Bore Size (mm)	PP	HD	RD
ø40 equivalent	52.4	76	106
ø50 equivalent	60.4	75	105
ø63 equivalent	71.4	94	124
ø80 equivalent	91.4	165	195
ø100 equivalent	109.4	170	200

Note: For switch mountability, refer to the model number display method for each variation.

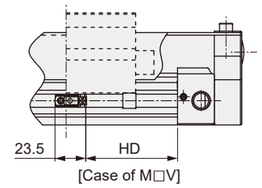
SRL3 Series External Dimensions with Switch

●M0H/V, M5H/V, M2H/V, M2WV, M3H/V, M3WV, M3PH/V
・SRL3-J



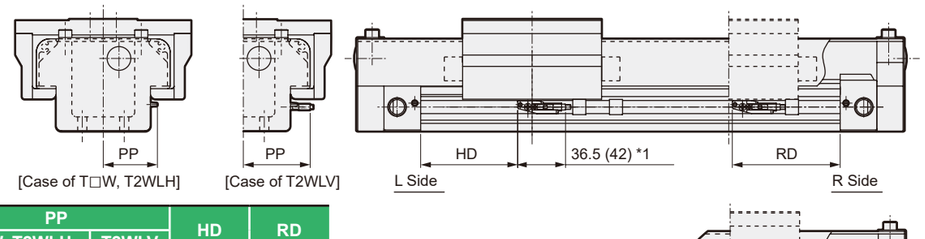
Code / Bore Size (mm)	PP	HD	RD
ø25 equivalent	34.5	60	82
ø32 equivalent	41.5	74	96
ø40 equivalent	48.5	80	102
ø50 equivalent	56.5	79	101
ø63 equivalent	67.5	98	120

Note: For switch mountability, refer to the model number display method for each variation.



[Case of M□V]

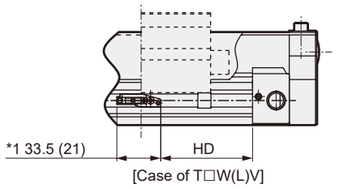
●T2WH/V, T3WH/V, T2WLH/V
・SRL3-J



[Case of T□W, T2WLH] [Case of T2WLV]

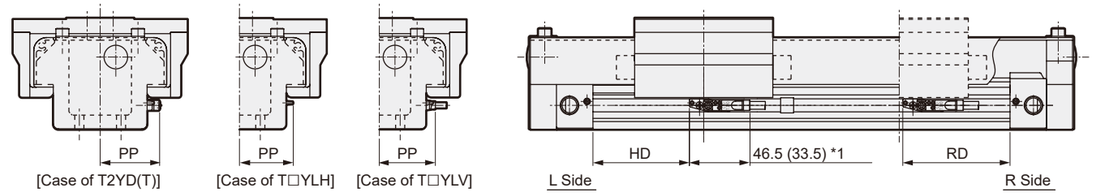
Code / Bore Size (mm)	PP T□W, T2WLH	PP T2WLV	HD	RD
ø25 equivalent	34.3	44	52	90
ø32 equivalent	41.3	51	66	104
ø40 equivalent	48.3	58	72	110
ø50 equivalent	56.3	66	71	109
ø63 equivalent	67.3	77	90	128

*1: For T2WLH/V, dimensions are in ( ).
*2: For switch mountability, refer to the model number display method for each variation.



[Case of T□W(L)V]

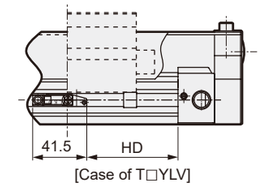
●T2YD, T2YDT, T2YLH/V, T3YLH/V
・SRL3-J



[Case of T2YD(T)] [Case of T□YLH] [Case of T□YLV]

Code / Bore Size (mm)	PP T2YD(T)	PP T□YLH	PP T□YLV	HD	RD
ø25 equivalent	38.4	34.5	36	56	86
ø32 equivalent	45.4	41.5	43	70	100
ø40 equivalent	52.4	48.5	50	76	106
ø50 equivalent	60.4	56.5	58	75	105
ø63 equivalent	71.4	67.5	69	94	124

*1: In the case of T□YLH, the dimensions in ( ) apply.
*2: For switch mountability, refer to the model number display method for each variation.



[Case of T□YLV]

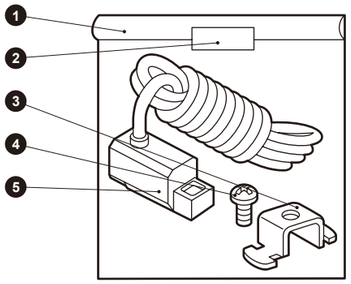
Component Parts List

Switch

●Switch body+Mounting bracket set (*1)

SRL3 - M0H

6 Switch Model No.

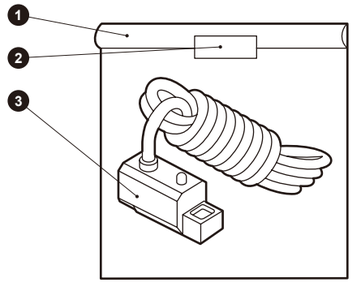


Part No.	Part Name	Quantity
1	Plastic Bag	1
2	Label	1
3	Switch Mounting Bracket	1
4	Cross-Recessed Pan Head Screw	1
5	Switch	1

●Switch body only

SW - M0H

6 Switch Model No.

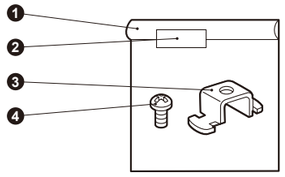


Part No.	Part Name	Quantity
1	Plastic Bag	1
2	Label	1
3	Switch	1

Switch

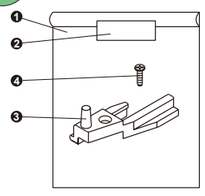
● Mounting bracket only

SRL3 - M



● Mounting bracket only

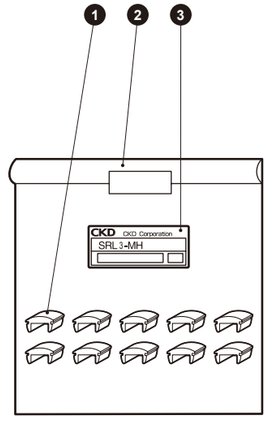
SRL3 - T



Part No.	Part Name	Quantity
1	Plastic Bag	1
2	Label	1
3	Switch Mounting Bracket	1
4	Cross-Recessed Pan Head Screw	1

●Lead Wire Holder

SRL3 - MH



Part No.	Part Name	Quantity
1	Lead Wire Holder	10
2	Plastic Bag	1
3	Package Label (S)	1

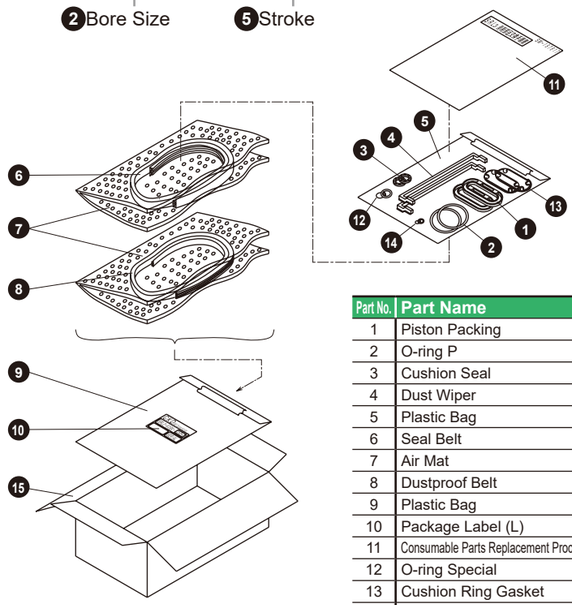
Note: Packaging style may vary slightly depending on size.

Consumable Parts

SRL3 - 40 K - 200

2 Bore Size

5 Stroke



Part No.	Part Name	Quantity
1	Piston Packing	2
2	O-ring P	2
3	Cushion Seal	2
4	Dust Wiper	2
5	Plastic Bag	1
6	Seal Belt	1
7	Air Mat	1
8	Dustproof Belt	1
9	Plastic Bag	1
10	Package Label (L)	1
11	Consumable Parts Replacement Procedure Manual	1
12	O-ring Special	2
13	Cushion Ring Gasket	2
14	Needle Gasket	2
15	Cardboard Box	1

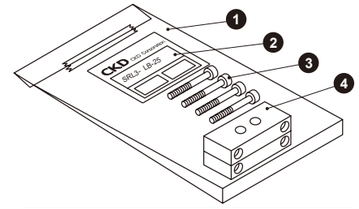
*1: Cushion ring gaskets are not included for ø12 to ø40.
*2: Four gaskets are added for ø80 to ø100.

Mounting bracket

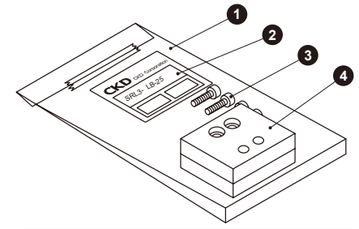
SRL3 - LB - 40

1 Mounting type 2 Bore Size

2 Brackets + 4 Mounting Bolts



Part No.	Part Name	Quantity
1	Plastic Bag	1
2	Package Label (S)	1
3	Hexagon Socket Head Cap Screw	4
4	Foot Bracket (A)	2



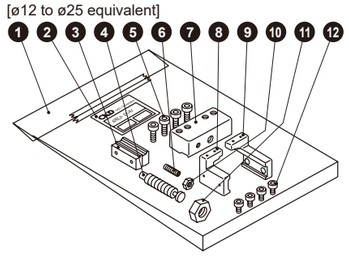
Part No.	Part Name	Quantity
1	Plastic Bag	1
2	Package Label (S)	1
3	Hexagon Socket Head Cap Screw	4
4	Foot Bracket (B)	2

Full Stroke Adjustment Bracket Kit

SRL3 - 40 - A1 1 Set

2 Bore Size

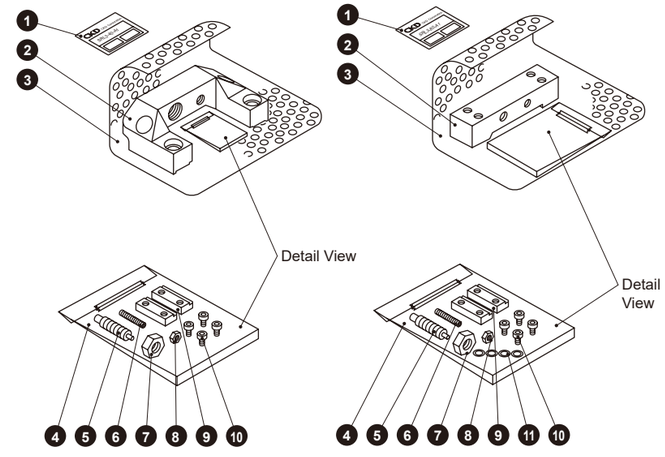
[ø12 to ø25 equivalent]



Part No.	Part Name	Quantity
1	Plastic Bag	1
2	Package Label (S)	1
3	Plate Nut	2
4	Shock absorber	1
5	Hexagon Socket Head Cap Screw	4
6	Hexagon Socket Set Screw	1
7	Plate	1
8	Adapter (R)	1
9	Adapter (L)	1
10	Nut for Fixing Stopper Bolt	1
11	Nut for Fixing Shock Absorber	1
12	Hexagon Socket Head Cap Screw	4

[ø32 to ø63 equivalent]

[ø80, ø100 equivalent]



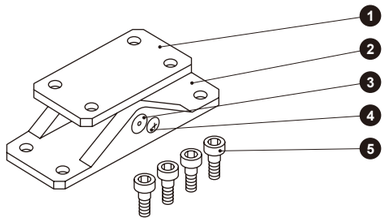
Part No.	Product Name	Quantity	Part No.	Product Name	Quantity
1	Package Label (S)	1	7	Hexagon Nut	1
2	Adapter	1	8	Hexagon Nut	1
3	Air Mat		9	Adapter Nut	2
4	Plastic Bag	1	10	Hexagon Socket Head Cap Screw	4
5	Shock absorber	1	11	Belleville Spring	4
6	Hexagon Socket Set Screw	1			

Note: Packaging style may vary slightly depending on size.

Floating Joint Set

SRL3 - 40 - Y

② Bore Size



Part No.	Part Name	Quantity
1	Mount	1
2	Mount Base	1
3	Pin	1
4	Pan Head Screw with Spring Washer	1
5	Mounting Bolt	4

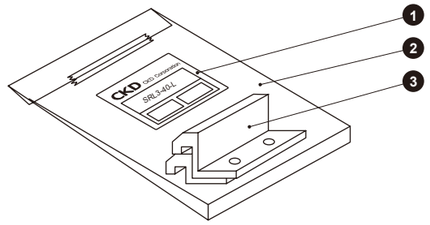
Note: Packaging style may vary slightly depending on size.

Intermediate Support Bracket

For 00, LB

SRL3 - 40 - Y 2 pcs./ set

② Bore Size

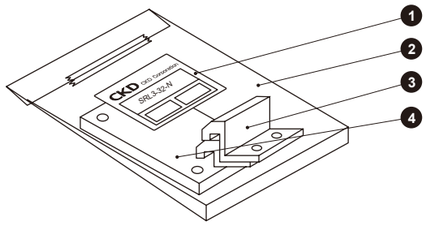


Part No.	Part Name	Quantity
1	Package Label (S)	1
2	Plastic Bag	1
3	Intermediate Support Bracket	2

●For LB1

SRL3 - 32 - N 2 pcs./ set

② Bore Size



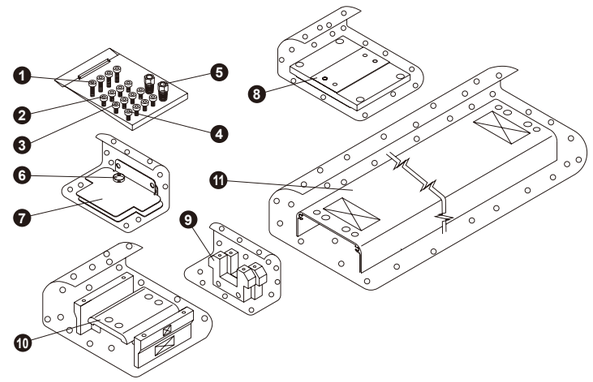
Part No.	Part Name	Quantity
1	Package Label (S)	1
2	Plastic Bag	1
3	Intermediate Support Bracket	2
4	Plate	1

Component Parts List

Cover Kit

SRL3-J - 40 - 200 - COVER-KIT

② Bore Size ⑤ Stroke



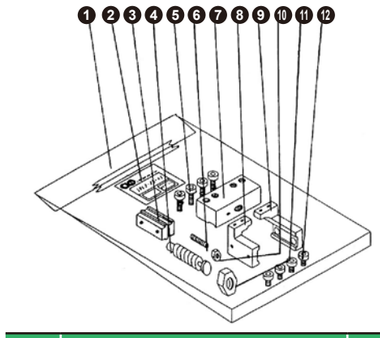
Part No.	Parts List	Quantity
1	Hexagon Socket Head Cap Screw	4
2	Hexagon Socket Head Cap Screw	4
3	Hexagon Socket Head Cap Screw	4
4	Hexagon Socket Head Cap Screw	4
5	Extension Joint	2
6	Hole Plug	2
7	Side Cover	2
8	Table Plate	1
9	LB-J Bracket	2
10	Table Adapter	1
11	Cover	1

Full Stroke Adjustment Bracket Kit

● Full Stroke Adjustment Bracket Kit

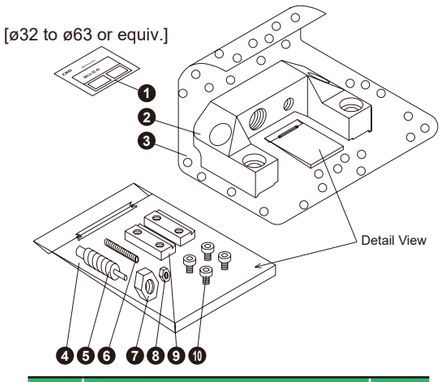
SRL3-J - 40 - A1 1 Set

[ø25 equivalent] ② Bore Size



Part No.	Parts List	Quantity
1	Plastic Bag	1
2	Package Label (S)	1
3	Plate Nut	2
4	Shock absorber	1
5	Hexagon Socket Head Cap Screw	4
6	Hexagon Socket Set Screw	1
7	Plate	1
8	Adapter (R)	1
9	Adapter (L)	1
10	Nut for Fixing Stopper Bolt	1
11	Nut for Fixing Shock Absorber	1
12	Hexagon Socket Head Cap Screw	4

[ø32 to ø63 or equiv.]



Part No.	Parts List	Quantity
1	Package Label (S)	1
2	Adapter	1
3	Air Mat	
4	Plastic Bag	1
5	Shock absorber	1
6	Hexagon Socket Set Screw	1
7	Hexagon Nut	1
8	Hexagon Nut	1
9	Adapter Nut	2
10	Hexagon Socket Head Cap Screw	4

Weight List of Various Kits

Floating Joint

Kit Number	Weight (g)
SRL3-12-Y	86
SRL3-16-Y	86
SRL3-20-Y	189
SRL3-25-Y	188
SRL3-32-Y	572
SRL3-40-Y	571
SRL3-50-Y	1194
SRL3-63-Y	1188
SRL3-80-Y	2638
SRL3-100-Y	4115

Low Profile Floating Joint

Kit Number	Weight (g)
SRL3-12-Y1	139
SRL3-16-Y1	157
SRL3-20-Y1	291
SRL3-25-Y1	403
SRL3-32-Y1	732
SRL3-40-Y1	879
SRL3-50-Y1	1590
SRL3-63-Y1	2057

Intermediate Support Bracket

● For 00, LB

Kit Number	Weight (g)
SRL3-12-L	12
SRL3-16-L	14
SRL3-20-L	21
SRL3-25-L	35
SRL3-32-L	35
SRL3-40-L	70
SRL3-50-L	87
SRL3-63-L	199
SRL3-80-L	337
SRL3-100-L	337

●For LB1

Kit Number	Weight (g)
SRL3-12-N	40
SRL3-16-N	49
SRL3-20-N	81
SRL3-25-N	123
SRL3-32-N	136

Support Bracket

● For LB

Kit Number	Weight (g)
SRL3-LB-12	13
SRL3-LB-16	15
SRL3-LB-20	28
SRL3-LB-25	88
SRL3-LB-32	103
SRL3-LB-40	152
SRL3-LB-50	272
SRL3-LB-63	448
SRL3-LB-80	610
SRL3-LB-100	1014

●For LB1

Kit Number	Weight (g)
SRL3-LB1-12	25
SRL3-LB1-16	27
SRL3-LB1-20	58
SRL3-LB1-25	123
SRL3-LB1-32	161

Shock Absorber Only

Kit Number	Weight (g)
SRL3-12-NCK	14
SRL3-16-NCK	14
SRL3-20-NCK	23
SRL3-25-NCK	45
SRL3-32-NCK	77
SRL3-40-NCK	212
SRL3-50-NCK	330
SRL3-63-NCK	330
SRL3-80-NCK	475
SRL3-100-NCK	475

Height Adjustment Plate

Kit Number	Weight (g)
SRL3-12-U	52
SRL3-16-U	47
SRL3-20-U	75
SRL3-25-U	173
SRL3-32-U	225
SRL3-40-U	352
SRL3-50-U	620
SRL3-63-U	873
SRL3-80-U	1396
SRL3-100-U	2070

Weight List of Various Kits

Related to Switch

● Mounting bracket only

Kit Number	Weight (g)
SRL3-M	1
SRL3-T	5

Note: In the case of the mounting bracket + switch, add the switch weight.

●Lead Wire Holder

Kit Number	Weight (g)
SRL3-MH	3

Consumable Parts

●SRL3 Series

Kit Number	Weight (g)
SRL3-12K-□	7+5×Stroke/100
SRL3-16K-□	8+5×Stroke/100
SRL3-20K-□	10+5×Stroke/100
SRL3-25K-□	24+10×Stroke/100
SRL3-32K-□	31+10×Stroke/100
SRL3-40K-□	54+18×Stroke/100
SRL3-50K-□	66+18×Stroke/100
SRL3-63K-□	91+18×Stroke/100
SRL3-80K-□	248+42×Stroke/100
SRL3-100K-□	268+42×Stroke/100

●SRL3-G Series

Kit Number	Weight (g)
SRL3-G-12K-□	7+5×Stroke/100
SRL3-G-16K-□	9+5×Stroke/100
SRL3-G-20K-□	11+5×Stroke/100
SRL3-G-25K-□	28+10×Stroke/100
SRL3-G-32K-□	36+10×Stroke/100
SRL3-G-40K-□	59+18×Stroke/100
SRL3-G-50K-□	78+18×Stroke/100
SRL3-G-63K-□	104+18×Stroke/100
SRL3-G-80K-□	296+42×Stroke/100
SRL3-G-100K-□	319+42×Stroke/100

●SRL3-Q Series

Kit Number	Weight (g)
SRL3-Q-12K-□	7+5×Stroke/100
SRL3-Q-16K-□	8+5×Stroke/100
SRL3-Q-20K-□	10+5×Stroke/100
SRL3-Q-25K-□	25+10×Stroke/100
SRL3-Q-32K-□	31+10×Stroke/100
SRL3-Q-40K-□	54+18×Stroke/100
SRL3-Q-50K-□	68+18×Stroke/100
SRL3-Q-63K-□	92+18×Stroke/100
SRL3-Q-80K-□	250+42×Stroke/100
SRL3-Q-100K-□	270+42×Stroke/100

●SRL3-GQ Series

Kit Number	Weight (g)
SRL3-GQ-12K-□	8+5×Stroke/100
SRL3-GQ-16K-□	9+5×Stroke/100
SRL3-GQ-20K-□	11+5×Stroke/100
SRL3-GQ-25K-□	29+10×Stroke/100
SRL3-GQ-32K-□	37+10×Stroke/100
SRL3-GQ-40K-□	60+18×Stroke/100
SRL3-GQ-50K-□	80+18×Stroke/100
SRL3-GQ-63K-□	105+18×Stroke/100
SRL3-GQ-80K-□	298+42×Stroke/100
SRL3-GQ-100K-□	322+42×Stroke/100

Full Stroke Adjustment Kit

Kit Number	Weight (g)
SRL3-12-A1	110
SRL3-16-A1	114
SRL3-20-A1	187
SRL3-25-A1	375
SRL3-32-A1	644
SRL3-40-A1	1032
SRL3-50-A1	2128
SRL3-63-A1	2454
SRL3-80-A1	3108
SRL3-100-A1	3422

Rodless Type
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
Cylinder Switch
Ending

Weight List of Various Kits

Mounting Bracket Kit

Kit Number	Weight (g)
SRL3-J-LJ-25	176
SRL3-J-LJ-32	230

Adapter Kit

Kit Number	Weight (g)
SRL3-J-25-ADAPTOR-KIT	266
SRL3-J-32-ADAPTOR-KIT	504
SRL3-J-40-ADAPTOR-KIT	753
SRL3-J-50-ADAPTOR-KIT	1598
SRL3-J-63-ADAPTOR-KIT	1861

Extension Joint Kit

Kit Number	Weight (g)
SRL3-J-PF01	34
SRL3-J-PF02	63
SRL3-J-PF03	104

Cover Kit

Kit Number	Weight (g)
[Less than 2000st]	
SRL3-J-25-□-COVER-KIT	1382+89×Stroke/100
SRL3-J-32-□-COVER-KIT	1802+101×Stroke/100
SRL3-J-40-□-COVER-KIT	2221+117×Stroke/100
SRL3-J-50-□-COVER-KIT	3626+147×Stroke/100
SRL3-J-63-□-COVER-KIT	4892+166×Stroke/100
[2000st or more]	
SRL3-J-25-□-COVER-KIT	1379+89×Stroke/100
SRL3-J-32-□-COVER-KIT	1799+101×Stroke/100
SRL3-J-40-□-COVER-KIT	2218+117×Stroke/100
SRL3-J-50-□-COVER-KIT	3621+147×Stroke/100
SRL3-J-63-□-COVER-KIT	4887+166×Stroke/100

Full Stroke Adjustment Kit

Kit Number	Weight (g)
SRL3-J-25-A1	375
SRL3-J-32-A1	644
SRL3-J-40-A1	1032
SRL3-J-50-A1	2128
SRL3-J-63-A1	2454

MEMO

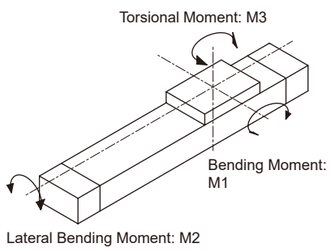
Rodless Type
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
Cylinder Switch
Ending

Rodless Cylinder Model Selection Guide

[STEP1]

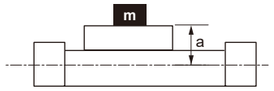
Moment acts depending on the cylinder mounting direction and the center of gravity of the load.

● Types of moment caused by load



[Table 1] Value of a

Bore Size	a (m)
	SRL3, SRL3-G, SRL3-Q, SRL3-GQ
ø12 equivalent	0.023
ø16 equivalent	0.025
ø20 equivalent	0.028
ø25 equivalent	0.036
ø32 equivalent	0.039
ø40 equivalent	0.045
ø50 equivalent	0.054
ø63 equivalent	0.060
ø80 equivalent	0.081
ø100 equivalent	0.089



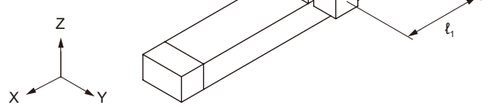
1 Calculate static moment.

Unit: N·m

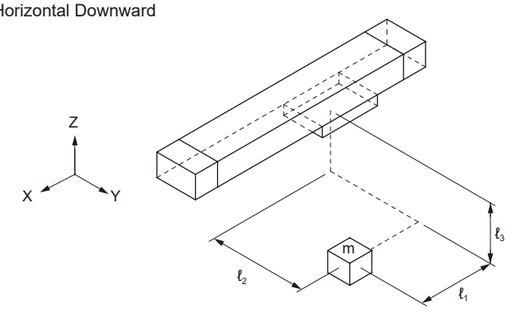
Mounting Direction		Horizontal Upward	Horizontal Downward	Horizontal Lateral	Vertical
Vertical load W		m × 9.8			-
Static Moment	M1	W×ℓ_1	W×ℓ_1	-	W x (ℓ_3 +a)
	M2	W×ℓ_2	W×ℓ_2	W x (ℓ_3 +a)	-
	M3	-	-	W×ℓ_1	W×ℓ_2

m : Load weight (kg)
ℓ_1 : Stroke distance from the center of table to the center of gravity of load [m]
ℓ_2 : Length in the width direction from the center of table to the center of gravity of load [m]
ℓ_3 : Length in the vertical direction from the center of table to the center of gravity of load [m]

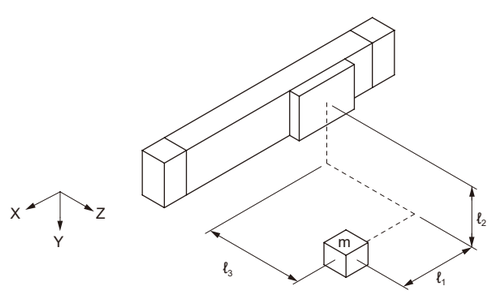
Horizontal Upward



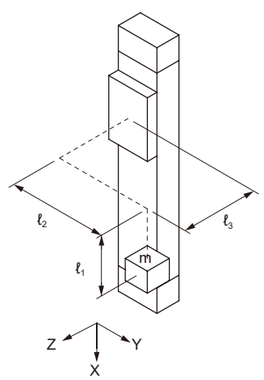
Horizontal Downward



Horizontal Lateral



Vertical



2 Calculate the dynamic moment generated by the inertia force of the load at the stroke end.

Unit: N·m

Mounting Direction		Horizontal Upward	Horizontal Downward	Vertical	Horizontal Lateral
Dynamic Moment	M1i	W x (ℓ_3 +a)xG			
	M2i	Dynamic moment M2i does not occur			
	M3i	W×ℓ_2 xG			

The dynamic moment calculation is as above regardless of the mounting direction.

The approximate value of G coefficient is obtained from Table 2.

[Table 2] $Va(\text{Average Speed}) = \frac{\text{Travel Distance}}{\text{Travel Time}}$ (m/s)

Va(Average Speed) (m/s)	Vm(Stroke End Speed) (m/s)	G Coefficient
0.3	to 0.65	9
0.6	to 1.00	15
0.9	to 1.30	23
1.2	to 2.00	40

G Coefficient= ▢

3 Select approximate Bore Size.

Select approximate Bore Size.

M1+M1i = ▢ (N·m) → (ø)
M2 = ▢ (N·m) → (ø)
M3+M3i = ▢ (N·m) → (ø)
W = ▢ (N) → (ø)
$E_0 = \frac{1}{2} \times m \times \mathbf{Vm^2}$ = ▢ (J) → (ø)

Tentatively select the maximum Bore Size.

ø ▢

[Table 3] Allowable Value

Item / Bore Size (mm)		W max (N)	M1 max (N·m)	M2 max (N·m)	M3 max (N·m)
SRL3	ø12 equivalent	30	1.5	0.6	0.6
	ø16 equivalent	140	5	1	1
	ø20 equivalent	200	10	1.5	3
	ø25 equivalent	360	17	5	10
	ø32 equivalent	620	36	10	21
	ø40 equivalent	970	77	23	26
	ø50 equivalent	1470	154	32	42
	ø63 equivalent	2320	275	52	76
	ø80 equivalent	3500	460	70	100
	ø100 equivalent	5000	750	95	130
SRL3-G	ø12 equivalent	30	1.5	0.6	0.4
	ø16 equivalent	140	5	1	0.6
	ø20 equivalent	200	10	1.5	1
	ø25 equivalent	360	17	5	2
	ø32 equivalent	620	36	10	4
	ø40 equivalent	810	41	18	5
	ø50 equivalent	1440	76	32	9
	ø63 equivalent	1630	98	51	12
	ø80 equivalent	3500	351	70	37
	ø100 equivalent	4130	386	95	42

[Table 4] Allowable Absorption Energy of SRL3 (E_0)

Bore Size (mm)	Built-in Air Cushion (J)	Shock absorber (J)	Model No.
ø12 equivalent	0.03	2.4	NCK-00-0.3-C
ø16 equivalent	0.22	2.4	NCK-00-0.3-C
ø20 equivalent	0.59	5.7	NCK-00-0.7-C
ø25 equivalent	1.40	10.0	NCK-00-1.2
ø32 equivalent	2.57	18.0	NCK-00-2.6
ø40 equivalent	4.27	50.0	NCK-00-7
ø50 equivalent	9.13	86.0	NCK-00-12
ø63 equivalent	17.4	86.0	NCK-00-12
ø80 equivalent	33.0	143.0	NCK-00-20
ø100 equivalent	57.0	143.0	NCK-00-20

4 Determine the combined stroke end moment (M_T).
(Confirm that the following formula is satisfied for the Bore Size selected in **3**.)

$$M_T = \frac{M1+M1_i}{M1max} + \frac{M2}{M2max} + \frac{M3 + M3i}{M3max} + \frac{W}{Wmax} < 1$$

M : Resultant moment (Condition is to be smaller than 1.)
Wmax : Maximum allowable value of W (from Table 3)
M1 max : M1 maximum allowable value (from Table 3)
M2 max : M2 maximum allowable value (from Table 3)
M3 max : M3 maximum allowable value (from Table 3)

· If M_T significantly exceeds 1, change the selection conditions.
· If M_T slightly exceeds 1, it may become 1 or less by improving accuracy in STEP2. Please proceed to STEP 2 and subsequent steps to confirm.

[STEP2]

Next, increase the accuracy of load factor, effective thrust, stroke end speed, and resultant moment value.

● Determine the load factor.

$$\alpha = \frac{F_0}{F} \times 100[\%]$$

α : Load Factor
F_0 : Force required to move the workpiece (N)
F : Effective thrust of the cylinder (N) (Fig. 1 to 4)

Horizontal Operation	Vertical Operation
$F_0=F_W+F_1+F_2+F_3+F_L$	$F_0=W+F_1+F_2+F_3+F_L$
Fw : W×0.2 (N)	F_1 : $M_1 \times C_1$ Note (N)
F2 : $M_2 \times C_2$ Note (N)	F_3 : $M_3 \times C_3$ Note (N)
F_L : Other kinds of resistance (e.g., guide resistance) (N)	W : Load (N)

Note: Coefficient to correct the increase in friction force generated when a moment is applied

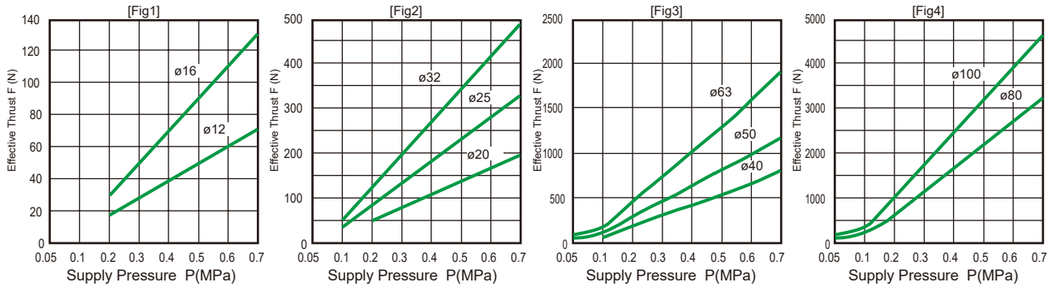
[Table 5] Friction Coefficient by Each Moment 1/m

Bore Size (mm)	C_1	C_2	C_3
ø12 equivalent	8	27	8
ø16 equivalent	7	24	7
ø20 equivalent	6	21	6
ø25 equivalent	5	16	5
ø32 equivalent	4	13	4
ø40 equivalent	4	11	4
ø50 equivalent	4	9	4
ø63 equivalent	3	8	3
ø80 equivalent	3	7	3
ø100 equivalent	3	6	3

[Table 6] Guideline for Load Factor

Operating Pressure (MPa)	Load Factor (%)
0.2 to 0.3	α ≤ 40
0.3 to 0.6	α ≤ 50
0.6 to 0.7	α ≤ 60

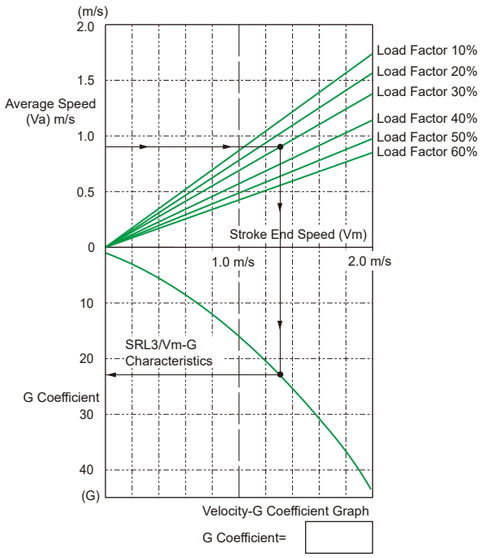
● Graph for obtaining effective thrust



[STEP3]

Determine the stroke end velocity (Vm) from [Fig. 1] based on the average velocity (Va) and the load factor obtained in STEP 2, and further determine the G coefficient.

● Speed-G Coefficient Graph[Fig. 1]



●The arrow (→) in the figure indicates
┌ Average speed : 0.9 m/s
└ Load factor : 30%
at
┌ Stroke end speed : 1.3 m/s
└ G coefficient : 22.5
Shows an example of finding.

[STEP4]

● Calculate the resultant moment (M_T) using the G coefficient obtained in STEP 3.

M1+M1i = ☐ (N·m)
M2' = ☐ (N·m)
M3+M3i = ☐ (N·m)
W' = ☐ (N)

$$M_T = \frac{M1+M1_i}{M1max} + \frac{M2}{M2max} + \frac{M3 + M3i}{M3max} + \frac{W}{Wmax}$$

$M_T \leq 1$
↓
Determine Cylinder Bore Size (*Refer to [Table 3] in STEP 1)
↓
Check Cushion Capacity

Unit: N·m

Mounting Direction		Horizontal Upward	Horizontal Downward	Vertical	Horizontal Lateral
Dynamic Moment	M1i	W x (ℓ_3 +a)xG			
	M2i	Dynamic moment M2i does not occur			
	M3i	W×ℓ_2 xG			

It is the same calculation formula as STEP 1, but this time, calculate using the G coefficient value obtained in STEP 3.

[STEP5]

Confirmation of Cushion Capacity

● When using the built-in air cushion

・Confirm that $E \leq E_0$ from Table 7.

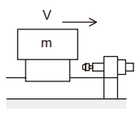
$$E = \frac{1}{2} \times m \times V_m^2$$

E : Kinetic energy at the final end of workpiece (J)
m : Load weight (kg)
Vm : Piston cushion entry speed (m/s)

● When using the product with Shock Absorbers

・Calculate the collision energy E and equivalent mass of impact object Me using the formulas in the table below, and confirm that Me is within the allowable value in Fig. 2. Also, confirm that it is within the allowable value from Table 7. Please note that the allowable values for equivalent mass of impact object Me and collision energy E differ depending on the magnitude of the collision speed.

・Since the allowable absorption energy varies depending on the collision speed, ensure that it does not exceed 1/3 of the allowable absorption energy in Table 7 when the collision speed is 2000 mm/s, and 1/2 when the collision speed is 1000 mm/s.

	Horizontal Movement	Vertical Descent	Vertical Ascent
Usage Example			
Equivalent Impact Object Weight Me (kg)	$Me = \frac{2 \times E}{V^2}$	$Me = \frac{2 \times E}{V^2}$	$Me = \frac{2 \times E}{V^2}$
Energy E (J)	$E = \frac{mV^2}{2} + F \cdot St$	$E = \frac{mV^2}{2} + (F+mg) \cdot St$	$E = \frac{mV^2}{2} + (F-mg) \cdot St$

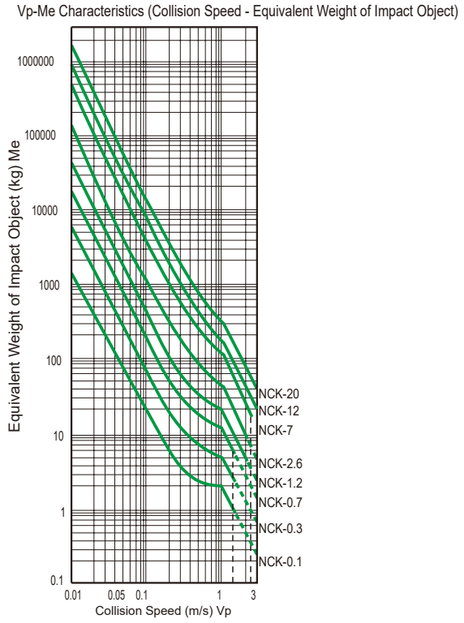
Code

E : Colliding energy J
Me : Colliding object equivalent weight kg
m : Workpiece weight kg
F : Cylinder thrust N
V : Collision speed (m/s)
St : Stroke of shock absorber (m)
g : Gravity acceleration 9.8 (m/s²)

[Table 7] Allowable Absorption Energy of SRL3 (E_0)

Bore Size (mm)	Built-in Air Cushion (J)	Shock absorber (J)	Model No.
ø12 equivalent	0.03	2.4	NCK-00-0.3-C
ø16 equivalent	0.22	2.4	NCK-00-0.3-C
ø20 equivalent	0.59	5.7	NCK-00-0.7-C
ø25 equivalent	1.40	10.0	NCK-00-1.2
ø32 equivalent	2.57	18.0	NCK-00-2.6
ø40 equivalent	4.27	50.0	NCK-00-7
ø50 equivalent	9.13	86.0	NCK-00-12
ø63 equivalent	17.4	86.0	NCK-00-12
ø80 equivalent	33.0	143.0	NCK-00-20
ø100 equivalent	57.0	143.0	NCK-00-20

[Fig. 2] Allowable Value of Equivalent Weight of Impact Object



[STEP6]

● The Bore Size determined from the cushion performance is øA. (Bore Size determined from STEP5)

● The Bore Size determined from the load conditions is øB. (Bore Size determined from STEP4)

øA ≥ øB → øA Select.

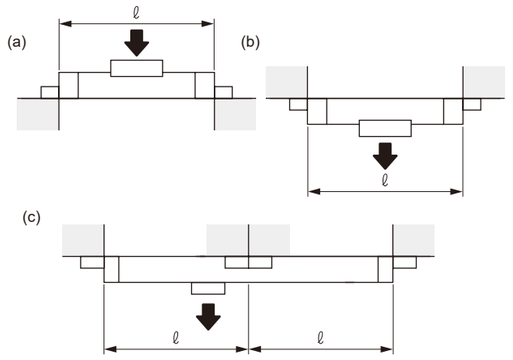
Or

→ øB Can be handled by using in combination with an external damper.

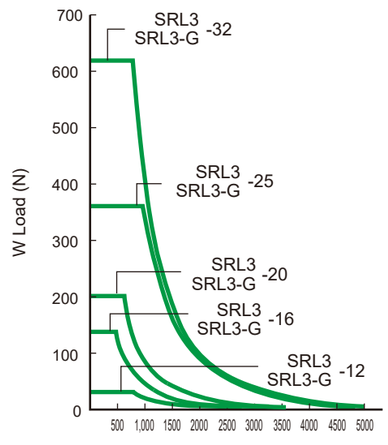
øA < øB → øB Select.

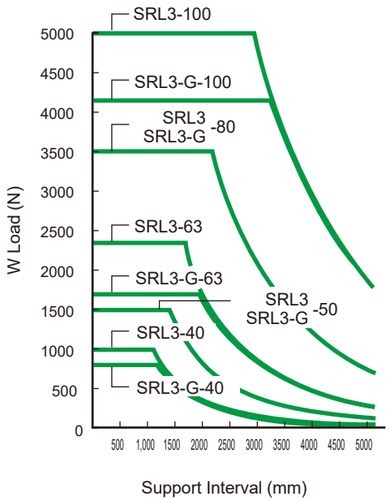
1 Vertical Load Limitation

● If the stroke is long, the cylinder tube sags with its self-weight and load. In such cases, ensure that the support interval shown in the figure below: ℓSupport with an intermediate support bracket so that it is less than or equal to the graph value. (The intermediate support bracket is an auxiliary bracket for reducing deflection and is not a fixing bracket.)

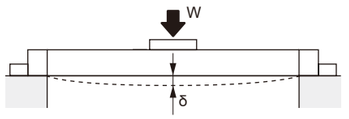


● Allowable load for the supporting methods (a), (b) and (c) above

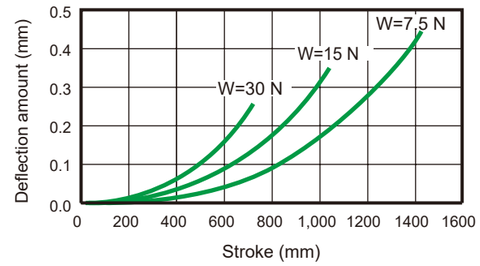




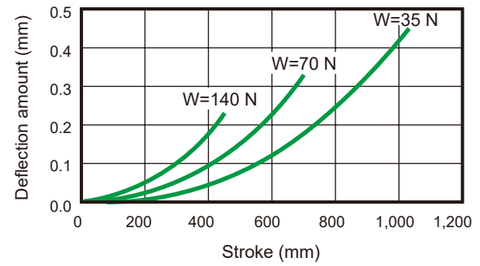
2 Deflection amount of cylinder tube δ



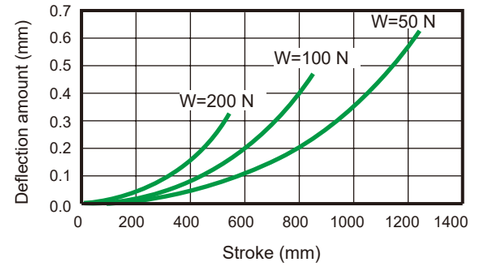
● SRL3-12, SRL3-G-12 (ø12 or equiv.)



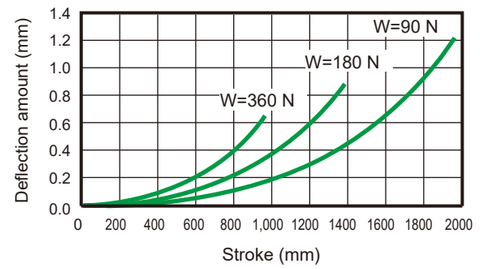
● SRL3-16, SRL3-G-16 (ø16 or equiv.)



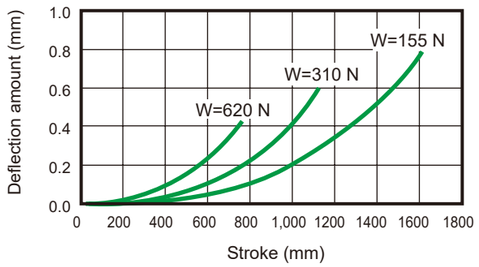
● SRL3-20, SRL3-G-20 (ø20 or equiv.)



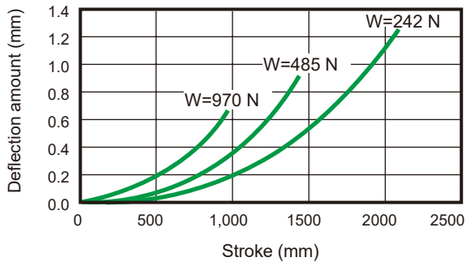
● SRL3-25, SRL3-G-25 (ø25 or equiv.)



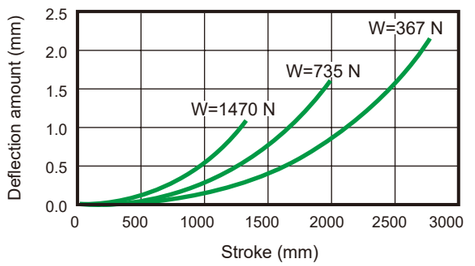
● SRL3-32, SRL3-G-32 (ø32 or equiv.)



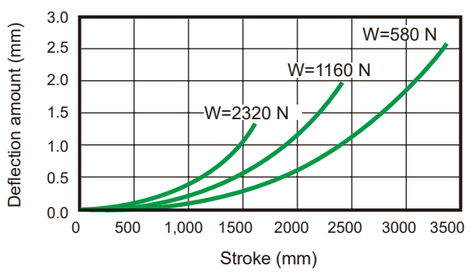
● SRL3-40, SRL3-G-40 (ø40 or equiv.)



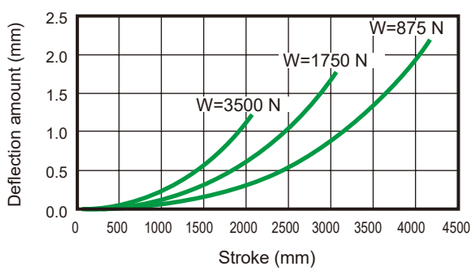
● SRL3-50, SRL3-G-50 (ø50 or equiv.)



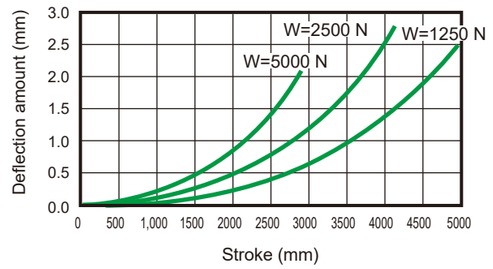
● SRL3-63, SRL3-G-63 (ø63 or equiv.)



● SRL3-80, SRL3-G-80 (ø80 or equiv.)



● SRL3-100, SRL3-G-100 (ø100 or equiv.)

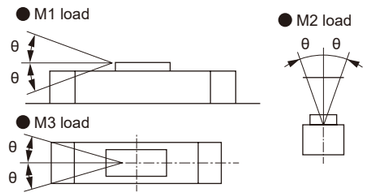


3 Table Tilt Angle θ

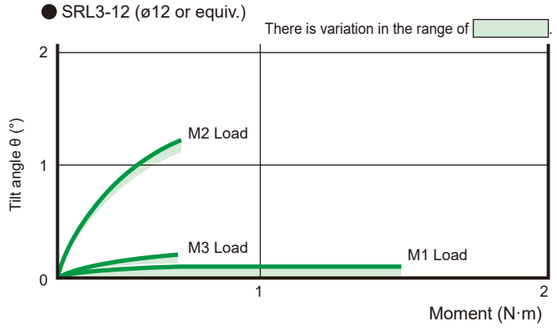
● M1 load

● M2 load

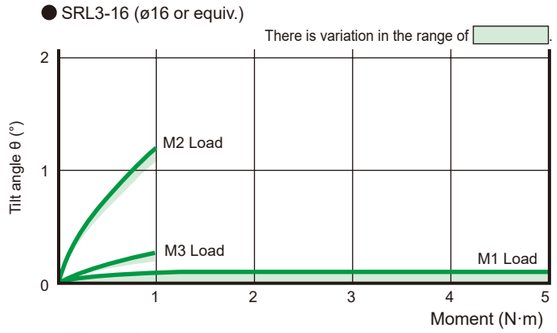
● M3 load



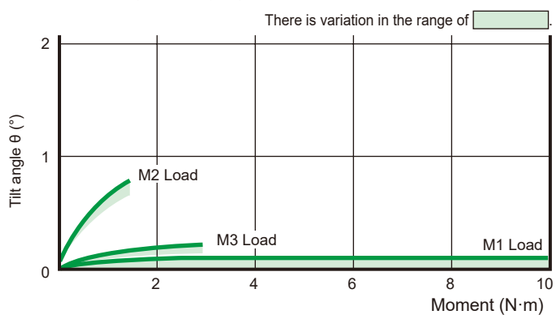
● SRL3-12 (ø12 or equiv.)



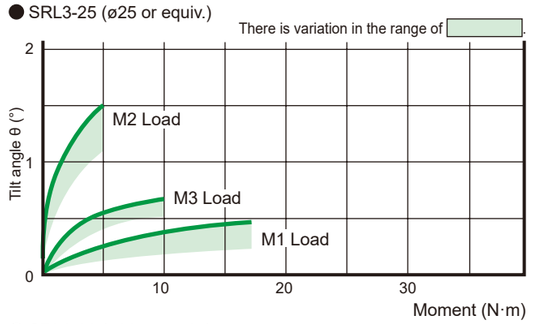
● SRL3-16 (ø16 or equiv.)



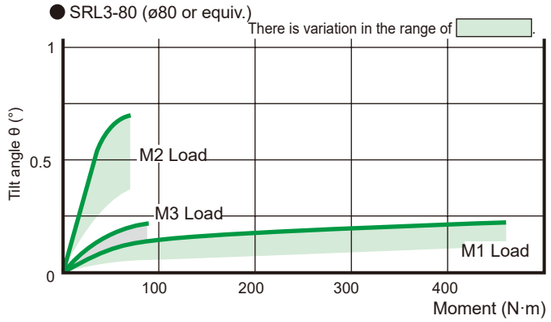
● SRL3-20 (ø20 or equiv.)



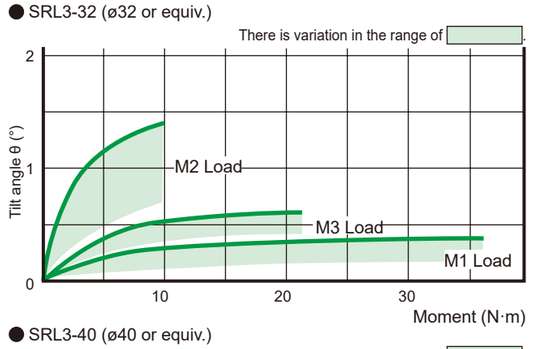
● SRL3-25 (ø25 or equiv.)



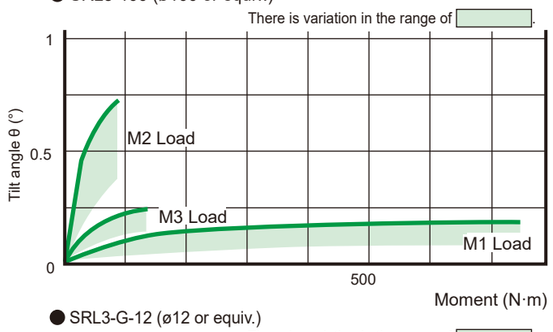
● SRL3-80 (ø80 or equiv.)



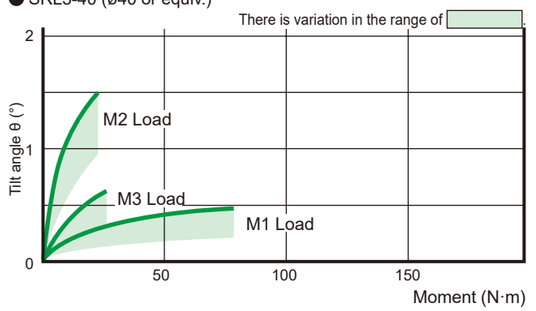
● SRL3-32 (ø32 or equiv.)



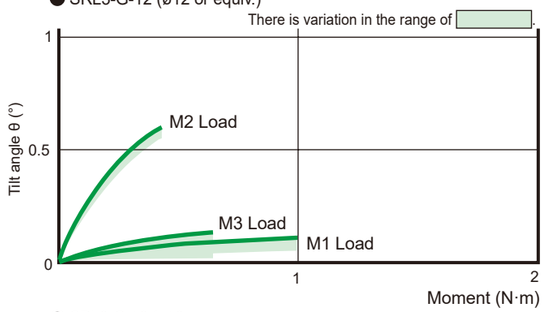
● SRL3-100 (ø100 or equiv.)



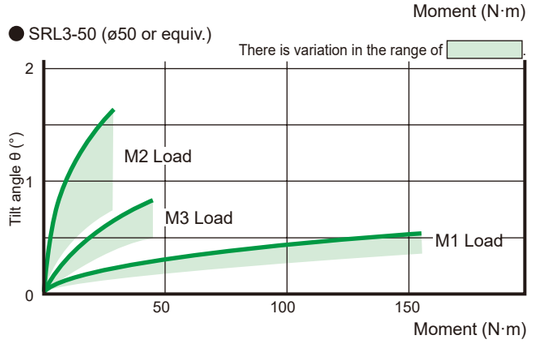
● SRL3-40 (ø40 or equiv.)



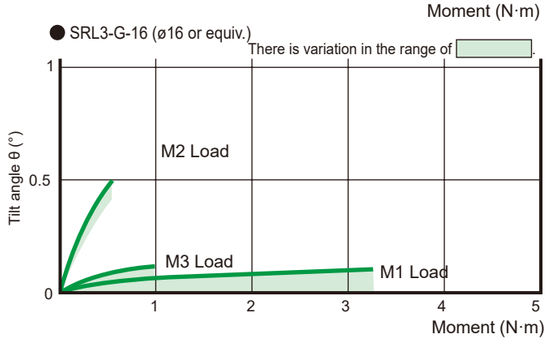
● SRL3-G-12 (ø12 or equiv.)



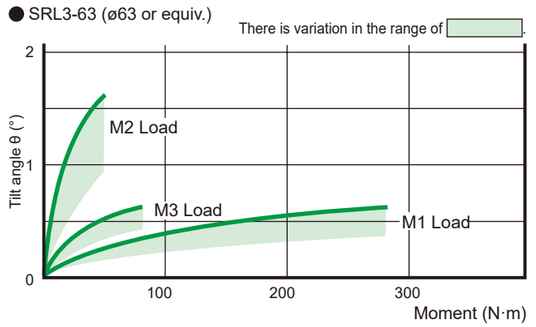
● SRL3-50 (ø50 or equiv.)



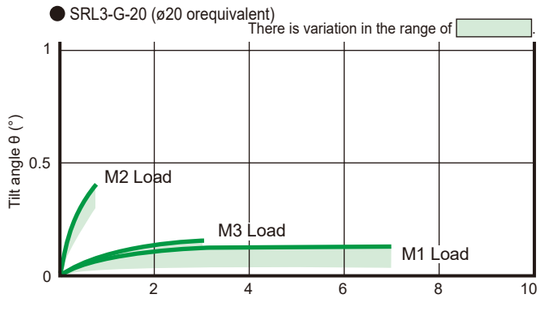
● SRL3-G-16 (ø16 or equiv.)



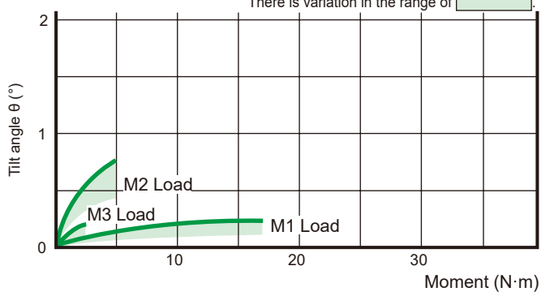
● SRL3-63 (ø63 or equiv.)



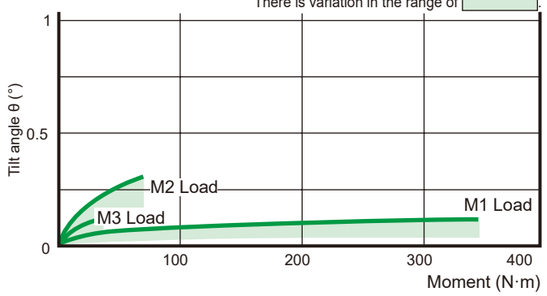
● SRL3-G-20 (ø20 orequivalent)



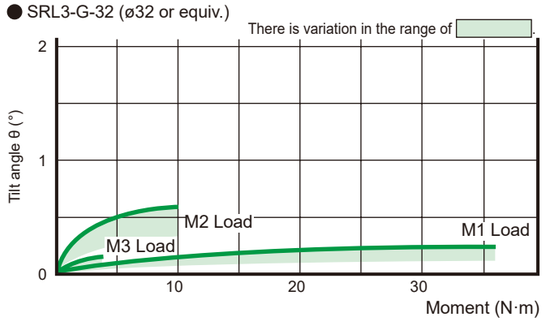
● SRL3-G-25 (ø25 or equivalent)



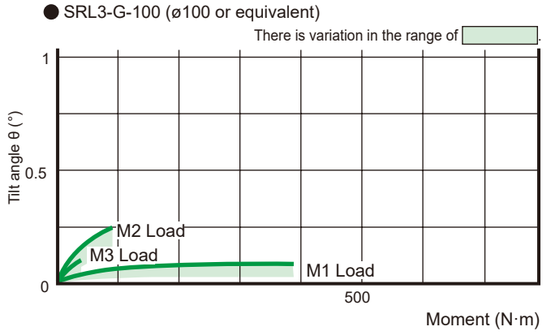
● SRL3-G-80 (ø80 or equiv.)



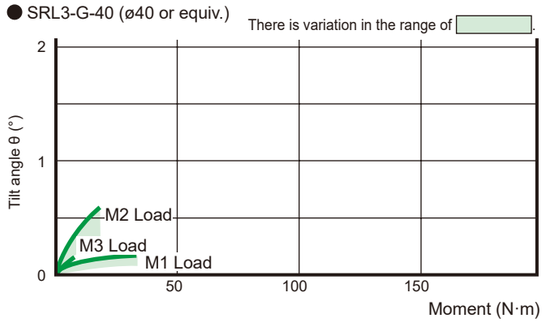
● SRL3-G-32 (ø32 or equiv.)



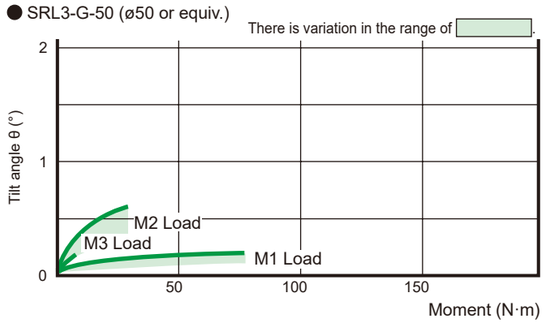
● SRL3-G-100 (ø100 or equivalent)



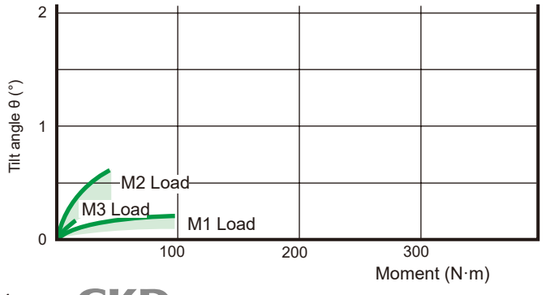
● SRL3-G-40 (ø40 or equiv.)



● SRL3-G-50 (ø50 or equiv.)



● SRL3-G-63 (ø63 or equiv.)



MEMO

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: Rodless Cylinder SRL3 Series

Design / Selection

1. Common

⚠ CAUTION

■ Pay attention when designing the brake control circuit.

Slit type rodless cylinders represented by SRL3 have slight external air leakage structurally, so intermediate stop control by an all-port block 3-position valve will cause a failure to maintain the table stop position. Therefore, please use a both-side pressurization control circuit using a PAB connection 3-position valve. However, please note that if air is pressurized in a de-energized state when restarting after a pressure drop, the table may move and deviate from the origin. Do not use intermediate stop by control with ABR connection because air on both sides escapes, there is a danger of popping out when restarting, and speed control becomes difficult.

■ Basic Circuit Diagram

● Horizontal load

Piping as shown in Figure 1 will apply equal pressure to both sides of the piston when stopped, preventing the table from flying out during restart.

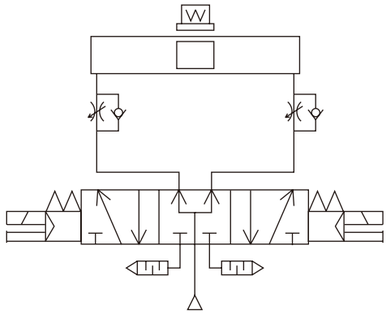


Fig. 1

● In case of vertical load

● If a vertical load is applied as shown in Fig. 2, the table will move in the Load Direction. Therefore, install a pressure reducing valve with check valve on the upper side, reduce the thrust in the Load Direction, and balance the load.

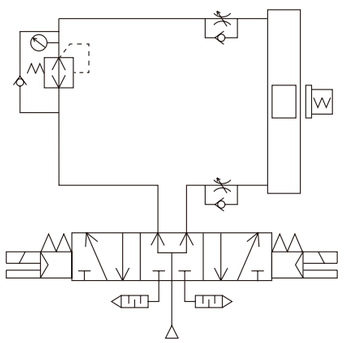


Fig. 2

■ Although the structure of SRL3 and other slit rodless cylinders has a slight amount of external air leakage, it does not affect the speed control performance.

■ Prevent negative pressure from occurring inside the cylinder tube. If used as an air balancer or in an all-port blocked state, if the table is driven by external force, inertia force, etc., negative pressure may be generated in the cylinder, causing the seal belt to detach and air leakage to occur. Be careful not to create negative pressure in the cylinder by driving it with external force, inertial force, etc.

2. Fall Prevention Type SRL3-Q

⚠ CAUTION

■ Keep the cylinder load factor at 50% or less. If the load factor is high, the lock may not be released, or it may lead to damage to the lock part.

■ To operate the cylinder at 500 mm/s and over, reduce the speed when entering the position locking mechanism to 500 mm/s or less. As a deceleration method, consider installing an external shock suppressor, installing a deceleration circuit, etc.

During Use

1. Common

⚠ Warning

■ Shock Absorber Adjustment

Since the gap between the shock suppressor and the stopper bolt is narrow, it is recommended to remove the adapter (stroke adjustment plate) for adjustment.

■ Precautions for use of stroke adjustment unit

Be sure to adjust so that the table stops at the stopper bolt. Settings where cylinder thrust continues to be applied to the shock suppressor even at the cylinder stroke end may cause the shock suppressor to break.

Table 1
Full stroke adjustment shock suppressor specifications (Initial setting value)

Model	Absorption Energy (J)	Effective Stroke (mm)
For SRL3-12/16	2.4	5.5
For SRL3-20	5.7	7
For SRL3-25	10	9
For SRL3-32	18	13
For SRL3-40	50	16.5
For SRL3-50/63	86	21
For SRL3-80/100	143	25

⚠ CAUTION

■ Do not perform electric welding after installing the rodless cylinder.

Current flows through the cylinder and a spark occurs between the dustproof belt and the cylinder tube, damaging the dustproof belt.

■ The Cylinder Body may be damaged or may malfunction if a unit with excessive inertia, etc., is actuated. Use within the allowable range.

■ Do not apply strong impact or excessive moment to the table.

■ Carefully match the centers when connecting a load with an external guide mechanism.

● Displacement of the shaft center increases as the stroke becomes longer. Carefully decide the connection method (floating) so that the displacement can be absorbed.

■ Keep the moment, including inertia force caused by load transfer or stop, within the allowable load. Exceeding this value will cause damage.

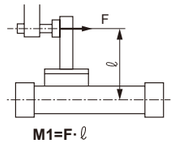
(When overhang is large)

● When the overhang load is large and the cylinder is stopped at both ends by the piston, load inertia causes bending moment even if the energy is within the allowable absorbed energy of the internal cushion. If the kinetic energy is large and an external cushion is used, try to hit the center of gravity of the workpiece as much as possible.

(When using external stopper)

● When using an external stopper, make a selection considering bending moment due to the cylinder thrust.

● Moment that operates when the cylinder stops with an external stopper



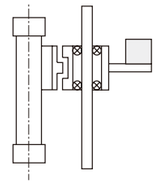
F : Cylinder Thrust
ℓ : From cylinder center Distanace to stopper

M1=F·ℓ

(When using external guide)

● If the centers are not coincident when an external guide is attached, movement will not be smooth and resistance due to interference will operate as moment. Design the connection part so that it can accept non-coincidence of the centers.

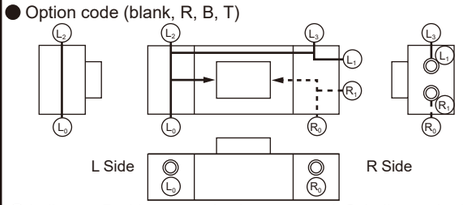
● Example of guide use



■ Piping port position and operating direction

Equivalent to Bore Size ø12 to ø20

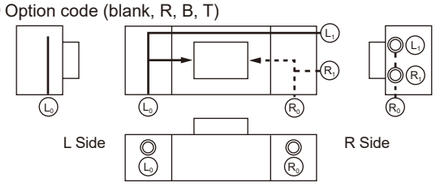
● Option code (blank, R, B, T)



Ⓡ indicates R side pressurization port, and Ⓛ indicates L side pressurization port. At the time of factory shipment, Ⓡ Ⓛ ports other than 1 location each are sealed with plugs. Piping to other ports is possible by removing the plugs. Option codes (D, S) cannot be manufactured.

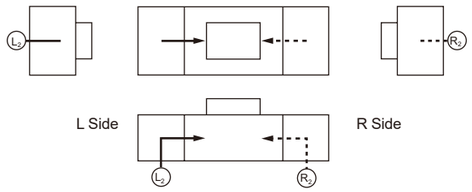
Equivalent to Bore Size ø25 to ø63

● Option code (blank, R, B, T)



Ⓡ indicates R side pressurization port, and Ⓛ indicates L side pressurization port. At the time of factory shipment, Ⓡ Ⓛ ports other than 1 location each are sealed with plugs. Piping to other ports is possible by removing the plugs. However, bottom piping is not possible. If bottom piping is required, please select option (D, S).

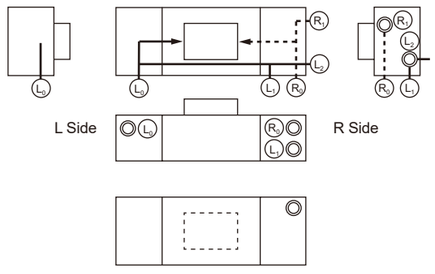
● Option code (D, S) (bottom piping)



Ⓡ indicates R side pressurization port, and Ⓛ indicates L side pressurization port. At the time of factory shipment, Ⓡ Ⓛ ports other than 1 location each are sealed with plugs. Piping to other ports is possible by removing the plugs.

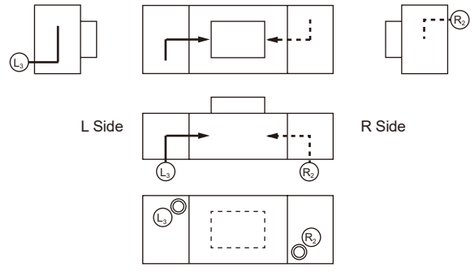
Equivalent to Bore Size ø80, ø100

● Option code (blank, R, B, T)



Ⓡ indicates R side pressurization port, and Ⓛ indicates L side pressurization port. At the time of factory shipment, ⓇⓁ ports other than each 1 location are sealed with plugs. Piping to other ports is possible by removing the plug.

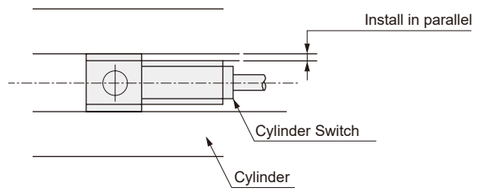
● Option code (D, S) (bottom piping)



Since there are no ports other than Ⓡ Ⓛ, piping is not possible.

■Treat our shock suppressors as consumable parts. Replace it if a decrease in energy absorption capacity is observed or if operation is no longer smooth.

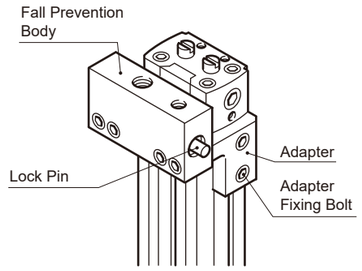
■Install the switch in parallel with the mounting groove and do not apply force to the lead wire.



2. Fall Prevention Type SRL3-Q

⚠Warning

■How to adjust the stroke adjustment unit

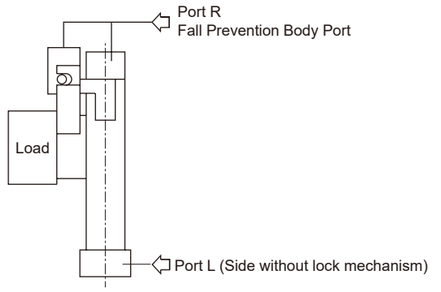


- Loosen the adaptor fixing bolt to move the position locking mechanism. In this case, please use with shock absorber (A, A1). Also, if the stroke is finely adjusted with a shock suppressor, the fall prevention position will be misaligned and it will not be possible to lock securely, so perform fine adjustment with the adapter fixing bolt.
- After moving it to the desired position, tighten the adaptor fixing bolt with the value in the table below. If tightened below the values in the table, the fall prevention main body may shift, so please be sure to observe this.
- When setting the load, be sure to confirm that the lock mechanism is working before installing.

Model	Adapter Fixing Bolt Tightening Torque (N·m)
SRL3-Q-12/16	1 to 1.2
SRL3-Q-20	2.5 to 2.8
SRL3-Q-25	5.2 to 5.6
SRL3-Q-32	22 to 24
SRL3-Q-40	44 to 48
SRL3-Q-50/63	77 to 83
SRL3-Q-80/100	100 to 110

■About Piping

- Piping to the position locking mechanism is necessary.

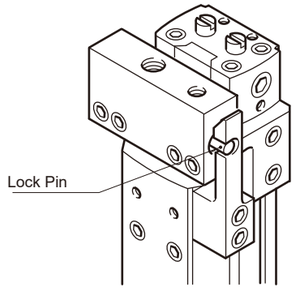


- Divide the piping to R side of the rodless cylinder using a tee fitting, etc., and with the same kind of pipe, connect the piping to the position locking mechanism.
- When the piping to the position locking mechanism is long and thin, or when the speed controller is far away from the cylinder port, note that it takes time to engage the lock. Also, clogging of the silencer attached to the valve's EXH. port will lead to similar results.

■Supply pressure equal to or higher than the Min Operating Pressure to the position locking mechanism port.

■Manual release

- Push in the lock pin of position locking mechanism using a stick. In this case, be sure to supply pressure to port L and release the lock after ensuring that no load is applied to the lock mechanism. If both ports R and L are exhausted and pressure is supplied to port R while the piston is locked, the lock will be released and the table may fly out, which is very dangerous.



■Valves

- Keeping the cylinder with pressure applied to the lock mechanism may cause the lock pin to come off, which is very dangerous. Do not use 3-position closed center and 3-position P/A/B connection valves.
- If back pressure is applied to the locking mechanism, the lock may be released. Use a discrete valve, or use an individual exhaust manifold.
- For usage where the drop speed is increased by the Quick Exhaust Valves, the lock may not release normally because the Cylinder Body starts operating before the lock pin. Do not use a quick exhaust valve with a drop prevention type cylinder.

■For safety purposes, prevent the load from falling under its own weight during maintenance.

■In the case of the cylinder with air cushion, if the air cushion needle at the lock mechanism side is tightened excessively, the piston bounds at the stroke end, the lock lever contacts the lock pin violently and the lock mechanism may be damaged. Also, if the air cushion needle is opened too much, the piston will bounce back at the stroke end, similarly leading to damage. Adjust the needle so that the air cushion does not bounce. When stopping with external cushioning equipment (shock absorber, etc.), adjust similarly so that there is no bounce. Also, please perform periodic inspections once or twice a year to check for damage to the holding part due to this phenomenon.

⚠CAUTION

■After the lock mechanism is manually operated, make sure to confirm manual operation and return the mechanism to the original state before use. Also, do not perform manual operations other than during adjustment, as it is dangerous.

■Release the lock when installing or adjusting the cylinder. Performing installation work, etc. while the lock is engaged may damage the lock part.

■Do not use multiple cylinders synchronized. Do not use two or more fall prevention cylinders synchronized to move one workpiece. The lock of one of the cylinders may become unremovable.

■Use the speed controller with meter-out control. Lock may not be released with meter-in control.

■On the side with the lock, be sure to use the cylinder to the stroke end. If the cylinder piston has not reached the stroke end, the lock may not engage, or it may not be possible to release the lock.

■Apply grease regularly to the sliding part of the lock lever.

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