

Rodless

SRL3

Rodless cylinder

ø12/ø16/ø20/ø25/ø32/ø40
ø50/ø63/ø80/ø100

Overview

Resistant to high load and durable. High-speed rodless cylinder Series runs from ø12 to ø100 with a variety of choices.

Features

Flat cylinder

Piston is flat, with a structure allowing it to receive load.
Highly load-resistant, with rotation-stop mechanism also provided.

Seal belt

The sealed part is straight with better sealing performance.

Magnet provided as standard

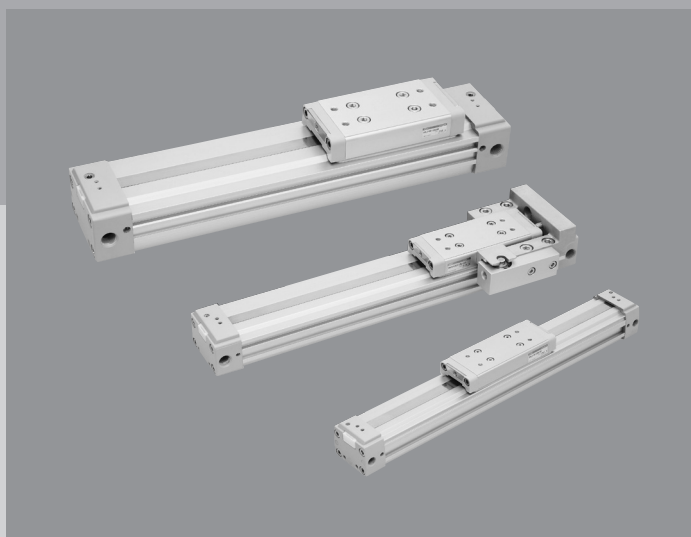
Compatible with switch installation as standard.

High-speed packing

A piston packing for high speed operation has been adopted.

Common port

A common port (one-side piping) or standard port (both sides piping) can be selected according to the installation location. Equipment can be downsized.



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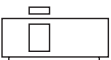
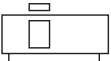
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The cylinder switches T2YH, T2YV, T3YH, and T3YV are scheduled for end of production at the end of December 2023.

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

Series variation

Rodless cylinder SRL3 Series

Variation																
SRL3 Series																
SCP*3																
CMK2																
CMA2																
SCM																
SCG																
SCA2																
SCS2																
CKV2																
CAV2/ COVPIN2																
SSD2	Double acting/ standard	SRL3  	Bore size (mm)	Standard stroke (mm)								Min. stroke (mm)	Max. stroke (mm)			
SSG				200	300	400	500	600	700	800	900				1000	
SSD				●	●	●	●	●	●	●	●				●	
CAT				●	●	●	●	●	●	●	●				●	
MDC2				●	●	●	●	●	●	●	●				●	
MVC	Double acting/ resin guide	SRL3-G  	Bore size (mm)	200	300	400	500	600	700	800	900	1000	1	5000		
SMG				●	●	●	●	●	●	●	●	●				●
MSD/ MSDG				●	●	●	●	●	●	●	●	●				●
FC*				●	●	●	●	●	●	●	●	●				●
STK				●	●	●	●	●	●	●	●	●				●
SRL3	Double acting/ position locking	SRL3-Q 	Bore size (mm)	200	300	400	500	600	700	800	900	1000	5	5000		
SRG3				●	●	●	●	●	●	●	●	●				●
SRM3				●	●	●	●	●	●	●	●	●				●
SRT3				●	●	●	●	●	●	●	●	●				●
MRL2				●	●	●	●	●	●	●	●	●				●
MRG2	Double acting/ position locking Resin guide	SRL3-GQ 	Bore size (mm)	200	300	400	500	600	700	800	900	1000	5	5000		
SM-25				●	●	●	●	●	●	●	●	●				●
ShkAbs				●	●	●	●	●	●	●	●	●				●
FJ																
FK																
Spd Contr																
Ending																

●: Standard, ◎: Option, ○: Made to order, ■: Not available

	Custom stroke (per mm)	Mounting				Cushion				Option										Switch	Page
		Basic	Axial foot	Axial foot	Axial foot	Both sides cushioned	R side cushioned	L side cushioned	Without cushion	Both-sides full stroke adjustable, shock absorber	R side full stroke adjustable, shock absorber	L side full stroke, adjustable, shock absorber	Full stroke adjustable, adjusting bracket to be added	Floating fitting	Thin floating fitting	Intermediate support bracket for 00, LB	Intermediate support bracket for LB1	Larger thread for table installation	Height adjustment plate		
		00	LB	LB1	LJ	B	R	L	N	A	A1	A2	A3	Y	Y1	L*	N*	H	U		
	1	●	●	●	■	●	●	●	●	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	1574
	1	●	●	●	■	●	●	●	●	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	1590
	1	●	●	●	■	●	●	●	●	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	1604
	1	●	●	●	■	●	●	●	●	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	1614

SCP*3
CMK2
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SCS2
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CAV2/ COVP/IN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
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SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
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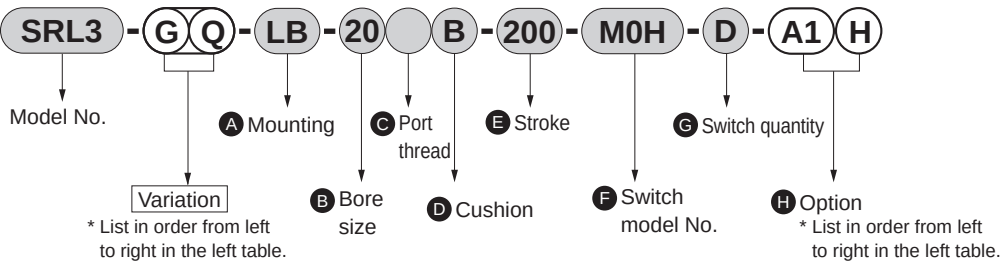
Variation and option combination selection table

- : Standard
- ◎: Option
- : Available (made-to-order product)
- △: Available depending on conditions (Contact CKD)
- x: Not available

Category		Category	Variation			Port thread		Option										
			Double acting basic	Resin guide type	Position locking	NPT	G	Stroke adjustable Both sides	Stroke adjustable R side	Stroke adjustable L side	Stroke adjustable with retrofitted adjusting bracket	Larger thread for table installation	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	N	G	A	A1	A2	A3	H	R	B	T	D	S	X
SSD	Double acting basic	Blank				○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	Resin guide type	G		◎		○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	Position locking	Q				○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
MDC2																		
	NPT	N					x	○	○	○	○	○	○	○	○	○	○	○
	G	G						○	○	○	○	○	○	○	○	○	○	○
MVC																		
	Stroke adjustable Both sides	A						x	x	x	◎	◎	◎	◎	◎	◎	◎	◎
	Stroke adjustable R side	A1							x	x	◎	◎	◎	◎	◎	◎	◎	◎
SMG	Stroke adjustable L side	A2								x	◎	◎	◎	◎	◎	◎	◎	◎
	Stroke adjustable with retrofitted adjusting bracket	A3									◎	◎	◎	◎	◎	◎	◎	◎
	Larger thread for table installation	H										◎	◎	◎	◎	◎	◎	◎
SRL3	Port/cushion needle position specification	R											x	x	x	x	x	x
	Port/cushion needle position specification	B												x	x	x	x	x
	Port/cushion needle position specification	T													x	x	x	x
SRG3	Port/cushion needle position specification	D														x	x	x
	Port/cushion needle position specification	S															x	x
	Port/cushion needle position specification	X																x
SRM3																		
	Cylinder switch		◎	◎	◎	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	Floating fitting	Y	◎	x	◎	○	○	◎	◎	◎	◎	△	◎	◎	◎	◎	◎	◎
SRT3	Thin floating fitting	Y1	◎	x	*1	○	○	○	○	○	○	△	◎	◎	◎	◎	◎	◎
	Intermediate support bracket (for 00, LB)	L	◎	◎	◎	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	Intermediate support bracket (for LB1)	N	◎	◎	◎	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
MRL2	With height adjustment plate	U	◎	◎	◎	○	○	◎	◎	◎	◎	△	◎	◎	◎	◎	◎	◎

*1: Available "○" (as made to order) for ø25 or less.

[Example of model No.]



- Model No.: Rodless cylinder
- Variations: Resin guide type, position locking
 - A Mounting : Axial foot
 - B Bore size : ø20 mm
 - C Port thread : Rc thread
 - D Cushion : Both sides cushioned
 - E Stroke : 200 mm
 - F Switch model No. : Reed MOH switch, lead wire 1m
 - G Switch quantity : 2
 - H Option : R side only full stroke adjustable, with shock absorber, larger table mounting thread

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/IN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

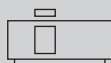


Rodless cylinder double acting

SRL3 Series

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

JIS symbol



Specifications

Item	SRL3											
Bore size	mm	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100	
Actuation	Double acting											
Working fluid	Compressed air											
Max. working pressure	MPa	0.7 (≈100 psi, 7 bar)										
Min. working pressure	MPa	0.2 (≈29 psi, 2 bar)			0.1 (≈15 psi, 1 bar)				0.05 (≈7.3 psi, 0.5 bar)			
Proof pressure	MPa	1.05 (≈150 psi, 10.5 bar)										
Ambient temperature	°C	5 (41°F) to 60 (140°F)										
Port size		M5		Rc1/8		Rc1/4		Rc3/8		Rc1/2		
Stroke tolerance	mm	$\begin{smallmatrix} -2.0 \\ 0 \end{smallmatrix}$ (to 1000), $\begin{smallmatrix} -2.5 \\ 0 \end{smallmatrix}$ (to 3000), $\begin{smallmatrix} +3.0 \\ 0 \end{smallmatrix}$ (to 5000)										
Working piston speed	mm/s	50 to 2000 (standard piping) (*1)										
Cushion		Air cushion										
Lubrication		Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication. Once lubricated, the cylinder will need periodic lubrication.)										

*1: For common port piping, the working piston speed varies depending on the stroke. Contact CKD.

Allowable absorbed energy

Bore size (mm)	Cushioned		Without cushion	With shock absorber (initial set point)	
	Max absorbed energy (J)	Cushion stroke (mm)	Max absorbed energy (J)	Absorbed energy (J)	Effective stroke (mm)
ø12 or equiv.	0.03	14.5	0.003	2.4	5.5
ø16 or equiv.	0.22	19.2	0.007	2.4	5.5
ø20 or equiv.	0.59	22.2	0.010	5.7	7
ø25 or equiv.	1.40	20.9	0.015	10	9
ø32 or equiv.	2.57	23.5	0.030	18	13
ø40 or equiv.	4.27	23.9	0.050	50	16.5
ø50 or equiv.	9.13	24.9	0.072	86	21
ø63 or equiv.	17.4	29.6	0.138	86	21
ø80 or equiv.	40	45.8	0.393	143	25
ø100 or equiv.	67	45.8	0.622	143	25

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
ø12 or equiv. ø16 or equiv. ø20 or equiv. ø25 or equiv. ø32 or equiv. ø40 or equiv. ø50 or equiv. ø63 or equiv. ø80 or equiv. ø100 or equiv.	200/300 400/500 600/700 800/900 1000	5000	1

* The custom stroke is available in 1 mm increments.

Number of installed M-switches and min. stroke (mm)

Switch quantity	1		2		3		4		5		6	
Switch model No.	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H
Bore size (mm)												
ø12 or equiv.	10	10	30	45(70)	60	90(120)	90	135(170)	120	180(220)	150	225(270)
ø16 or equiv.	10	10	30	45(70)	60	90(120)	90	135(170)	120	180(220)	150	225(270)
ø20 or equiv.	10	10	30	45(70)	60	90(120)	90	135(170)	120	180(220)	150	225(270)
ø25 or equiv.	10	10	30	45(70)	60	90(120)	90	135(170)	120	180(220)	150	225(270)
ø32 or equiv.	10	10	30	45	60	90	90	135	120	180	150	225
ø40 or equiv.	10	10	30	45	60	90	90	135	120	180	150	225
ø50 or equiv.	15	15	30	45	60	90	90	135	120	180	150	225
ø63 or equiv.	15	15	30	45	60	90	90	135	120	180	150	225
ø80 or equiv.	25		50		100		150		200		250	
ø100 or equiv.	25		50		100		150		200		250	

Note: Values in () are the min. stroke with switch of the full stroke adjustable.

Number of installed T-switches and min. stroke (mm)

Switch quantity	1		2		3		4		5		6	
Switch model No.	T*V	T*H	T*V	T*H	T*V	T*H	T*V	T*H	T*V	T*H	T*V	T*H
Bore size (mm)												
ø12 or equiv.	5	5	45	50(70)	85	100(120)	125	150(170)	165	200(220)	205	250(270)
ø16 or equiv.	5	5	45	50(70)	85	100(120)	125	150(170)	165	200(220)	205	250(270)
ø20 or equiv.	5	5	45	50(70)	85	100(120)	125	150(170)	165	200(220)	205	250(270)
ø25 or equiv.	10	10	45	50(70)	85	100(120)	125	150(170)	165	200(220)	205	250(270)
ø32 or equiv.	10	10	45	50	85	100	125	150	165	200	205	250
ø40 or equiv.	10	10	45	50	85	100	125	150	165	200	205	250
ø50 or equiv.	10	10	45	50	85	100	125	150	165	200	205	250
ø63 or equiv.	10	10	45	50	85	100	125	150	165	200	205	250
ø80 or equiv.	15	15	45	50	85	100	125	150	165	200	205	250
ø100 or equiv.	15	15	45	50	85	100	125	150	165	200	205	250

Note: Values in () are the min. stroke with switch of the full stroke adjustable.

Switch specifications (M-switch)

● 1-color/2-color LED

Item	2-wire proximity		3-wire proximity		
	M2V,M2H	M2WV (2-color LED)	M3H/M3V	M3PH/M3PV (made to order)	M3WV
Applications	Dedicated for programmable controller		For programmable controller, relay, IC circuit, compact solenoid valve		
Output method	-		NPN output	PNP output	NPN output
Power supply voltage	-		4.5 to 28 VDC		10 to 28 VDC
Load voltage	10 to 30 VDC		30 VDC or less		
Load current	5 to 30 mA		100 mA or less	100 mA or less	100 mA or less
Indicator	LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)
Leakage current	1 mA or less		10 μA or less	0.05 mA or less	10 μA or less
Weight	g	1 m:22 3 m:57 5 m:93			
Item	2-wire reed				
	M0V,M0H		M5V,M5H		
Applications	Programmable controller, relay		For programmable controller, relay, IC circuit (without indicator lamp), serial connection		
Power supply voltage	-		-		
Load voltage	12/24 VDC	110 VAC	5/12/24 VDC		110 VAC or less
Load current	5 to 50 mA	7 to 20 mA	50 mA or less		20 mA or less
Indicator	LED (Lit when ON)		No indicator lamp		
Leakage current	0 mA				
Weight	g	1 m:22 3 m:57 5 m:93			

*1: Refer to Ending Page 1 for detailed switch specifications and dimensions.

Switch specifications (T-switch)

● 2-color LED

Item	2-wire proximity		3-wire proximity	
	T2YH/T2YV	T2WH/T2WV	T3YH/T3YV	T3WH/T3WV
Applications	Dedicated for programmable controller		For programmable controller, relay	
Output method	-		NPN output	NPN output
Power supply voltage	-		10 to 28 VDC	
Load voltage	10 to 30 VDC	24 VDC ±10%	30 VDC or less	
Load current	5 to 20 mA(*3)		50 mA or less	
Indicator	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)
Leakage current	1 mA or less		10 µA or less	
Weight	g 1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80

● For AC magnetic field

Item	Proximity switch	
	T2YD, T2YDT (*4)	
Applications	Dedicated for programmable controller	
Indicator	Red/green LED (Lit when ON)	
Load voltage	24 VDC ±10%	
Load current	5 to 20 mA	
Internal voltage drop	6V or less	
Leakage current	1.0 mA or less	
Weight	g 1 m:61 3 m:166 5 m:272	

*1: Refer to Ending Page 1 for detailed switch specifications and dimensions.

*2: Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

*3: The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

*4: AC magnetic field proof switch (T2YD/T2YDT) cannot be used in DC magnetic field.

Cylinder weight

Unit: kg

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

How to order

No switch (built-in magnet for switch)

SRL3 - 00 - 12 B - 200

With switch (built-in magnet for switch)

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

A Mounting
*1, *2

B Bore size

C Port thread

D Cushion

E Stroke

F Switch
model No.
*4

G Switch
quantity

H Option
*5, *6
*7, *8
*9

⚠ Precautions for model No. selection

*1 : Mounting bracket will be shipped assembled with the product.

*2 : For 12, 16, 20, 25 and 32 bore sizes with option code "R" or "T", the mounting will be "00" or "LB1".
(Piping with "LB" is not possible for option codes "R" and "T".)

*3 : Refer to page 1574 for the min. stroke with switch.

*4 : Switches other than (E) Switch model No. are also available. (Made to order) Refer to Ending Page 1 for details.

5 : "" of L* and N* indicates the number of sets. When more than one set are necessary, specify "L2" (for LB) or "N2" (for LB1). 2 pcs./set

*6 : For the port and cushion needle position codes, refer to dimensions on pages 1582 to 1587.

*7 : In the case of the standard with ø12 to ø25, remove the cover, attach a flat nut and install the full stroke adjusting bracket. A flat nut is attached to option "A3" to enable retrofitting the full stroke adjusting bracket without removing the cover.

*8 : In "H", the thread size for ø12 and ø16 will be "M4" and that for ø20 will be "M5".

*9 : Check the option combinations in "Option selection table" on the next page.

*10 : Copper and PTFE free as standard. (Except for type with shock absorber)

[Example of model No.]

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

Model: Rodless cylinder

A Mounting : Basic

B Bore size : ø12 mm

C Port thread : M5

D Cushion : Both sides cushioned

E Stroke : 200 mm

F Switch model No. : Reed M0H switch, lead wire 1 m

G Switch quantity : 1 on R side

H Option : Port position F, cushion needle position B

Code	Description										
A Mounting											
00	Basic										
LB	Axial foot										
LB1	Axial foot (ø12 to ø32 only)										
B Bore size (mm)											
12	ø12										
16	ø16										
20	ø20										
25	ø25										
32	ø32										
40	ø40										
50	ø50										
63	ø63										
80	ø80										
100	ø100										
C Port thread											
Blank	Rc thread (M5 for ø12 and ø16)										
N	NPT thread (ø20 or more) (made-to-order product)										
G	G thread (ø20 or more) (made-to-order product)										
D Cushion											
B	Both sides cushioned										
R	R side cushioned										
L	L side cushioned										
N	Without cushion										
E Stroke (mm)											
Bore size	Stroke *3	Custom stroke									
ø12 to ø100	1 to 5000	In 1 mm increments									
F Switch model No.											
Axial lead wire	Radial lead wire	Reed Contact	Voltage AC DC	Indicator	Lead wire						
M0H*	M0V*	Proximity	● ●	1-color LED	2-wire						
M5H*	M5V*		● ●	No indicator lamp							
M2H*	M2V*		● ●	1-color LED	2-wire						
-	M2WV*		● ●	2-color LED							
M3H*	M3V*		● ●	1-color LED	3-wire						
-	M3WV*		● ●	2-color LED							
M3PH*	M3PV*		● ●	1-color LED (custom)	3-wire						
T2WH*	T2WV*		● ●	2-color LED		2-wire					
T2YH*	T2YV*		● ●								
T3WH*	T3WV*		● ●		3-wire						
T3YH*	T3YV*		● ●								
T2YD*	-		● ●	2-color LED for AC magnetic field	2-wire						
T2YDT*	-	● ●									
* Lead wire length											
Blank	1 m (standard)										
3	3 m (option)										
5	5 m (option)										
G Switch quantity											
R	1 on R side										
L	1 on L side										
D	2										
T	3										
4	4 (when there are more than 4 switches, indicate switch quantity.)										
H Option											
Bore size (ø)		12	16	20	25	32	40	50	63	80	100
A	Both-sides full stroke adjustable, shock absorber	●	●	●	●	●	●	●	●	●	●
A1	R side full stroke adjustable, shock absorber	●	●	●	●	●	●	●	●	●	●
A2	L side full stroke, adjustable, shock absorber	●	●	●	●	●	●	●	●	●	●
A3	Full stroke adjustable, adjusting bracket to be added	●	●	●	●						
Y	Floating fitting	●	●	●	●	●	●	●	●	●	●
Y1	Thin floating fitting	●	●	●	●	●	●	●	●		
L*	Intermediate support bracket (for 00, LB)	●	●	●	●	●	●	●	●	●	●
N*	Intermediate support bracket (for LB1)	●	●	●	●	●					
H	Larger thread for table installation	●	●	●							
U	Height adjustment plate	●	●	●	●	●	●	●	●	●	●
Blank	F (Standard)	●	●	●	●	●	●	●	●	●	●
R	R (Common port)	●	●	●	●	●	●	●	●	●	●
B	F	●	●	●	●	●	●	●	●	●	●
T	R (Common port)	●	●	●		●	●	●	●	●	●
D	D				●	●	●	●	●	●	●
S	D					●	●	●	●	●	●
X	F (Common port)									●	

Option selection table

●: Available □: Not available

Option	Option																
	Code	Both side full stroke adjustable, with shock absorber	R side full stroke adjustable, with shock absorber	L side full stroke adjustable, with shock absorber	Full stroke adjustable with adjusting bracket to be added later	Floating fitting	Thin floating fitting	Intermediate support bracket (for 00, LB)	Intermediate support bracket (for LB1)	Larger thread for table installation	Height adjustment plate	Port position F, cushion needle position F (standard)	Port position R, cushion needle position F (common port)	Port position F, cushion needle position B	Port position R, cushion needle position B (common port)	Port position D, cushion needle position F	Port position D, cushion needle position D
Option	A	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	A1	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	A2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	A3	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Y	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Y1	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	L*	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	N*	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	H	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	U	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Blank	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	R	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	B	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	T	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	D	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	S	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	X	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

Specifications for rechargeable battery

(Catalog No. CC-1226A)

- Design compatible with rechargeable battery manufacturing process

SRL3 - - P4*

*1: Some combinations are not available depending on the bore size. Be sure to check the **H** Option in "How to order" on the previous page.

*2: LB1 with port position D is not possible. (ø25, ø32)

Theoretical thrust table

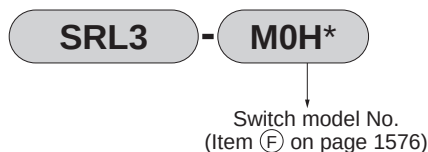
(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa							
		0.05	0.1	0.2	0.3	0.4	0.5	0.6	0.7
ø12	Push/Pull	—	—	27.7	41.5	55.3	69.1	83.0	96.8
ø16	Push/Pull	—	—	43.2	64.8	86.4	1.08x10 ²	1.30x10 ²	1.51x10 ²
ø20	Push/Pull	—	—	62.9	94.4	1.26x10 ²	1.57x10 ²	1.89x10 ²	2.20x10 ²
ø25	Push/Pull	—	54.2	1.08x10 ²	1.63x10 ²	2.17x10 ²	2.71x10 ²	3.25x10 ²	3.80x10 ²
ø32	Push/Pull	—	81.4	1.63x10 ²	2.44x10 ²	3.26x10 ²	4.07x10 ²	4.88x10 ²	5.70x10 ²
ø40	Push/Pull	—	1.27x10 ²	2.53x10 ²	3.80x10 ²	5.06x10 ²	6.33x10 ²	7.60x10 ²	8.86x10 ²
ø50	Push/Pull	—	1.99x10 ²	3.98x10 ²	5.96x10 ²	7.95x10 ²	9.94x10 ²	1.19x10 ³	1.39x10 ³
ø63	Push/Pull	1.57x10 ²	3.14x10 ²	6.27x10 ²	9.41x10 ²	1.25x10 ³	1.57x10 ³	1.88x10 ³	2.20x10 ³
ø80	Push/Pull	2.53x10 ²	5.06x10 ²	1.01x10 ³	1.52x10 ³	2.03x10 ³	2.53x10 ³	3.04x10 ³	3.54x10 ³
ø100	Push/Pull	3.96x10 ²	7.91x10 ²	1.58x10 ³	2.37x10 ³	3.16x10 ³	3.95x10 ³	4.74x10 ³	5.53x10 ³

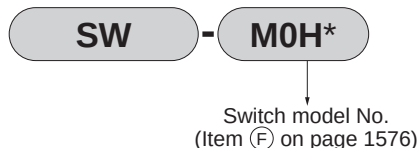
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/COVP/IN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

How to order switch (For configurations, refer to pages 1624 to 1626)

● Switch body + mounting bracket set (*1)



● Switch body only



* Lead wire length

Blank	1 m (standard)
3	3 m (option)
5	5 m (option)

* indicates lead wire length.

● Mounting bracket set (*2)

· M-switch



· T-switch



● Lead wire holder (*3)



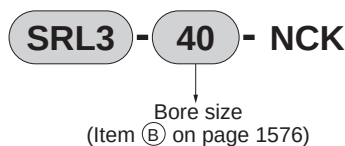
*1 : "Switch body + mounting bracket set" does not include lead wire holders.

Order lead wire holders separately if necessary.

*2 : The mounting bracket is different between the M-switch and T-switch.

*3 : The quantity of lead wire holders per set is 10.

● How to order discrete shock absorber



(One shock absorber, one shock absorber fixing hexagon nut)

(Note) The shock absorber fixing hexagon nut for SRL3-40 is a made-to-order product.

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

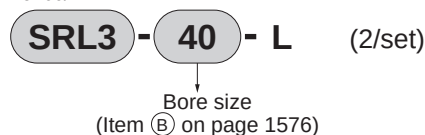
● How to order floating fitting set



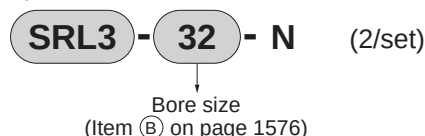
(Mount, mount base, pin, plain washer, pan head machine screw with spring washer, four mounting bolts)

● How to order discrete intermediate support bracket

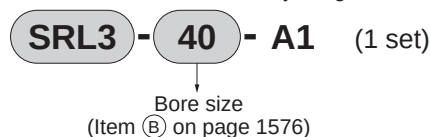
For 00/LB



For LB1

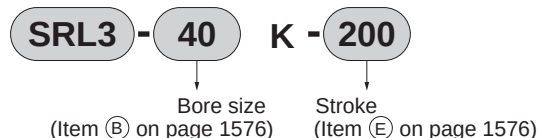


● How to order full stroke adjusting bracket kit

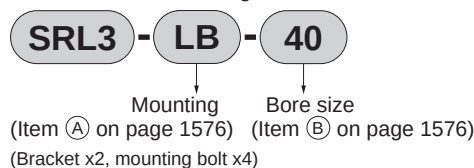


(For configurations, refer to "Full stroke adjusting bracket kit" on page 1625.)

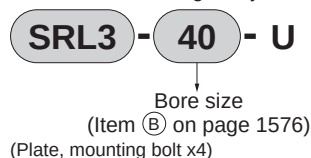
● How to order repair parts



● How to order mounting bracket

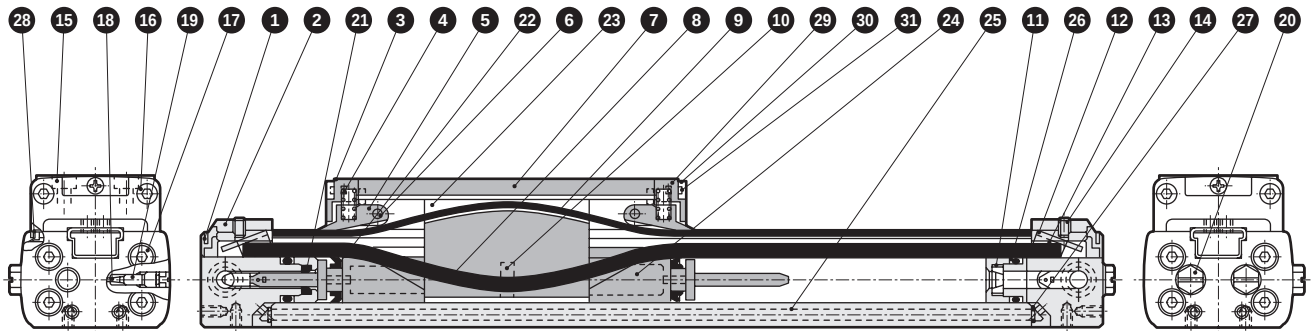


● How to order height adjustment plate set



Internal structure and parts list

● ø12 to ø40 equiv.



Parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Belt cover	Polyamide		18	Needle gasket	Nitrile rubber	
2	Cover (L)	Aluminum alloy	Baking finish	19	Cushion needle	Steel	Zinc chromate
3	Table cover	Acetal resin		20	Plug (ø12, ø16)	Copper alloy	Nickeling
4	Spring	Steel	Black finish		Plug (ø20 to ø40)	Steel	Zinc chromate
5	Belt holder	Acetal resin		21	Cushion packing	Urethane rubber	
6	Parallel pin (ø12 to ø20)	Stainless steel		22	Piston packing	Nitrile rubber	
	Shaft (ø25 to ø40)	Steel	Zinc chromate	23	Yoke	Aluminum alloy	Alumite
7	Table	Aluminum alloy	Alumite	24	Piston	Acetal resin	
8	Seal belt	Urethane rubber		25	Cylinder tube	Aluminum alloy	Alumite
9	Dust-proof belt	Stainless steel + nitrile rubber		26	Cylinder gasket	Nitrile rubber	
10	Magnet			27	O-ring for common port	Nitrile rubber	
11	Cushion adaptor	Acetal resin		28	Dust wiper	Acetal resin	
12	Cover (R)	Aluminum alloy	Baking finish	29	Double-sided tape		
13	Belt spacer	Steel	Zinc chromate	30	Plate	Stainless steel (ø12 to ø20)	
14	Hexagon socket set screw	Alloy steel	Zinc chromate			Alloy steel (ø25 to ø40)	Zinc chromate
15	Hexagon socket head cap screw	Alloy steel	Zinc chromate	31	Cross-recessed tapping screw	Stainless steel	
16	Hexagon socket head cap screw	Stainless steel					
17	Hexagon socket head cap screw	Alloy steel	Zinc chromate				

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø12 or equiv.	SRL3-12K-*	
ø16 or equiv.	SRL3-16K-*	
ø20 or equiv.	SRL3-20K-*	8 9 18 21
ø25 or equiv.	SRL3-25K-*	22 26 27 28
ø32 or equiv.	SRL3-32K-*	
ø40 or equiv.	SRL3-40K-*	

Note: Specify the kit No. when placing an order.
Specify the stroke for *.

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

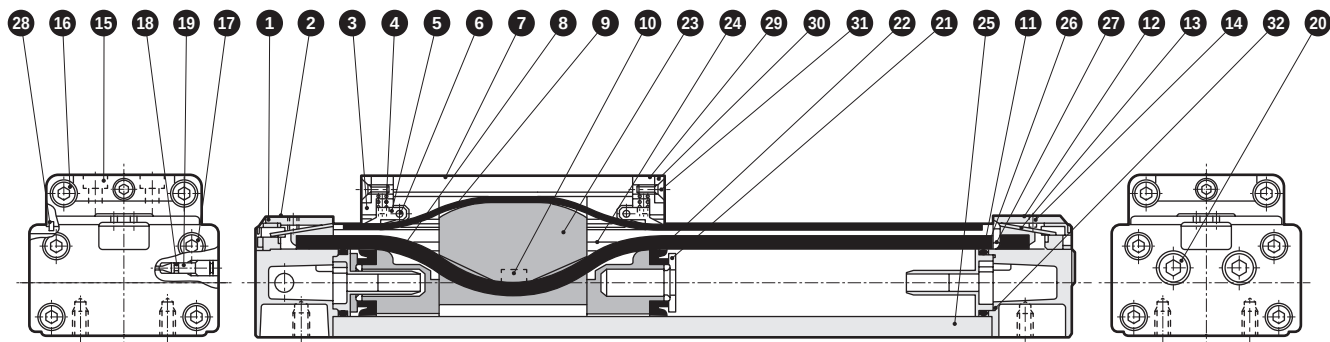
FK

Spd
Contr

Ending

Internal structure and parts list

• ø50 to ø63 or equiv.



Parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Belt cover	Polyamide		17	Hexagon socket head cap screw	Alloy steel	Zinc chromate
2	Cover (L)	Aluminum alloy	Baking finish	18	Needle gasket	Nitrile rubber	
3	Table cover	Acetal resin		19	Cushion needle	Steel	Zinc chromate
4	Spring	Steel	Black finish	20	Plug	Steel	Zinc chromate
5	Belt holder	Acetal resin		21	Cushion packing	Urethane rubber	
6	Shaft	Steel	Zinc chromate	22	Piston packing	Nitrile rubber	
7	Table	Aluminum alloy	Alumite	23	Yoke	Aluminum alloy	Alumite
8	Seal belt	Urethane rubber		24	Piston	Acetal resin	
9	Dust-proof belt	Stainless steel + nitrile rubber		25	Cylinder tube	Aluminum alloy	Alumite
10	Magnet			26	Cylinder gasket	Nitrile rubber	
11	Cushion ring	Acetal resin		27	O-ring for common port	Nitrile rubber	
12	Cover (R)	Aluminum alloy	Baking finish	28	Dust wiper	Acetal resin	
13	Belt spacer	Steel	Zinc chromate	29	Double-sided tape		
14	Hexagon socket set screw	Alloy steel	Zinc chromate	30	Plate	Alloy steel	Zinc chromate
15	Hexagon socket head cap screw	Alloy steel	Zinc chromate	31	Cross-recessed tapping screw	Stainless steel	
16	Hexagon socket head cap screw	Stainless steel		32	Cushion ring gasket	Nitrile rubber	

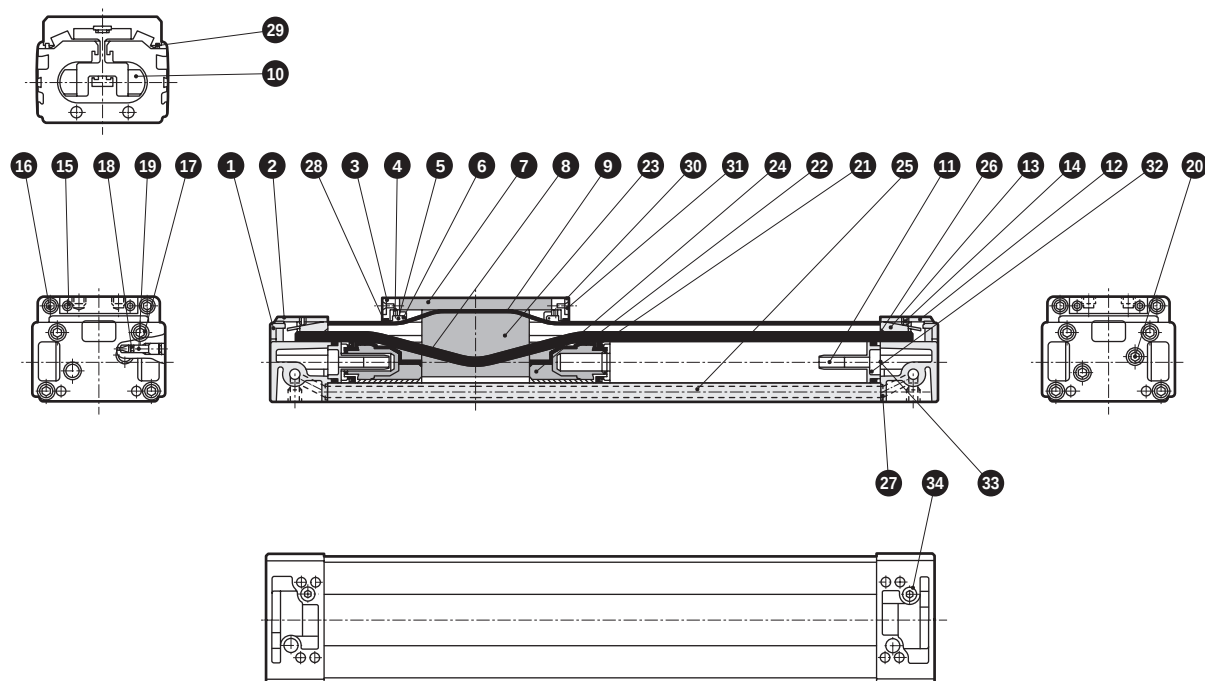
Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø50 or equiv.	SRL3-50K-*	8 9 18 21 22
ø63 or equiv.	SRL3-63K-*	26 27 28 32

Note: Specify the kit No. when placing an order. Specify the stroke for *.

Internal structure and parts list

● ø80 to ø100 or equiv.



Parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Belt cover	Polyamide		18	Needle gasket	Nitrile rubber	
2	Cover (L)	Aluminum alloy	Baking finish	19	Cushion needle	Steel	Zinc chromate
3	Table cover	Acetal resin		20	Plug	Steel	Zinc chromate
4	Spring	Steel	Black finish	21	Cushion packing	Urethane rubber	
5	Belt holder	Acetal resin		22	Piston packing	Nitrile rubber	
6	Shaft	Steel	Zinc chromate	23	Yoke	Aluminum alloy	Alumite
7	Table	Aluminum alloy	Alumite	24	Piston	Acetal resin	
8	Seal belt	Urethane rubber		25	Cylinder tube	Aluminum alloy	Alumite
9	Dust-proof belt	Stainless steel + nitrile rubber		26	Cylinder gasket	Nitrile rubber	
10	Magnet			27	O-ring for common port	Nitrile rubber	
11	Cushion ring	Acetal resin		28	Felt (1)	Wool	
12	Cover (R)	Aluminum alloy	Baking finish	29	Felt (2)	Wool	
13	Belt spacer	Steel	Zinc chromate	30	Plate	Alloy steel	Zinc chromate
14	Hexagon socket set screw	Alloy steel	Zinc chromate	31	Cross-recessed tapping screw	Stainless steel	
15	Hexagon socket head cap screw	Alloy steel	Zinc chromate	32	Cushion ring gasket (1)	Nitrile rubber	
16	Hexagon socket head cap screw	Stainless steel		33	Cushion ring gasket (2)	Nitrile rubber	
17	Hexagon socket head cap screw	Alloy steel	Zinc chromate	34	Plug	Steel	Zinc chromate

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø80 or equiv.	SRL3-80K-*	8 9 18 21 22 26
ø100 or equiv.	SRL3-100K-*	27 28 29 32 33

Note: Specify the kit No. when placing an order. Specify the stroke for *.

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

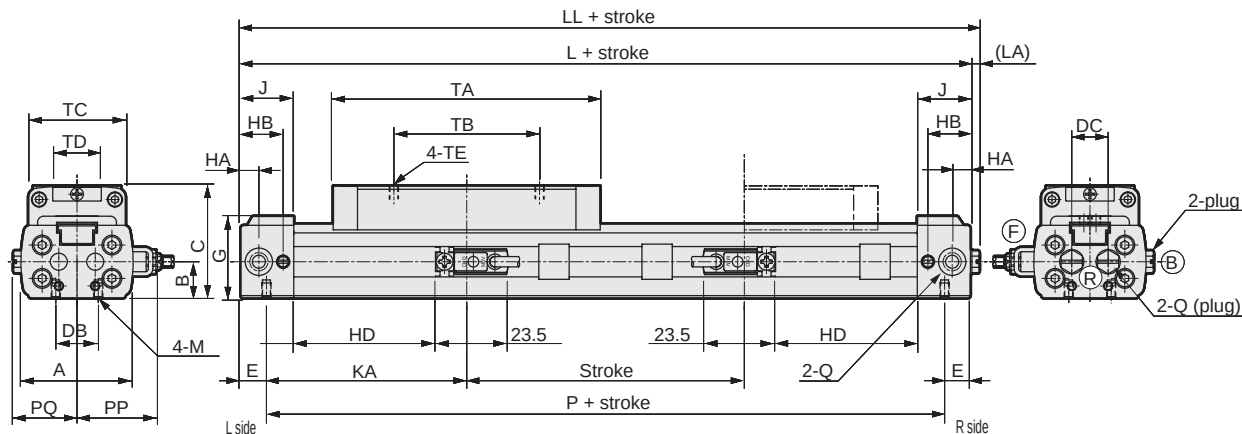
FK

Spd
Contr

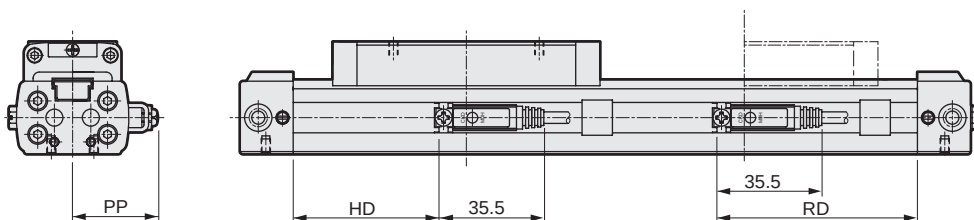
Ending

Dimensions (ø12 to ø20 equiv.)

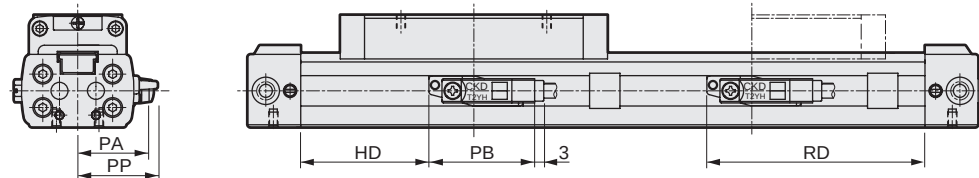
● With cylinder switch SRL3-**-***-M*V* (L-shaped lead wire)



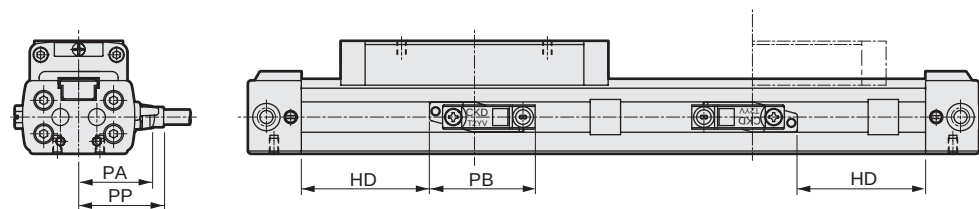
● With cylinder switch SRL3-**-***-M*H* (straight lead wire)



● With cylinder switch SRL3-**-***-T*H (T*W, T*Y, T2YD)



● With cylinder switch SRL3-**-***-T*V (T*W, T*Y)



RD: Max. sensitivity installation position HD: Max. sensitivity installation position

Code	A	B	C	DB	DC	E	G	HA	HB	J	KA	L	LL	LA	M	P	PQ	Q	TA	TB	TC	TD	TE
Bore size (mm)																							
ø12 or equiv.	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 or equiv.	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 or equiv.	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	Rc1/8	100	60	38	18	M4 depth 6

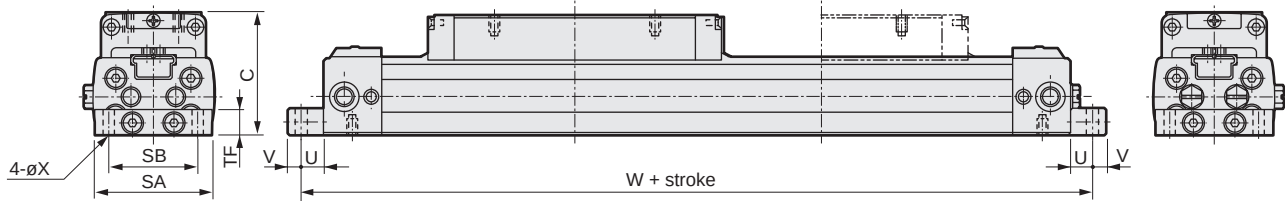
Code	With switch																
Bore size (mm)	HD			RD			PA	PB			PP						
	M*	T*Y*	T*W	M*	T*Y*	T*W		T*Y*	T2YD	T*W*	M*V	M*H	T*YV	T*YH	T2YD	T*WV	T*WH
ø12 or equiv.	40.5	36	32	60.5	65	69	24.3	35	34	33.5	24.5	24.5	26	23	28.4	20.7	17.2
ø16 or equiv.	47	42	38	67	72	76	26.3	35	34	33.5	26.5	26.5	28	25	30.4	22.7	19.2
ø20 or equiv.	52.5	48	44	72.5	77	81	29.3	35	34	33.5	29.5	29.5	31	28	33.4	25.7	22.2

*1: For dimensions with options and dimensions of accessories, refer to pages 1588, 1589, 1622 and 1623.

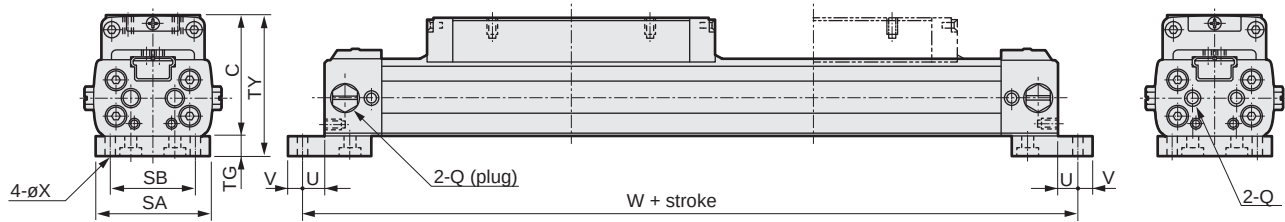
Dimensions (ø12 to ø20 equiv.)



- With foot bracket SRL3-LB-12 to 20



- With foot bracket SRL3-LB1-12 to 20

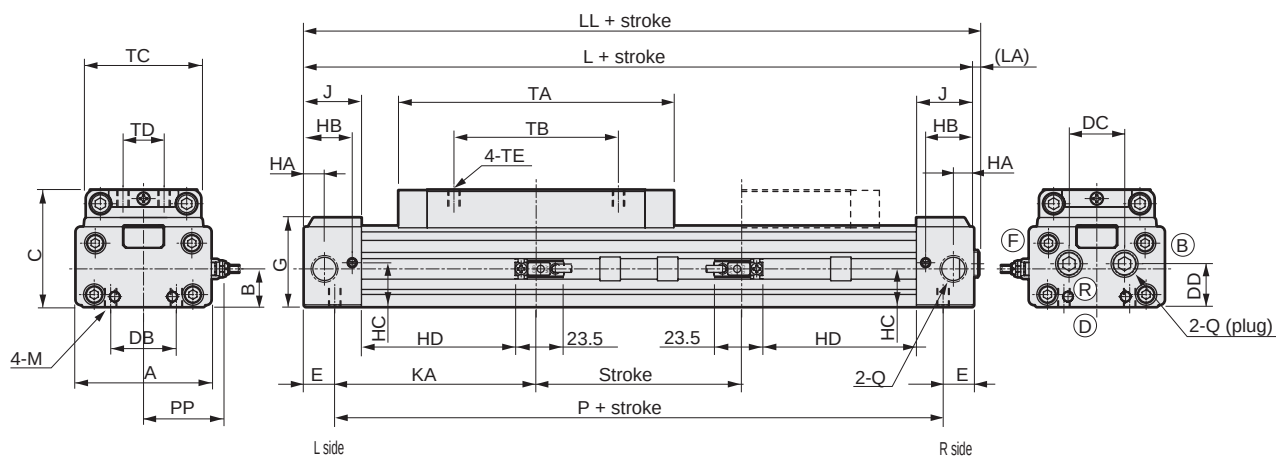


Code	With foot bracket (LB)							With foot bracket (LB1)							
Bore size (mm)	SA	SB	TF	U	V	W	X	SA	SB	TG	TY	U	V	W	X
ø12 or equiv.	32	24	8	6	4	148	3.4	32	24	6	39	6	4	148	3.4
ø16 or equiv.	35	26	8	6	4	161	3.4	35	26	6	43	6	4	161	3.4
ø20 or equiv.	43	33	10	6	6	181	4.5	43	33	8	50	6	6	181	4.5

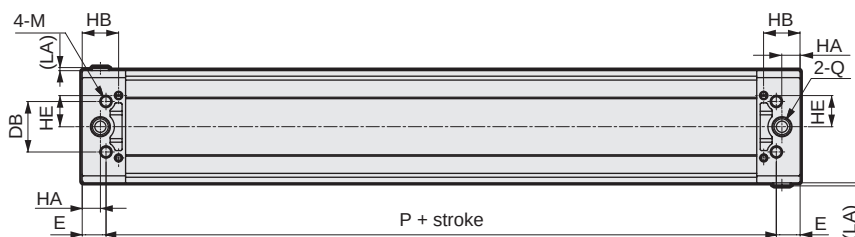
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/IN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

Dimensions (ø25 to ø63 equiv.)

● With cylinder switch SRL3-**-***-M*V* (L-shaped lead wire)



● Bottom piping (option code: D/S)



Code	A	B	C	DB	DC	DD	E	G	HA	HB	HC	HE	J	KA	L	LL	LA	M	P	Q	TA	TB	TC	TD	TE
Bore size (mm)																									
ø25 or equiv.	53	17	53	20	26	19	14	40.5	7.5	20	18.9	-	24	81	190	192	2	M6 depth 9	162	Rc1/8	122	70	48	20	M5 depth 6
ø32 or equiv.	66	18.5	57	32	27	21	15	43.5	10	23.5	21.5	17	28	98	226	228.5	2.5	M6 depth 9	196	Rc1/4	134	80	56	20	M6 depth 7.5
ø40 or equiv.	80	22	67	36	35	28	17	51.5	13	26	27	22.3	31	105	244	246.5	2.5	M8 depth 12	210	Rc1/4	148	90	68	30	M6 depth 9
ø50 or equiv.	96	28	82	45	35	35	23	61	15	33	35.3	11	39	106	258	260.5	2.5	M8 depth 12	212	Rc3/8	152	100	80	30	M8 depth 10.5
ø63 or equiv.	118	35	95	50	39	42	19	74	15	32	43	31	39	129	296	298.5	2.5	M10 depth 15	258	Rc3/8	168	110	102	40	M8 depth 11.5

Code	With switch																
Bore size (mm)	HD			RD			PA	PB			PP						
	M*	T*Y*	T*W	M*	T*Y*	T*W		T*Y*	T2YD	T*W*	M*V	M*H	T*YV	T*YH	T2YD	T*WV	T*WH
ø25 or equiv.	60	56	52	82	86	90	34.3	35	34	33.5	34.5	34.5	36	33	38.4	30.7	27.2
ø32 or equiv.	74	70	66	96	100	104	41.3	35	34	33.5	41.5	41.5	43	40	45.4	37.7	34.2
ø40 or equiv.	80	76	72	102	106	110	48.3	35	34	33.5	48.5	48.5	50	47	52.4	44.7	41.2
ø50 or equiv.	79	75	71	101	105	109	56.3	35	34	33.5	56.5	56.5	58	55	60.4	52.7	49.2
ø63 or equiv.	98	94	90	120	124	128	67.3	35	34	33.5	67.5	67.5	69	66	71.4	63.7	60.2

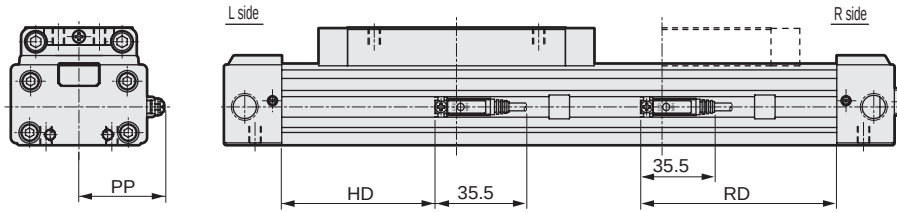
*1: For dimensions with options and dimensions of accessories, refer to pages 1588, 1589, 1622 and 1623.

*2: Option S is not available for ø25.

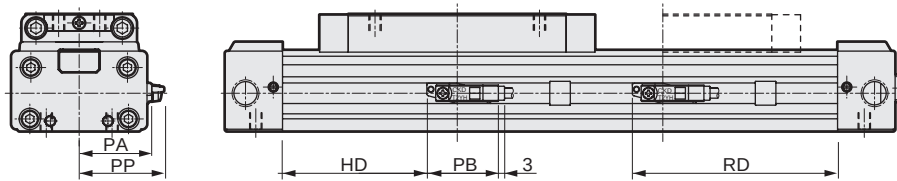
Dimensions (ø25 to ø63 equiv.)



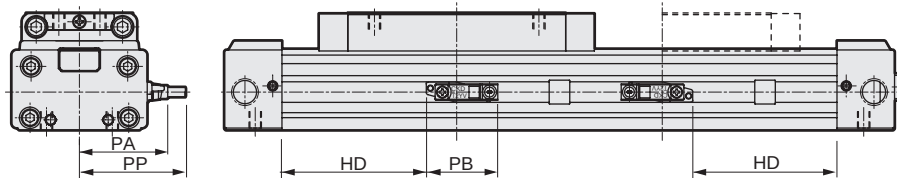
- With cylinder switch SRL3-**-**-***-M*H* (straight lead wire)



- With cylinder switch SRL3-**-**-***-T*H (T*W, T*Y, T2YD)

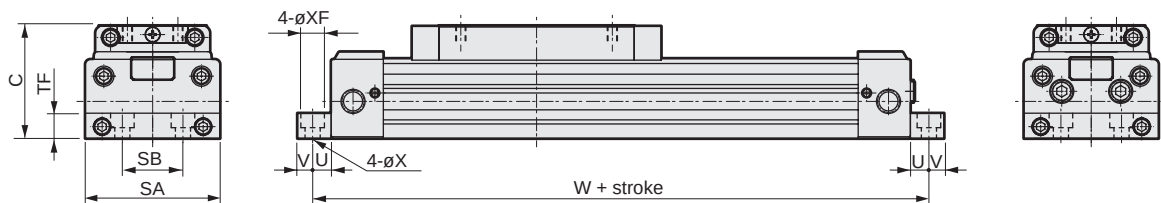


- With cylinder switch SRL3-**-**-***-T*V (T*W, T*Y)

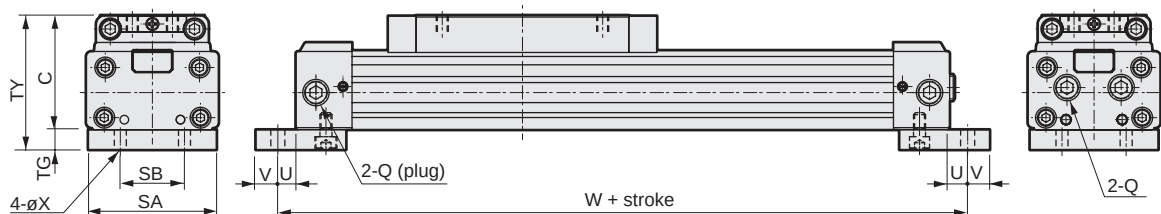


RD: Max. sensitivity installation position HD: Max. sensitivity installation position

- With foot bracket SRL3-LB-25 to 63



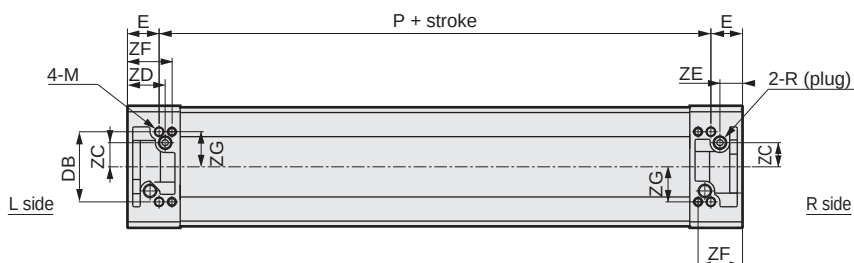
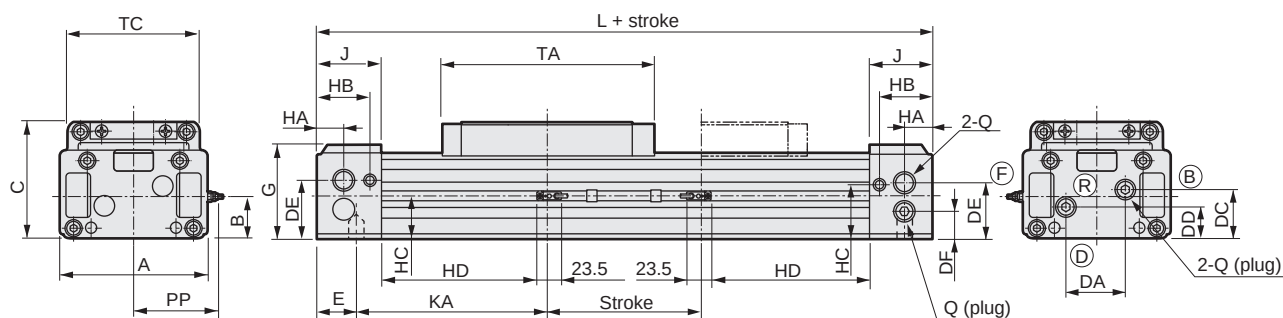
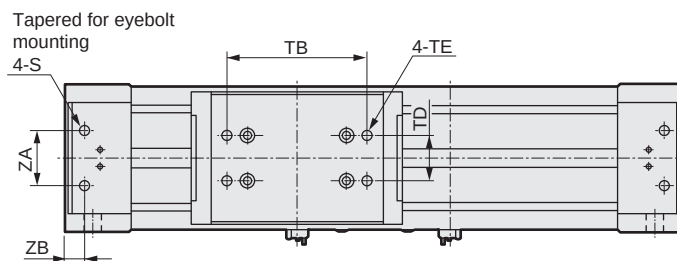
- With foot bracket SRL3-LB1-25, 32 (The mounting LB1 is not available for ø40 to ø63 or equiv.)



Code	With foot bracket (LB)								With foot bracket (LB1)							
Bore size (mm)	SA	SB	TF	U	V	W	X	XF	SA	SB	TG	TY	U	V	W	X
ø25 or equiv.	52	20	12	9	11	208	7	-	50	20	10	63	9	11	208	7
ø32 or equiv.	64	32	12	9	11	244	7	-	64	32	10	67	9	11	244	7
ø40 or equiv.	80	36	15	11	9	266	9	14 spot face depth 8.6	-	-	-	-	-	-	-	-
ø50 or equiv.	94	45	20	11	9	280	9	14 spot face depth 8.6	-	-	-	-	-	-	-	-
ø63 or equiv.	116	50	25	13	12	322	11	17.5 spot face depth 10.8	-	-	-	-	-	-	-	-

Dimensions (ø80 to ø100 equiv.)

● With cylinder switch SRL3-**-***-M*V* (L-shaped lead wire)



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 or equiv.	162	49	130	64	93	58	38	65	33	42	106	30	59	64.5	70	208	500	M12 depth 18	416	Rc1/2	Rc3/8	M12 depth 23
ø100 or equiv.	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	Rc1/2	Rc1/2	M12 depth 23

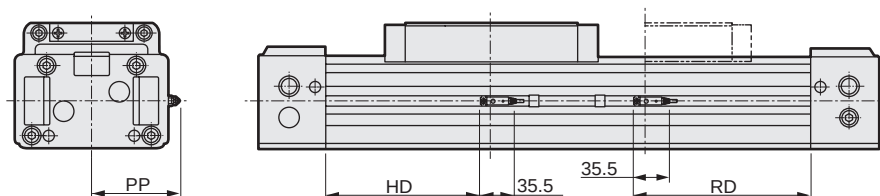
Code	TA	TB	TC	TD	TE	ZA	ZB	ZC	ZD	ZE	ZF	ZG	With foot bracket						
Bore size (mm)													SA	SB	TF	U	V	W	X
ø80 or equiv.	228	150	146	50	M12 depth 15	60	21	32	50	30	59	46.5	162	134	25	13	12	526	14
ø100 or equiv.	238	160	170	60	M12 depth 15	60	21	36.5	55	30	69	54	198	160	30	15	15	560	14

*1: For dimensions with options and dimensions of accessories, refer to pages 1588, 1589, 1622 and 1623.

Dimensions (ø80 to ø100 equiv.)

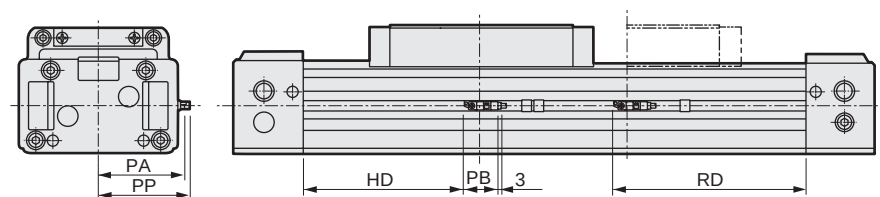


- With cylinder switch SRL3-**-***-M*H* (straight lead wire)

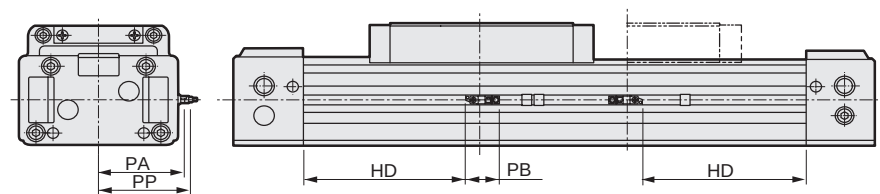


RD: Max. sensitivity mounting position
HD: Max. sensitivity mounting position

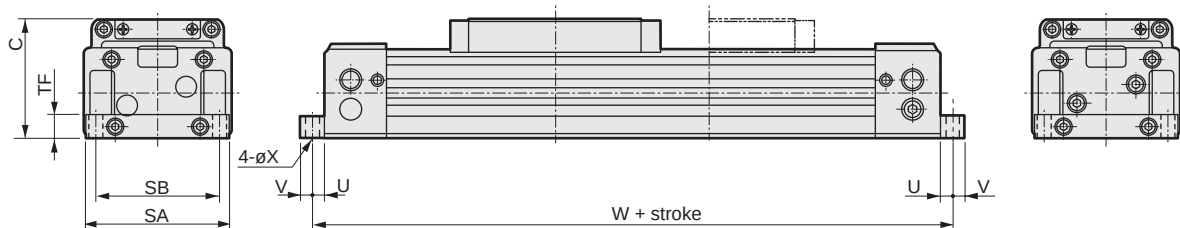
- With cylinder switch SRL3-**-***-T*H (T*W, T*Y, T2YD)



- With cylinder switch SRL3-**-***-T*V (T*W, T*Y)



- With foot bracket SRL3-LB-**-***



Code	With switch																
Bore size (mm)	HD			RD			PA	PB			PP						
	M*	T*Y*	T*W	M*	T*Y*	T*W		T*Y*	T2YD	T*W*	M*V	M*H	T*YV	T*YH	T2YD	T*WV	T*WH
ø80 or equiv.	170	165	161	190	195	199	87.3	35	34	33.5	87.5	87.5	89	86	91.4	83.7	80.2
ø100 or equiv.	175	170	166	195	200	204	105.3	35	34	33.5	105.5	105.5	107	104	109.4	101.7	98.2

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

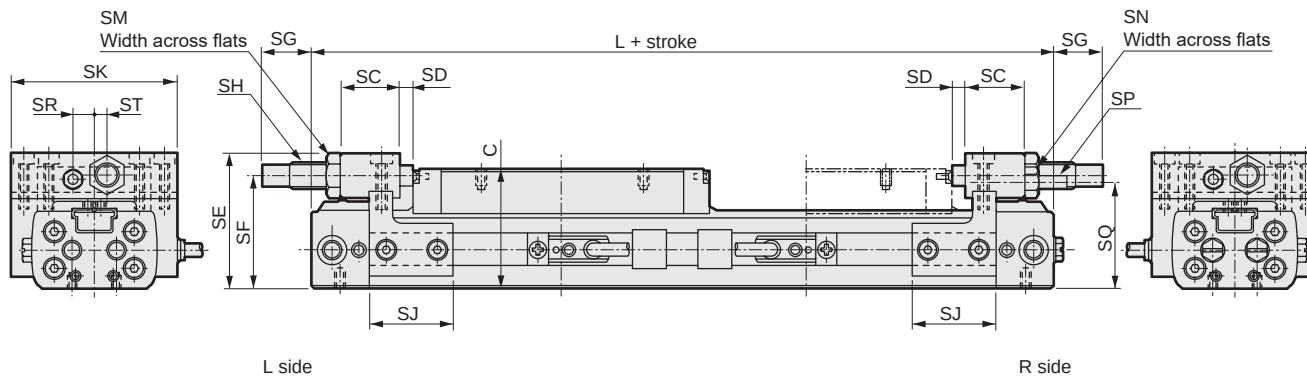
Ending

SRL3 Series

SRL3 Series common dimensions

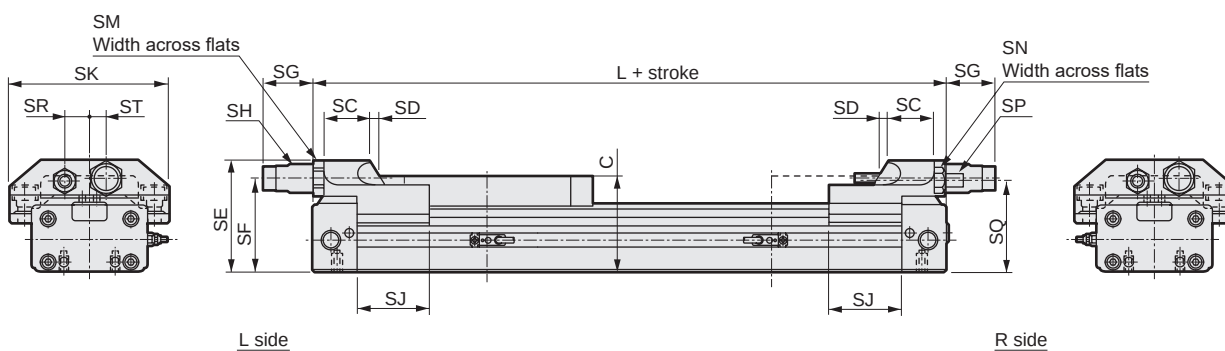
● Full stroke adjustable with shock absorber (SRL3)

· $\varnothing 12$ to $\varnothing 25$ or equiv.



Code	SC	SD	SE	SF	SG			SH		SJ	SK	SM	SN	SP	SQ	SR	ST	C	L
					At max.	At min.	Adj range	Thread size	Max. absorbed energy (J)										
ø12 or equiv.	19.5	2.5	40	32	17.5	7.5	10	M8x0.75	3	25	45	12	5.5	M3	30.5	6	3	33	136
ø16 or equiv.	18	4	42	35	14.5	4.5	10	M8x0.75	3	25	49	12	5.5	M3	34	6	4	37	149
ø20 or equiv.	22.5	3.5	48	40	14.5	4.5	10	M10x1.0	7	39	57	14	7	M4	38	8	5	42	169
ø25 or equiv.	20	2.5	62.5	51.5	14.5	4.5	10	M12x1.0	12	50	77	17	10	M6	50	12	10	53	190

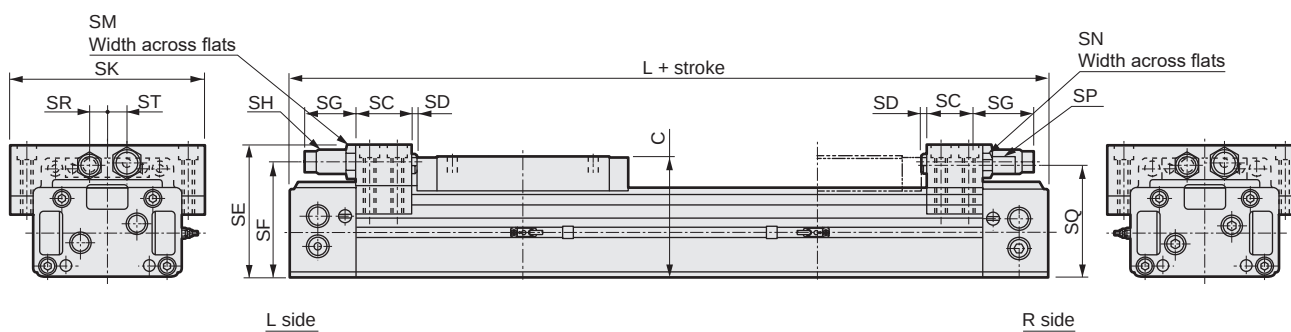
· $\varnothing 32$ to $\varnothing 63$ or equiv.



Code	SC	SD	SE	SF	SG			SH		SJ	SK	SM	SN	SP	SQ	SR	ST	C	L
Bore size (mm)					At max.	At min.	Adj. range	Thread size	Max. absorbed energy (J)										
ø32 or equiv.	22	7	66.5	55.5	27	17	10	M14x1.5	26	46	98	19	13	M8	53.5	14	12	57	226
ø40 or equiv.	32	7	78.5	65.5	34	24	10	M20x1.5	70	51	112	24	17	M10	63.5	17	12	67	244
ø50 or equiv.	38	8	99	80	55	45	10	M25x1.5	120	53	136	32	19	M12	77.5	22	17	82	258
ø63 or equiv.	38	8	112	93.5	44	34	10	M25x1.5	120	64	158	32	24	M16	89	25	20	95	296

SRL3 Series common dimensions

- Full stroke adjustable with shock absorber
 - ø80, ø100 or equiv.



Code	SC	SD	SE	SF	SG			SH		SK	SM	SN	SP	SQ	SR	ST	C	L
Bore size (mm)					At max.	At min.	Adj. range	Thread size	Max. absorbed energy (J)									
ø80 or equiv.	60	6	145	125.5	50	40	10	M27x1.5	200	214	32	27	M20	123	20	20	130	500
ø100 or equiv.	60	6	164	144.5	50	40	10	M27x1.5	200	250	32	27	M20	142	20	20	150	530

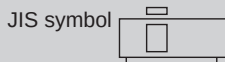
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending



Rodless cylinder resin guide

SRL3-G Series

- Bore size: ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100



Specifications

Item	SRL3-G										
Bore size	mm	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation		Double acting									
Working fluid		Compressed air									
Max. working pressure	MPa	0.7 (≈100 psi, 7 bar)									
Min. working pressure	MPa	0.25 (≈36 psi, 2.5 bar)			0.15 (≈22 psi, 1.5 bar)				0.1 (≈15 psi, 1 bar)		
Proof pressure	MPa	1.05 (≈150 psi, 10.5 bar)									
Ambient temperature	°C	5 (41°F) to 60 (140°F)									
Port size		M5		Rc1/8		Rc1/4		Rc3/8		Rc1/2	
Stroke tolerance	mm	$^{+2.0}_{-0}$ (to 1000), $^{+2.5}_{-0}$ (to 3000), $^{+3.0}_{-0}$ (to 5000)									
Working piston speed	mm/s	50 to 2000 (standard piping) (*1)									
Cushion		Air cushion									
Lubrication		Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication. Once lubricated, the cylinder will need periodic lubrication.)									

*1: For common port piping, the working piston speed varies depending on the stroke. Contact CKD.

Allowable absorbed energy

Bore size (mm)	Cushioned		Without cushion	With shock absorber (initial set point)	
	Max absorbed energy (J)	Cushion stroke (mm)	Max absorbed energy (J)	Absorbed energy (J)	Effective stroke (mm)
ø12 or equiv.	0.03	14.5	0.003	2.4	5.5
ø16 or equiv.	0.22	19.2	0.007	2.4	5.5
ø20 or equiv.	0.59	22.2	0.010	5.7	7
ø25 or equiv.	1.40	20.9	0.015	10	9
ø32 or equiv.	2.57	23.5	0.030	18	13
ø40 or equiv.	4.27	23.9	0.050	50	16.5
ø50 or equiv.	9.13	24.9	0.072	86	21
ø63 or equiv.	17.4	29.6	0.138	86	21
ø80 or equiv.	40	45.8	0.393	143	25
ø100 or equiv.	67	45.8	0.622	143	25

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
ø12 equiv.	200/300 400/500 600/700 800/900 1000	5000	1
ø16 equiv.			
ø20 equiv.			
ø25 equiv.			
ø32 equiv.			
ø40 equiv.			
ø50 equiv.			
ø63 equiv.			
ø80 equiv.			
ø100 equiv.			

* The custom stroke is available in 1 mm increments.

Number of installed M-switches and min. stroke (mm)

Switch quantity	1		2		3		4		5		6	
Switch model No.	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H
Bore size (mm)												
ø12 or equiv.	10	10	30	45(70)	60	90(120)	90	135(170)	120	180(220)	150	225(270)
ø16 or equiv.	10	10	30	45(70)	60	90(120)	90	135(170)	120	180(220)	150	225(270)
ø20 or equiv.	10	10	30	45(70)	60	90(120)	90	135(170)	120	180(220)	150	225(270)
ø25 or equiv.	10	10	30	45(70)	60	90(120)	90	135(170)	120	180(220)	150	225(270)
ø32 or equiv.	10	10	30	45	60	90	90	135	120	180	150	225
ø40 or equiv.	10	10	30	45	60	90	90	135	120	180	150	225
ø50 or equiv.	15	15	30	45	60	90	90	135	120	180	150	225
ø63 or equiv.	15	15	30	45	60	90	90	135	120	180	150	225
ø80 or equiv.	25		50		100		150		200		250	
ø100 or equiv.	25		50		100		150		200		250	

Note: Values in () are the min. stroke with switch of the full stroke adjustable.

Number of installed T-switches and min. stroke (mm)

Switch quantity	1		2		3		4		5		6	
Switch model No.	T*V	T*H	T*V	T*H	T*V	T*H	T*V	T*H	T*V	T*H	T*V	T*H
Bore size (mm)												
ø12 or equiv.	5	5	45	50(70)	85	100(120)	125	150(170)	165	200(220)	205	250(270)
ø16 or equiv.	5	5	45	50(70)	85	100(120)	125	150(170)	165	200(220)	205	250(270)
ø20 or equiv.	5	5	45	50(70)	85	100(120)	125	150(170)	165	200(220)	205	250(270)
ø25 or equiv.	10	10	45	50(70)	85	100(120)	125	150(170)	165	200(220)	205	250(270)
ø32 or equiv.	10	10	45	50	85	100	125	150	165	200	205	250
ø40 or equiv.	10	10	45	50	85	100	125	150	165	200	205	250
ø50 or equiv.	10	10	45	50	85	100	125	150	165	200	205	250
ø63 or equiv.	10	10	45	50	85	100	125	150	165	200	205	250
ø80 or equiv.	15	15	45	50	85	100	125	150	165	200	205	250
ø100 or equiv.	15	15	45	50	85	100	125	150	165	200	205	250

Note: Values in () are the min. stroke with switch of the full stroke adjustable.

Switch specifications (M-switch)

● 1-color/2-color LED

Item	2-wire proximity		3-wire proximity		
	M2V,M2H	M2WV (2-color LED)	M3H/M3V	M3PH/M3PV (Made to order)	M3WV
Applications	Dedicated for programmable controller		Programmable controller,Relay,ICcircuitRoad,Compact solenoid valve		
Output method	-		NPN output	PNP output	NPN output
Power supply voltage	-		4.5 to 28 VDC		10 to 28 VDC
Load voltage	10 to 30 VDC		30 VDC or less		
Load current	5 to 30mA		100 mA or less	100 mA or less	100 mA or less
Indicator	LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)
Leakage current	1 mA or less		10 μA or less	0.05 mA or less	10 μA or less
Weight	g 1 m: 22 3 m: 57 5 m: 93				

Item	2-wire reed			
	M0V,M0H		M5V,M5H	
Applications	For programmable controller, relay		For programmable controller, relay, IC circuit (without indicator lamp), serial connection	
Power supply voltage	-		-	
Load voltage	12/24 VDC	110 VAC	110 VAC or less	
Load current	5 to 50mA	7 to 20mA	20 mA or less	
Indicator	LED (ON/HourON)		No indicator lamp	
Leakage current	0mA			
Weight	g 1 m: 22 3 m: 57 5 m: 93			

*1: Refer to Ending Page 1 for detailed switch specifications and dimensions.

Switch specifications (T Model Switch)

● 2-color LED

Item	2-wire proximity		3-wire proximity	
	T2YH/T2YV	T2WH/T2WV	T3YH/T3YV	T3WH/T3WV
Applications	Dedicated for programmable controller		For programmable controller, relay	
Output method	-		NPN output	NPN output
Power supply voltage	-		10 to 28 VDC	
Load voltage	10 to 30 VDC	24 VDC ±10%	30 VDC or less	
Load current	5 to 20 mA (*3)		50 mA or less	
Indicator	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)
Leakage current	1 mA or less		10 µA or less	
Weight	g 1 m: 33 3 m: 87 5 m: 142		1 m: 33 3 m: 87 5 m: 142	1 m: 18 3 m: 49 5 m: 80

● For AC magnetic field

Item	2-wire proximity	
	T2YD, T2YDT	(*4)
Applications	Dedicated for programmable controller	
Indicator	Red/Green LED (Lit when ON)	
Load voltage	24 VDC ±10%	
Load current	5 to 20mA	
Internal voltage drop	6 V or less	
Leakage current	1.0 mA or less	
Weight	g 1 m: 61 3 m: 166 5 m: 272	

*1: Refer to Ending Page 1 for detailed switch specifications and dimensions.

*2: Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

*3: The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

*4: AC magnetic field proof switch (T2YD/T2YDT) cannot be used in DC magnetic field.

Cylinder weight

Unit: kg

Bore size (mm)	Stroke for 0 mmVolume			#Switch weight	Mounting bracket weight		Additional weight per St = 100mm
	Basic (00)	Foot			T type	M type	
		(LB)	(LB1)				
ø12 or equiv.	0.24	0.25	0.26	Refer to the weight in the Use this as a reference.	0.005	0.001	0.10
ø16 or equiv.	0.32	0.33	0.35				0.13
ø20 or equiv.	0.52	0.54	0.58				0.18
ø25 or equiv.	1.0	1.1	1.1				0.28
ø32 or equiv.	1.5	1.6	1.7				0.36
ø40 or equiv.	2.4	2.5	-				0.53
ø50 or equiv.	3.5	3.6	-				0.75
ø63 or equiv.	6.1	6.4	-				1.11
ø80 or equiv.	18.8	19.4	-				2.32
ø100 or equiv.	26.6	27.6	-				3.38

SRL3-G Series

How to order

No switch (built-in magnet for switch)

SRL3-G-00-12B-200 ————— **B**

With switch (built-in magnet for switch)

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

A Mounting
*1, *2

B Bore size

C Port thread

D Cushion

E Stroke

F Switch model No.

Note on model No. selection

*1 : Mounting bracket will be shipped assembled with the product.

*2 : For 12, 16, 20, 25 and 32 bore sizes with option code "R" or "T", the mounting will be "00" or "LB1".
(Piping with mounting "LB" is not possible for option codes "R" and "T".)

*3 : Refer to page 1590 for the min. stroke with switch.

*4 : Switches other than **(F)** Switch model No. are also available. (Made to order) Refer to Ending Page 1 for details.

5 : "" of L* and N* indicates the number of sets. When more than one set are necessary, specify "L2" (for LB) or "N2" (for LB1).
2 pcs./set

*6 : For the port and cushion needle position codes, refer to dimensions on pages 1598 to 1603.
*7 : In the case of the standard with ø12 to ø25, remove the cover, attach a flat nut and install the full stroke adjusting bracket.

A flat nut is attached to option "A3" to enable retrofitting the full stroke adjusting bracket without removing the cover.

*8 : In "H", the thread size for ø12 and ø16 will be "M4" and that for ø20 will be "M5".

*9 : Check the option combinations in "Option selection table".

*10 : Copper and PTFE free as standard. (except for type with shock absorber)

[Example of model No.]

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

Model: Rodless cylinder resin guide type

A Mounting : Basic

B Bore size : ø12 mm

C Port thread : M5

D Cushion : Both sides cushioned

E Stroke : 200 mm

F Switch model No. : Reed M0H switch, lead wire 1 m

G Switch quantity : 1 on R side

H Option : Port position F, cushion needle position B

Code	Description				
A Mounting					
00	Basic				
LB	Axial foot				
LB1	Axial foot (ø12 to ø32 only)				
B Bore size (mm)					
12	ø12				
16	ø16				
20	ø20				
25	ø25				
32	ø32				
40	ø40				
50	ø50				
63	ø63				
80	ø80				
100	ø100				
C Port thread					
Blank	Rc thread (M5 for ø12 and ø16)				
N	NPT thread (ø20 or more) (made-to-order product)				
G	G thread (ø20 or more) (made-to-order product)				
D Cushion					
B	Both sides cushioned				
R	R side cushioned				
L	L side cushioned				
N	Without cushion				
E Stroke (mm)					
Bore size	Stroke *3	Custom stroke			
ø12 to ø100	1 to 5000	In 1 mm increments			
F Switch model No.					
Axial lead wire	Radial lead wire	Reed Contact	Voltage AC DC	Indicator	Lead wire
M0H* M5H* M2H* - M3H* - M3PH* T2WH* T2YH* T3WH* T3YH* T2YD* T2YDT*	M0V* M5V* M2V* M2WV* M3V* M3WV* M3PV* T2WV* T2YV* T3WV* T3YV* - -		● ●		

Option selection table

● : Available ■ : Not available

	Option	Option															
		Both side full stroke adjustable, with shock absorber	R side full stroke adjustable, with shock absorber	L side full stroke adjustable, with shock absorber	Full stroke adjustable with adjusting bracket to be added later	Intermediate support bracket (for 00, LB)	Intermediate support bracket (for LB1)	Larger thread for table installation	Height adjustment plate	Port position F, cushion needle position F (standard)	Port position R, cushion needle position F (common port)	Port position F, cushion needle position B	Port position R, cushion needle position B (common port)	Port position D, cushion needle position F	Port position D, cushion needle position D	Port position F, cushion needle position F (common 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: Some combinations are not available depending on the bore size. Be sure to check the (H) Option in "How to order" on the previous page.

*2: LB1 with port position D is not possible. (ø25, ø32)

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa								
		0.1	0.15	0.2	0.25	0.3	0.4	0.5	0.6	0.7
ø12	Push/Pull	—	—	—	34.6	41.5	55.3	69.1	83.0	96.8
ø16	Push/Pull	—	—	—	54.0	64.8	86.4	1.08x10 ²	1.30x10 ²	1.51x10 ²
ø20	Push/Pull	—	—	—	78.6	94.4	1.26x10 ²	1.57x10 ²	1.89x10 ²	2.20x10 ²
ø25	Push/Pull	—	81.4	1.08x10 ²	1.35x10 ²	1.63x10 ²	2.17x10 ²	2.71x10 ²	3.25x10 ²	3.80x10 ²
ø32	Push/Pull	—	1.22x10 ²	1.63x10 ²	2.04x10 ²	2.44x10 ²	3.26x10 ²	4.07x10 ²	4.88x10 ²	5.70x10 ²
ø40	Push/Pull	—	1.90x10 ²	2.53x10 ²	3.16x10 ²	3.80x10 ²	5.06x10 ²	6.33x10 ²	7.60x10 ²	8.86x10 ²
ø50	Push/Pull	—	2.98x10 ²	3.98x10 ²	4.98x10 ²	5.96x10 ²	7.95x10 ²	9.94x10 ²	1.19x10 ³	1.39x10 ³
ø63	Push/Pull	3.14x10 ²	4.70x10 ²	6.27x10 ²	7.84x10 ²	9.41x10 ²	1.25x10 ³	1.57x10 ³	1.88x10 ³	2.20x10 ³
ø80	Push/Pull	5.06x10 ²	7.60x10 ²	1.01x10 ³	1.26x10 ³	1.52x10 ³	2.03x10 ³	2.53x10 ³	3.04x10 ³	3.54x10 ³
ø100	Push/Pull	7.91x10 ²	1.19x10 ³	1.58x10 ³	1.98x10 ³	2.37x10 ³	3.16x10 ³	3.95x10 ³	4.74x10 ³	5.53x10 ³

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

SRL3-G Series

How to order switch (For configurations, refer to pages 1624 to 1626)

● Switch body + mounting bracket set (*1)

SRL3 - M0H*

Switch model No.
(Item ⑥ on page 1592)

● Switch body only

SW - M0H*

Switch model No.
(Item ⑥ on page 1592)

* Lead wire length

Blank	1 m (standard)
3	3 m (option)
5	5 m (option)

* indicates lead wire length.

● Mounting bracket set (*2)

· M-switch

SRL3 - M

· T-switch

SRL3 - T

● Lead wire holder (*3)

SRL3 - MH

*1: "Switch body + mounting bracket set" does not include lead wire holders. Order lead wire holders separately if necessary.

*2: The mounting bracket is different between the M-switch and T-switch.

*3: The quantity of lead wire holders per set is 10.

● How to order discrete shock absorber

SRL3 - 40 - NCK

Bore size
(Item ⑥ on page 1592)

(One shock absorber, one shock absorber fixing hexagon nut)

(Note) The shock absorber fixing hexagon nut for SRL3-40 is a made-to-order product.

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/set)

Bore size
(Item ⑥ on page 1592)

For LB1

SRL3 - 32 - N (2/set)

Bore size
(Item ⑥ on page 1592)

● How to order full stroke adjusting bracket kit

SRL3 - 40 - A1 (1 set)

Bore size
(Item ⑥ on page 1592)

(For configurations, refer to "Full stroke adjusting bracket kit" on page 1625.)

● How to order repair parts

SRL3-G - 40 K - 200

Bore size (Item ⑥ on page 1592) Stroke (Item ⑤ on page 1592)

● How to order mounting bracket

SRL3 - LB - 40

Mounting (Item ① on page 1592) Bore size (Item ⑥ on page 1592)
(Bracket x2, mounting bolt x4)

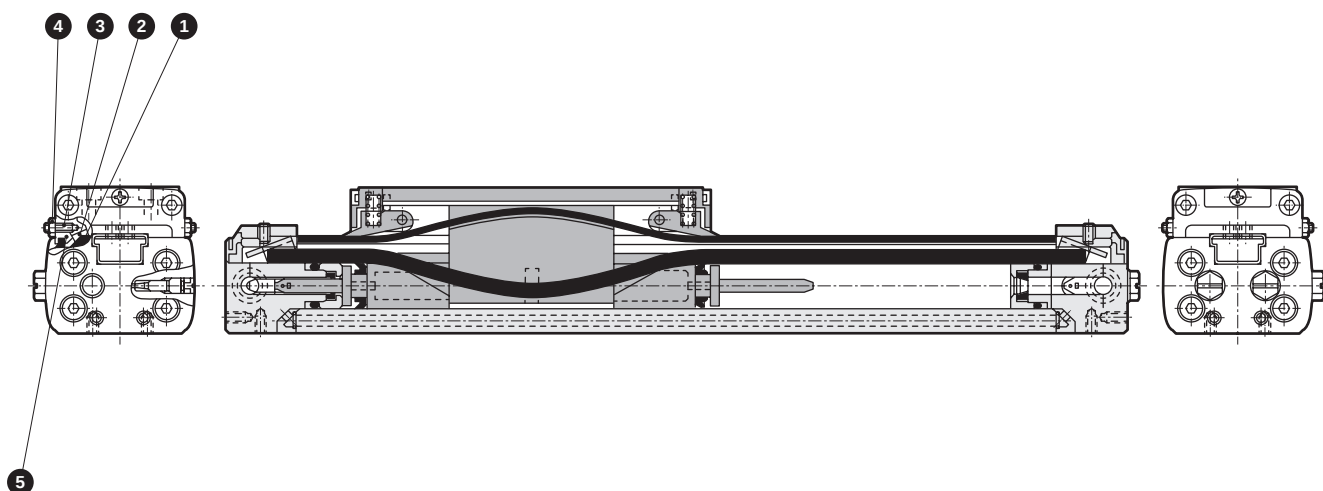
● How to order height adjustment plate set

SRL3 - 40 - U

Bore size
(Item ⑥ on page 1592)

(Plate, mounting bolt x4)

Internal structure and parts list (ø12 to ø40 equiv.)



Parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Slider	Acetal resin		4	Nut	Steel	Zinc chromate
2	Slider plate	Steel		5	Dust wiper	Acetal resin	
3	Adjusting screw	Alloy steel	Zinc chromate				

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø12 or equiv.	SRL3-G-12K-*	
ø16 or equiv.	SRL3-G-16K-*	
ø20 or equiv.	SRL3-G-20K-*	1 5 8 9
ø25 or equiv.	SRL3-G-25K-*	18 21 22 26
ø32 or equiv.	SRL3-G-32K-*	27
ø40 or equiv.	SRL3-G-40K-*	

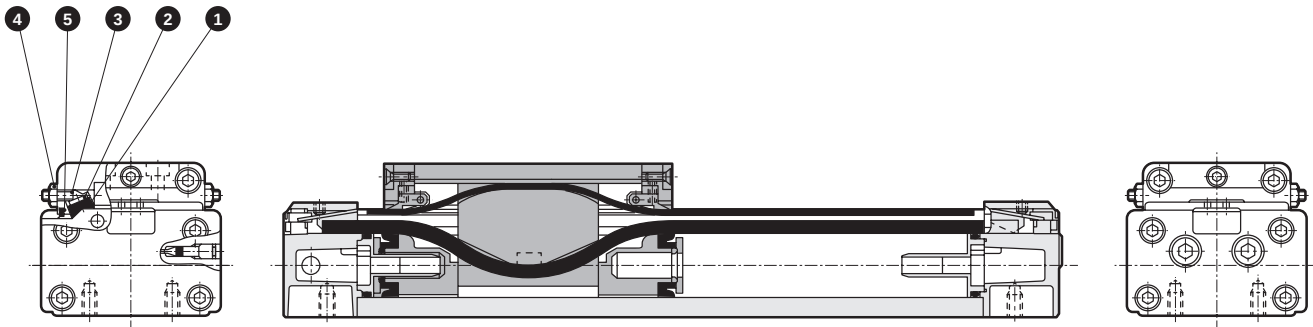
*1 : Specify the kit No. when placing an order. Specify the stroke for *.

*2: Part numbers 8 9 18 21 22 26 27 are the same as those on page 1579.

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

SRL3-G Series

Internal structure and parts list (ø50, ø63 equiv.)



Parts list

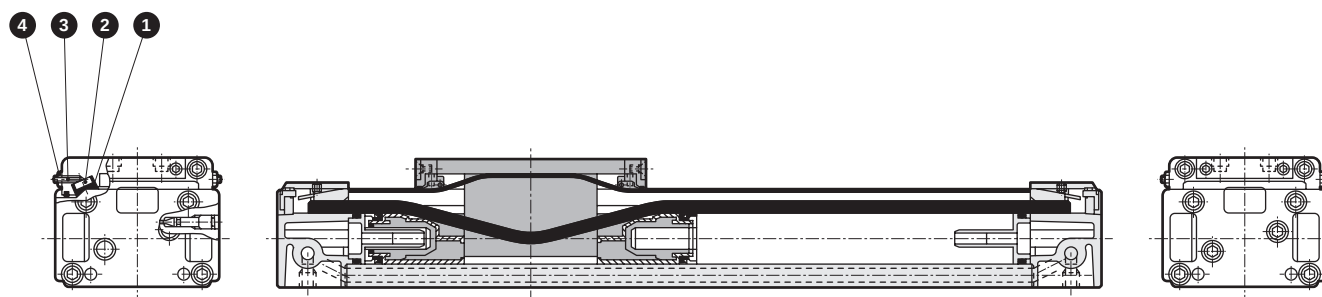
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Slider	Acetal resin		4	Nut	Steel	Zinc chromate
2	Slider plate	Steel	Zinc chromate	5	Dust wiper	Acetal resin	
3	Adjusting screw	Alloy steel	Zinc chromate				

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø50 or equiv.	SRL3-G-50K-*	1 5 8 9 18
ø63 or equiv.	SRL3-G-63K-*	21 22 26 27 32

*1 :Specify the kit No. when placing an order. Specify the stroke for *.
*2:Part numbers 8 9 18 21 22 26 27 32 are the same as those on page 1580.

Internal structure and parts list (ø80, ø100 equiv.)



Parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Slider	Acetal resin		3	Adjusting screw	Alloy steel	Zinc chromate
2	Slider plate	Steel	Zinc chromate	4	Nut	Steel	Zinc chromate

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø80 or equiv.	SRL3-G-80K-*	① ⑧ ⑨ ⑱ ㉑ ㉒ ㉔ ㉕ ㉖ ㉗
ø100 or equiv.	SRL3-G-100K-*	㉘ ㉙

*1 : Specify the kit No. when placing an order. Specify the stroke for *.

*2: Part numbers ⑧ ⑨ ⑱ ㉑ ㉒ ㉔ ㉕ ㉖ ㉗ ㉘ ㉙ are the same as those on page 1581.

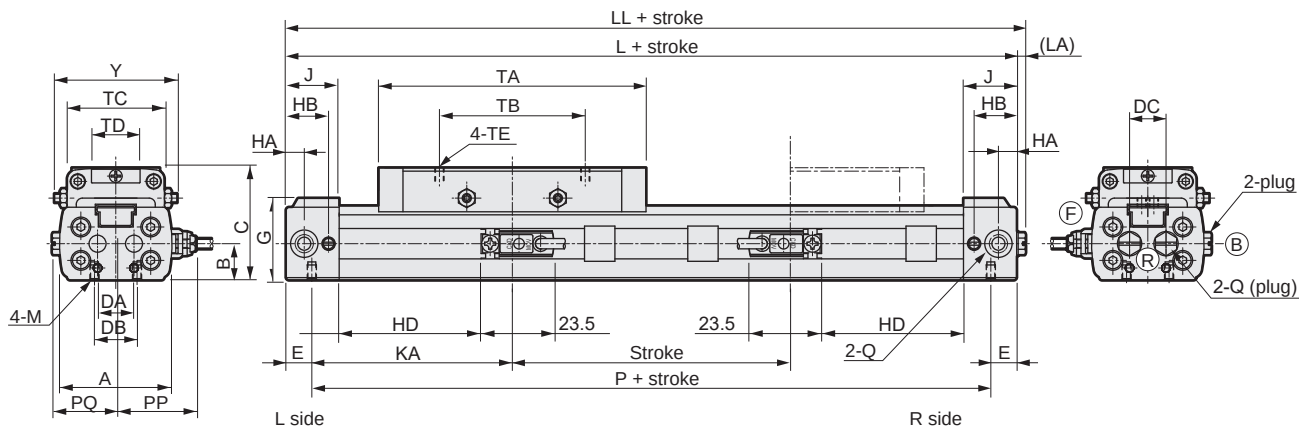
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

SRL3-G Series

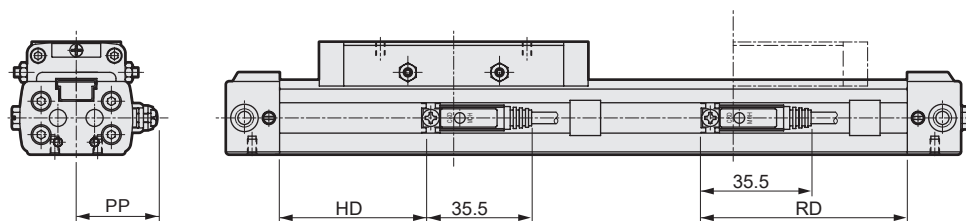


Dimensions (ø12 to ø20 equiv.)

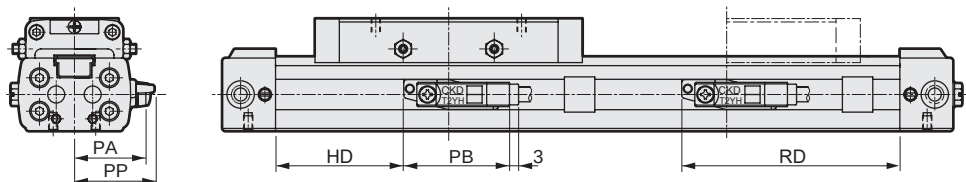
- With cylinder switch SRL3-G-**-***-M*V*
(L-shaped lead wire)



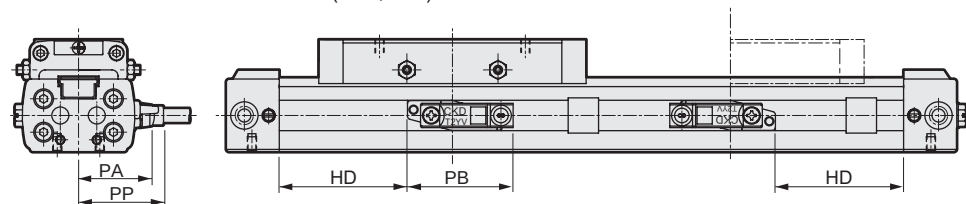
- With cylinder switch SRL3-G-**-***-M*H*
(straight lead wire)



- With cylinder switch SRL3-G-**-***-T*H (T*W, T*Y, T2YD)



- With cylinder switch SRL3-G-**-***-T*V (T*W, T*Y)



RD: Max. sensitivity installation position HD: Max. sensitivity installation position

Code	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 or equiv.	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 or equiv.	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 or equiv.	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	Rc1/8	100	60	38	18	M4 depth 6	43 to 45

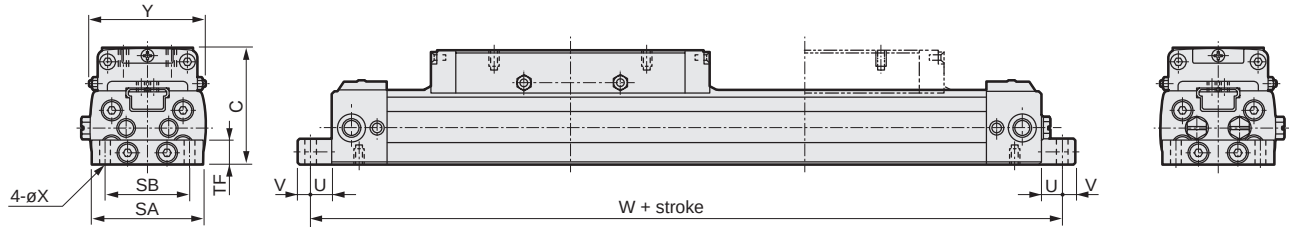
Code	With switch																
Bore size (mm)	HD			RD			PA	PB			PP						
	M*	T*Y*	T*W	M*	T*Y*	T*W		T*Y*	T2YD	T*W*	M*V	M*H	T*YV	T*YH	T2YD	T*WV	T*WH
ø12 or equiv.	40.5	36	32	60.5	65	69	24.3	35	34	33.5	24.5	23	26	23	28.4	20.7	17.2
ø16 or equiv.	47	42	38	67	72	76	26.3	35	34	33.5	26.5	25	28	25	30.4	22.7	19.2
ø20 or equiv.	52.5	48	44	72.5	77	81	29.3	35	34	33.5	29.5	28	31	28	33.4	25.7	22.2

*1: For dimensions with options and dimensions of accessories, refer to pages 1588, 1589, 1622 and 1623.

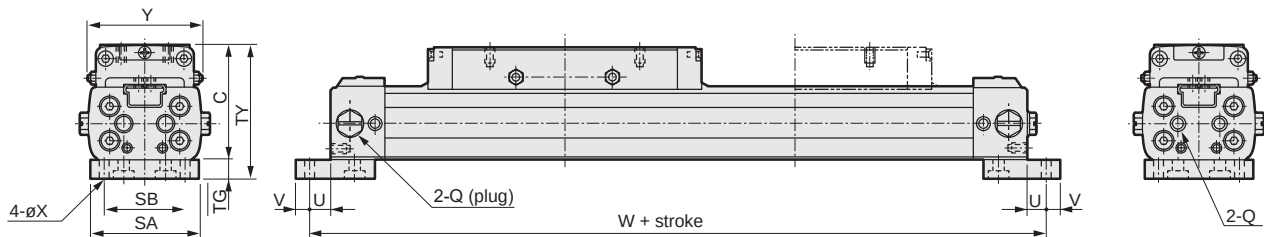
Dimensions (ø12 to ø20 equiv.)



- With foot bracket SRL3-G-LB-12 to 20



- With foot bracket SRL3-G-LB1-12 to 20



Code	With foot bracket (LB)							With foot bracket (LB1)							
Bore size (mm)	SA	SB	TF	U	V	W	X	SA	SB	TG	TY	U	V	W	X
ø12 or equiv.	32	24	8	6	4	148	3.4	32	24	6	39	6	4	148	3.4
ø16 or equiv.	35	26	8	6	4	161	3.4	35	26	6	43	6	4	161	3.4
ø20 or equiv.	43	33	10	6	6	181	4.5	43	33	8	50	6	6	181	4.5

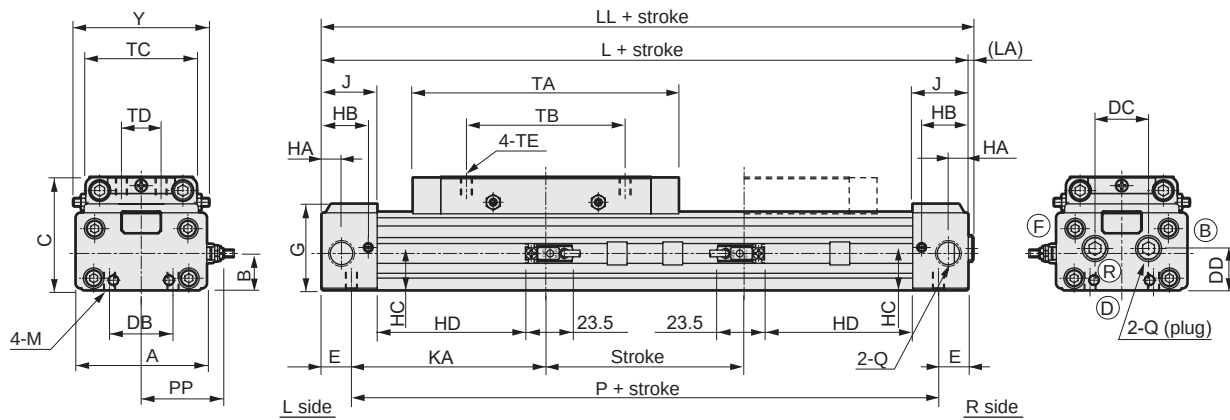
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/IN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

SRL3-G Series

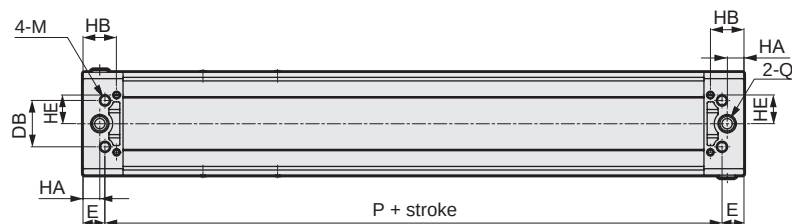
Dimensions (ø25 to ø63 equiv.)



- With cylinder switch SRL3-G-**-***-M*V*
(L-shaped lead wire)



- Bottom piping (option code: D/S)



Code	A	B	C	DB	DC	DD	E	G	HA	HB	HC	HE	J	KA	L	LL	LA	M	P	Q	TA	TB	TC	TD	TE	Y
Bore size (mm)																										
ø25 or equiv.	53	17	53	20	26	19	14	40.5	7.5	20	18.9	-	24	81	190	192	2	M6 depth 9	162	Rc1/8	122	70	48	20	M5 depth 6	58 to 61
ø32 or equiv.	66	18.5	57	32	27	21	15	43.5	10	23.5	21.5	17	28	98	226	228.5	2.5	M6 depth 9	196	Rc1/4	134	80	56	20	M6 depth 7.5	65 to 69
ø40 or equiv.	80	22	67	36	35	28	17	51.5	13	26	27	22.3	31	105	244	246.5	2.5	M8 depth 12	210	Rc1/4	148	90	68	30	M6 depth 9	77 to 81
ø50 or equiv.	96	28	82	45	35	35	23	61	15	33	35.3	11	39	106	258	260.5	2.5	M8 depth 12	212	Rc3/8	152	100	80	30	M8 depth 10.5	92 to 96
ø63 or equiv.	118	35	95	50	39	42	19	74	15	32	43	31	39	129	296	298.5	2.5	M10 depth 15	258	Rc3/8	168	110	102	40	M8 depth 11.5	114 to 118

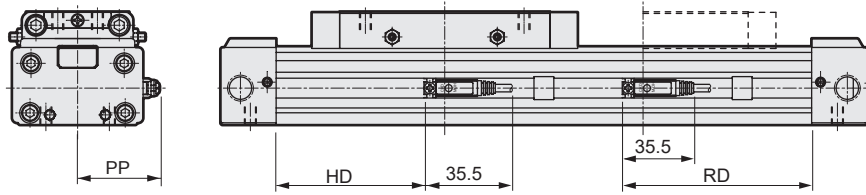
Code	With switch																
Bore size (mm)	HD			RD			PA	PB			PP						
	M*	T*Y*	T*W	M*	T*Y*	T*W		T*Y*	T2YD	T*W*	M*V	M*H	T*YV	T*YH	T2YD	T*WV	T*WH
ø25 or equiv.	60	56	52	82	86	90	34.3	35	34	33.5	34.5	33	36	33	38.4	30.7	27.2
ø32 or equiv.	74	70	66	96	100	104	41.3	35	34	33.5	41.5	40	43	40	45.4	37.7	34.2
ø40 or equiv.	80	76	72	102	106	110	48.3	35	34	33.5	48.5	47	50	47	52.4	44.7	41.2
ø50 or equiv.	79	75	71	101	105	109	56.3	35	34	33.5	56.5	55	58	55	60.4	52.7	49.2
ø63 or equiv.	98	94	90	120	124	128	67.3	35	34	33.5	67.5	66	69	66	71.4	63.7	60.2

*1: For dimensions with options and dimensions of accessories, refer to pages 1588, 1589, 1622 and 1623.
*2: Bottom piping is not available for ø25.

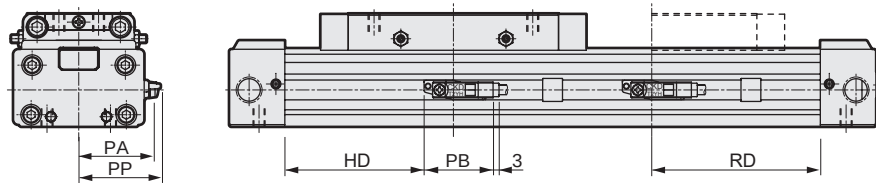
Dimensions (ø25 to ø63 equiv.)



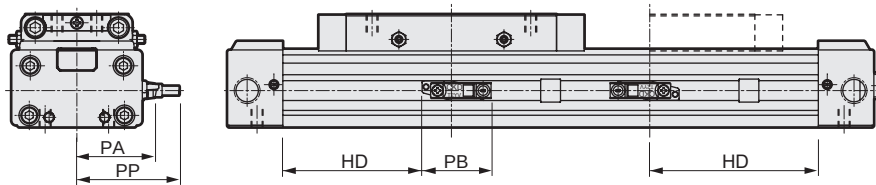
- With cylinder switch SRL3-G-**-***-M*H* (straight lead wire)



- With cylinder switch SRL3-G-**-***-T*H (T*W, T*Y, T2YD)

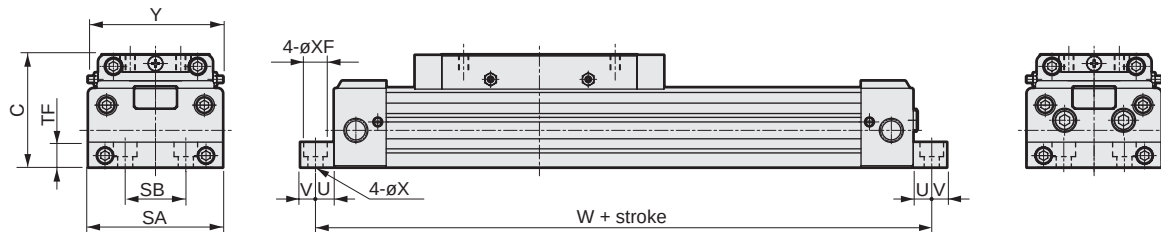


- With cylinder switch SRL3-G-**-***-T*V (T*W, T*Y)

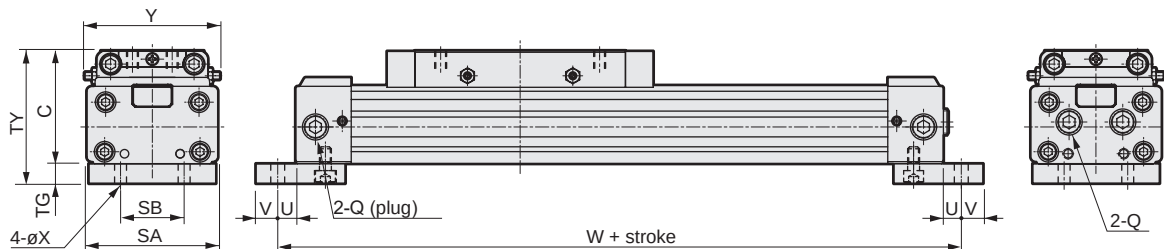


RD: Max. sensitivity installation position HD: Max. sensitivity installation position

- With foot bracket SRL3-G-LB-25 to 63



- With foot bracket SRL3-G-LB1-25, 32 (The mounting LB1 is not available for ø40 to ø63 or equiv.)



Code	With foot bracket (LB)								With foot bracket (LB1)							
Bore size (mm)	SA	SB	TF	U	V	W	X	XF	SA	SB	TG	TY	U	V	W	X
ø25 or equiv.	52	20	12	9	11	208	7	-	50	20	10	63	9	11	208	7
ø32 or equiv.	64	32	12	9	11	244	7	-	64	32	10	67	9	11	244	7
ø40 or equiv.	80	36	15	11	9	266	9	14 spot face depth 8.6	-	-	-	-	-	-	-	-
ø50 or equiv.	94	45	20	11	9	280	9	14 spot face depth 8.6	-	-	-	-	-	-	-	-
ø63 or equiv.	116	50	25	13	12	322	11	17.5 spot face depth 10.8	-	-	-	-	-	-	-	-

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

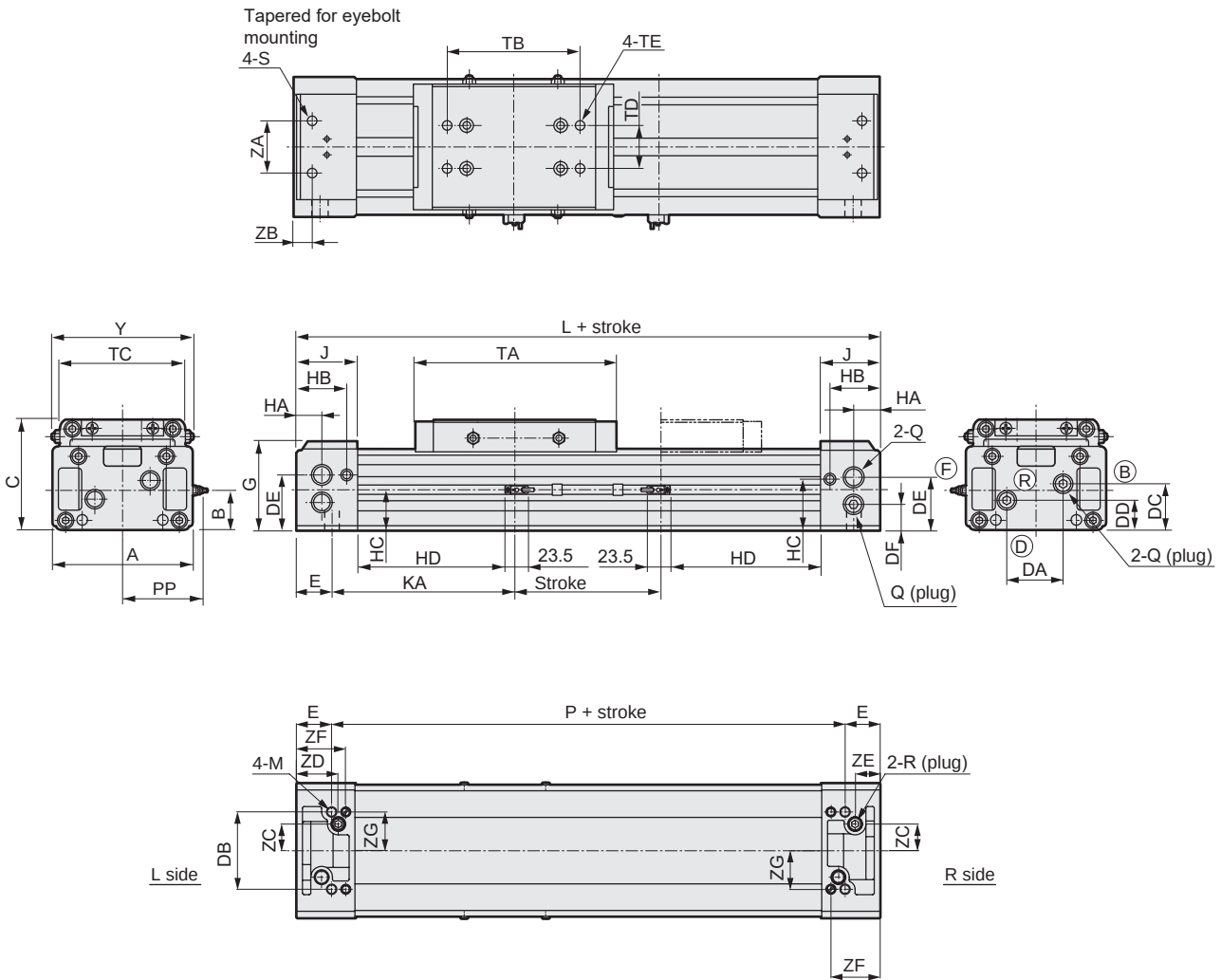
Ending

SRL3-G Series

Dimensions (ø80 to ø100 equiv.)



● With cylinder switch SRL3-G-**-***-M*V*
(L-shaped lead wire)



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 or equiv.	162	49	130	64	93	58	38	65	33	42	106	30	59	64.5	70	208	500	M12 depth 18	416	Rc1/2	Rc3/8	M12 depth 23
ø100 or equiv.	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	Rc1/2	Rc1/2	M12 depth 23

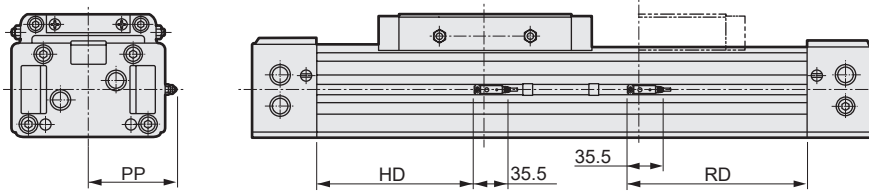
Code	TA	TB	TC	TD	TE	Y	ZA	ZB	ZC	ZD	ZE	ZF	ZG	With foot bracket						
Bore size (mm)														SA	SB	TF	U	V	W	X
ø80 or equiv.	228	150	146	50	M12 depth 15	157 to 164	60	21	64	50	30	59	46.5	162	134	25	13	12	526	14
ø100 or equiv.	238	160	170	60	M12 depth 15	183 to 190	60	21	73	55	30	69	54	198	160	30	15	15	560	14

*1: For dimensions with options and dimensions of accessories, refer to pages 1588, 1589, 1622 and 1623.

Dimensions (ø80 to ø100 equiv.)

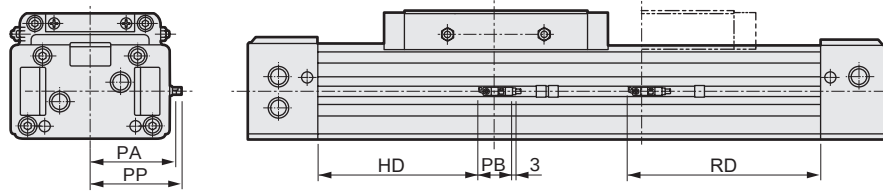


- With cylinder switch SRL3-G-**-***-M*H*
(Axial lead wire)

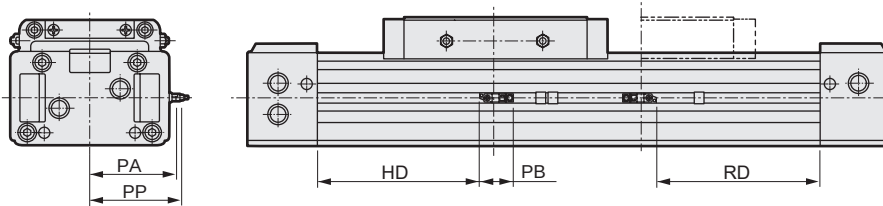


RD: Max. sensitivity
mounting position
HD: Max. sensitivity
mounting position

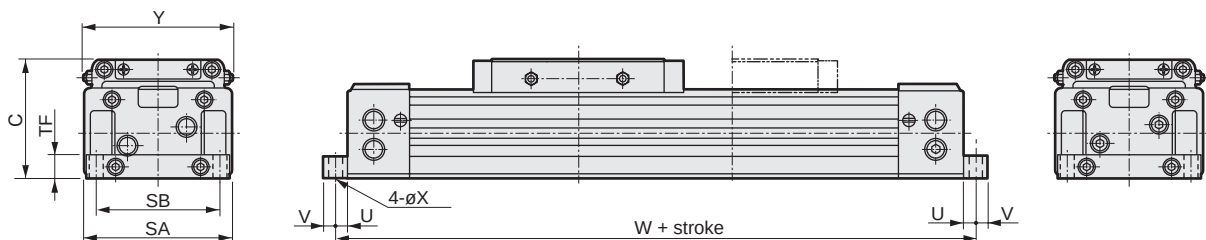
- With cylinder switch SRL3-G-**-***-T*H (T*W, T*Y, T2YD)



- With cylinder switch SRL3-G-**-***-T*V (T*T*W, T*Y)



- With foot bracket SRL3-G-LB-**-***



Code	With switch																
Bore size (mm)	HD			RD			PA	PB			PP						
	M*	T*Y*	T*W	M*	T*Y*	T*W		T*Y*	T2YD	T*W*	M*V	M*H	T*YV	T*YH	T2YD	T*WV	T*WH
ø80 or equiv.	170	165	161	190	195	199	87.3	35	34	33.5	87.5	86	89	86	91.4	83.7	80.2
ø100 or equiv.	175	170	166	195	200	204	105.3	35	34	33.5	105.5	104	107	104	109.4	101.7	98.2

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVPIN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

Rodless cylinder double acting/position locking

SRL3-Q Series

- Bore size: $\varnothing 12$, $\varnothing 16$, $\varnothing 20$, $\varnothing 25$, $\varnothing 32$
 $\varnothing 40$, $\varnothing 50$, $\varnothing 63$, $\varnothing 80$, $\varnothing 100$

JIS symbol



Specifications

Item		SRL3-Q										
Bore size		mm	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation			Double acting									
Working fluid			Compressed air									
Max. working pressure		MPa	0.7 (≈100 psi, 7 bar)									
Min. working pressure		MPa	0.2 (≈29 psi, 2 bar)			0.15 (≈22 psi, 1.5 bar)				0.1 (≈15 psi, 1 bar)		
Proof pressure		MPa	1.05 (≈150 psi, 10.5 bar)									
Ambient temperature		°C	5 (41°F) to 60 (140°F)									
Port size	Cylinder		M5		Rc1/8		Rc1/4		Rc3/8		Rc1/2	
	Position locking part		M5		Rc1/8							
Stroke tolerance		mm	^{+2.0} ₀ (to 1000)			^{+2.5} ₀ (to 3000)			^{+3.0} ₀ (to 5000)			
Working piston speed		mm/s	50 to 2000 (standard piping) (*1)									
Cushion			Air cushion									
Lubrication			Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication. Once lubricated, the cylinder will need periodic lubrication.)									
Position locking mechanism			Attached to R side of cover									
Holding force		N	Max. thrust x 0.7									

- *1: (1) When 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.
- (2) To reduce the speed, add an external shock absorber or deceleration circuit.
- (3) Apply grease regularly to the sliding part of the lock lever.

Allowable absorbed energy

Bore size (mm)	Cushioned		Without cushion	With shock absorber (initial set point)	
	Max absorbed energy (J)	Cushion stroke (mm)	Max absorbed energy (J)	Absorbed energy (J)	Effective stroke (mm)
$\varnothing 12$ or equiv.	0.03	14.5	0.003	2.4	5.5
$\varnothing 16$ or equiv.	0.22	19.2	0.007	2.4	5.5
$\varnothing 20$ or equiv.	0.59	22.2	0.010	5.7	7
$\varnothing 25$ or equiv.	1.40	20.9	0.015	10	9
$\varnothing 32$ or equiv.	2.57	23.5	0.030	18	13
$\varnothing 40$ or equiv.	4.27	23.9	0.050	50	16.5
$\varnothing 50$ or equiv.	9.13	24.9	0.072	86	21
$\varnothing 63$ or equiv.	17.4	29.6	0.138	86	21
$\varnothing 80$ or equiv.	40	45.8	0.393	143	25
$\varnothing 100$ or equiv.	67	45.8	0.622	143	25

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
$\varnothing 12$ equiv.	200/300 400/500 600/700 800/900 1000	5000	5
$\varnothing 16$ equiv.			
$\varnothing 20$ equiv.			
$\varnothing 25$ equiv.			
$\varnothing 32$ equiv.			
$\varnothing 40$ equiv.			
$\varnothing 50$ equiv.			
$\varnothing 63$ equiv.			
$\varnothing 80$ equiv.			
$\varnothing 100$ equiv.			

* The custom stroke is available in 1 mm increments.

Number of installed M-switches and min. stroke (mm)

Switch quantity	1		2		3		4		5		6	
Switch model No.	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H
Bore size (mm)												
$\varnothing 12$ or equiv.	10	10	30	70	60	120	90	170	120	220	150	270
$\varnothing 16$ or equiv.	10	10	30	70	60	120	90	170	120	220	150	270
$\varnothing 20$ or equiv.	10	10	30	70	60	120	90	170	120	220	150	270
$\varnothing 25$ or equiv.	10	10	30	70	60	120	90	170	120	220	150	270
$\varnothing 32$ or equiv.	10	10	30	45	60	90	90	135	120	180	150	225
$\varnothing 40$ or equiv.	10	10	30	45	60	90	90	135	120	180	150	225
$\varnothing 50$ or equiv.	15	15	30	45	60	90	90	135	120	180	150	225
$\varnothing 63$ or equiv.	15	15	30	45	60	90	90	135	120	180	150	225
$\varnothing 80$ or equiv.	25		50		100		150		200		250	
$\varnothing 100$ or equiv.	25		50		100		150		200		250	

Number of installed T-switches and min. stroke (mm)

Switch quantity	1		2		3		4		5		6	
Switch model No.	T*V	T*H	T*V	T*H	T*V	T*H	T*V	T*H	T*V	T*H	T*V	T*H
Bore size (mm)												
$\varnothing 12$ or equiv.	5	5	45	70	85	120	125	170	165	220	205	270
$\varnothing 16$ or equiv.	5	5	45	70	85	120	125	170	165	220	205	270
$\varnothing 20$ or equiv.	5	5	45	70	85	120	125	170	165	220	205	270
$\varnothing 25$ or equiv.	10	10	45	70	85	120	125	170	165	220	205	270
$\varnothing 32$ or equiv.	10	10	45	50	85	100	125	150	165	200	205	250
$\varnothing 40$ or equiv.	10	10	45	50	85	100	125	150	165	200	205	250
$\varnothing 50$ or equiv.	10	10	45	50	85	100	125	150	165	200	205	250
$\varnothing 63$ or equiv.	10	10	45	50	85	100	125	150	165	200	205	250
$\varnothing 80$ or equiv.	15	15	45	50	85	100	125	150	165	200	205	250
$\varnothing 100$ or equiv.	15	15	45	50	85	100	125	150	165	200	205	250

Be sure to read the Safety Precautions for **Position locking** on pages 1639 and 1642 to 1644 before use.

Switch specifications (M-switch)

● 1-color/2-color LED

Item	2-wire proximity		3-wire proximity		
	M2V,M2H	M2WV (2-color LED)	M3H/M3V	M3PH/M3PV (made to order)	M3WV
Applications	Dedicated for programmable controller		For programmable controller, relay, IC circuit, compact solenoid valve		
Output method	-		NPN output	PNP output	NPN output
Power supply voltage	-		4.5 to 28 VDC		10 to 28 VDC
Load voltage	10 to 30 VDC		30 VDC or less		
Load current	5 to 30 mA		100 mA or less	100 mA or less	100 mA or less
Indicator	LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)
Leakage current	1 mA or less		10 μA or less	0.05 mA or less	10 μA or less
Weight	g	1 m:22 3 m:57 5 m:93			
Item	2-wire reed				
	M0V,M0H		M5V,M5H		
Applications	For programmable controller, relay		For programmable controller, relay, IC circuit (without indicator lamp), serial connection		
Power supply voltage	-		-		
Load voltage	12/24 VDC	110 VAC	5/12/24 VDC		110 VAC or less
Load current	5 to 50 mA	7 to 20 mA	50 mA or less		20 mA or less
Indicator	LED (Lit when ON)		No indicator lamp		
Leakage current			0 mA		
Weight	g	1 m:22 3 m:57 5 m:93			

*1: Refer to Ending Page 1 for detailed switch specifications and dimensions.

Switch specifications (T-switch)

● 2-color LED

Item	2-wire proximity		3-wire proximity	
	T2YH/T2YV	T2WH/T2WV	T3YH/T3YV	T3WH/T3WV
Applications	Dedicated for programmable controller		For programmable controller, relay	
Output method	-		NPN output	NPN output
Power supply voltage	-		10 to 28 VDC	
Load voltage	10 to 30 VDC	24 VDC ±10%	30 VDC or less	
Load current	5 to 20 mA		50 mA or less	
Indicator	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)
Leakage current	1 mA or less		10 µA or less	
Weight	g 1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80

● For AC magnetic field

Item	2-wire proximity	
	T2YD,T2YDT (*4)	
Applications	Dedicated for programmable controller	
Indicator	Red/green LED (Lit when ON)	
Load voltage	24 VDC ±10%	
Load current	5 to 20 mA	
Internal voltage drop	6V or less	
Leakage current	1.0 mA or less	
Weight	g 1 m:61 3 m:166 5 m:272	

*1: Refer to Ending Page 1 for detailed switch specifications and dimensions.

*2: Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

*3: The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C.
(5 to 10 mA at 60°C)

*4: AC magnetic field proof switch (T2YD/T2YDT) cannot be used in DC magnetic field.

Cylinder weight

Unit: kg

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

Refer to the weight
in the switch
specifications.

SRL3-Q Series

How to order

No switch (built-in magnet for switch)

SRL3-Q-00-12-B-200-B

With switch (built-in magnet for switch)

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

A Mounting
*1, *2

B Bore size

C Port thread

D Cushion

E Stroke

F Switch model No.

*4

G Switch quantity

H Option

*5, *6

*7, *8

*9, *10

! Precautions for model No. selection

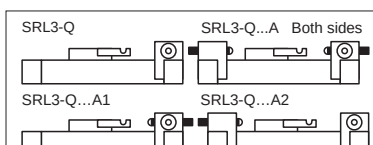
*1 : Mounting bracket will be shipped assembled with the product.

*2 : For 12, 16, 20, 25 and 32 bore sizes with option code "R" or "T", the mounting will be "00" or "LB1". (Piping with "LB" is not possible for option codes "R" and "T".)

*3 : Refer to page 1604 for the min. stroke with switch.

*4 : Switches other than (F) Switch model No. are also available. (Made to order) Refer to Ending Page 1 for details.

*5 : The full stroke adjusting bracket on R side is provided as standard for the position locking. Therefore, if "A1" is selected, a shock absorber only is added to R side. In the case of "A", R side is position locking and full stroke adjustable with shock absorber, and L side is full stroke adjustable with shock absorber. (Figure below)



6 : "" of L* and R* indicates the number of sets, which more than one set are necessary, specify "L2" (for LB) or "N2" (for LB1).
2 pcs./set

*7 : For the port and cushion needle position codes, refer to dimensions on pages 1582 to 1587.

*8 : In the case of the standard with ø12 to ø25, remove the cover, attach a flat nut and install the full stroke adjusting bracket. A flat nut is attached to option "A3" to enable retrofitting the full stroke adjusting bracket without removing the cover.

*9 : In "H", the thread size for ø12 and ø16 will be "M4" and that for ø20 will be "M5".

*10 : Check the option combinations in "Option selection table" on the next page.

*11 : Copper and PTFE free as standard. (except for type with shock absorber)

[Example of model No.]

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

Model: Rodless cylinder position locking

A Mounting : Basic

B Bore size : ø12 mm

C Port thread : M5

D Cushion : Both sides cushioned

E Stroke : 200 mm

F Switch model No. : Reed M0H switch, lead wire 1 m

G Switch quantity : 1 on R side

H Option : Port position F, cushion needle position B

Code	Description										
A Mounting											
00	Basic										
LB	Axial foot										
LB1	Axial foot (ø12 to ø32 only)										
B Bore size (mm)											
12	ø12										
16	ø16										
20	ø20										
25	ø25										
32	ø32										
40	ø40										
50	ø50										
63	ø63										
80	ø80										
100	ø100										
C Port thread											
Blank	Rc thread (M5 for ø12 and ø16)										
N	NPT thread (ø20 or more) (made-to-order product)										
G	G thread (ø20 or more) (made-to-order product)										
D Cushion											
B	Both sides cushioned										
R	R side cushioned										
L	L side cushioned										
N	Without cushion										
E Stroke (mm)											
Bore size		Stroke *3	Custom stroke								
ø12 to ø100		5 to 5000	In 1 mm increments								
F Switch model No.											
Axial lead wire	Radial lead wire	Contact	Voltage	Indicator	Lead wire						
			AC	DC							
M0H*	M0V*	Reed	●	●	1-color LED	2-wire					
M5H*	M5V*		●	●	No indicator lamp						
M2H*	M2V*		●	●	1-color LED						
-	M2WV*	Proximity	●	●	2-color LED	2-wire					
M3H*	M3V*		●	●	1-color LED	2-wire					
-	M3WV*		●	●	2-color LED	3-wire					
M3PH*	M3PV*		●	●	1-color LED (custom)	3-wire					
T2WH*	T2WV*		●	●	2-color LED	2-wire					
T2YH*	T2YV*		●	●							
T3WH*	T3WV*		●	●		2-color LED	3-wire				
T3YH*	T3YV*		●	●							
T2YD*	-		●	●	2-color LED for AC magnetic field	2-wire					
T2YDT*	-		●	●							
* Lead wire length											
Blank	1 m (standard)										
3	3 m (option)										
5	5 m (option)										
G Switch quantity											
R	1 on R side										
L	1 on L side										
D	2										
T	3										
4	4 (when there are more than 4 switches, indicate switch quantity.)										
H Option											
Bore size (ø)		12	16	20	25	32	40	50	63	80	100
A	Both-sides full stroke adjustable, shock absorber		●	●	●	●	●	●	●	●	●
A1	R side full stroke adjustable, shock absorber		●	●	●	●	●	●	●	●	●
A2	L side full stroke adjustable, shock absorber		●	●	●	●	●	●	●	●	●
A3	Full stroke adjustable, adjusting bracket to be added		●	●	●	●					
Y	Floating fitting		●	●	●	●		●	●	●	●
Y1	Thin floating fitting		●	●	●	●					
L*	Intermediate support bracket (for 00, LB)		●	●	●	●	●	●	●	●	●
N*	Intermediate support bracket (for LB1)		●	●	●	●	●				
H	Larger thread for table installation		●	●	●						
U	Height adjustment plate		●	●	●	●	●	●	●	●	●
Blank	F (Standard)	F (Standard)	●	●	●	●	●	●	●	●	●
R	R (Common port)	F	●	●	●	●	●	●	●	●	●
B	F	B	●	●	●	●	●	●	●	●	●
T	R (Common port)	B	●	●	●		●	●	●	●	●
D	D	D				●				●	●
S	D	D					●	●	●	●	●
X	F (Common port)	F								●	●

Option selection table

● : Available ■ : Not available

	Option	Option															
		Both side full stroke adjustable, with shock absorber	R side full stroke adjustable, with shock absorber	L side full stroke adjustable, with shock absorber	Full stroke adjustable with adjusting bracket to be added later	Floating fitting	Thin floating fitting	Intermediate support bracket (for 00, LB)	Intermediate support bracket (for LB1)	Larger thread for table installation	Height adjustment plate	Port position F, cushion needle position F (standard)	Port position R, cushion needle position F (common port)	Port position F, cushion needle position B	Port position R, cushion needle position B (common port)	Port position D, cushion needle position F	Port position D, cushion needle position D
Code		A	A1	A2	A3	Y	Y1	L*	N*	H	U	Blank	R	B	T	D	S
Option	A					●	●	●	●	●	●	●	●	●	●	●	●
	A1					●	●	●	●	●	●	●	●	●	●	●	●
	A2					●	●	●	●	●	●	●	●	●	●	●	●
	A3					●	●	●	●	●	●	●	●	●	●	●	●
	Y						●	●	●	●	●	●	●	●	●	●	●
	Y1							●	●	●	●	●	●	●	●	●	●
	L*								●	●	●	●	●	●	●	●	●
	N*									●	●	●	●	●	●	●	●
	H										●	●	●	●	●	●	●
	U											●	●	●	●	●	●
	Blank												●	●	●	●	●
	R													●	●	●	●
	B														●	●	●
	T															●	●
	D																●
	S																
	X																

Specifications for rechargeable battery (Catalog No. CC-1226A)

- Design compatible with rechargeable battery manufacturing process

SRL3 - Q - - P4*

*1: Some combinations are not available depending on the bore size. Be sure to check the **H** Option in "How to order" on the previous page.

*2: LB1 with port position D is not possible. (ø25, ø32)

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa							
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7
ø12	Push/Pull	-	-	27.7	41.5	55.3	69.1	83.0	96.8
ø16	Push/Pull	-	-	43.2	64.8	86.4	1.08x10 ²	1.30x10 ²	1.51x10 ²
ø20	Push/Pull	-	-	62.9	94.4	1.26x10 ²	1.57x10 ²	1.89x10 ²	2.20x10 ²
ø25	Push/Pull	-	81.4	1.08x10 ²	1.63x10 ²	2.17x10 ²	2.71x10 ²	3.25x10 ²	3.80x10 ²
ø32	Push/Pull	-	1.22x10 ²	1.63x10 ²	2.44x10 ²	3.26x10 ²	4.07x10 ²	4.88x10 ²	5.70x10 ²
ø40	Push/Pull	-	1.90x10 ²	2.53x10 ²	3.80x10 ²	5.06x10 ²	6.33x10 ²	7.60x10 ²	8.86x10 ²
ø50	Push/Pull	-	2.98x10 ²	3.98x10 ²	5.96x10 ²	7.95x10 ²	9.94x10 ²	1.19x10 ³	1.39x10 ³
ø63	Push/Pull	3.14x10 ²	4.70x10 ²	6.27x10 ²	9.41x10 ²	1.25x10 ³	1.57x10 ³	1.88x10 ³	2.20x10 ³
ø80	Push/Pull	5.06x10 ²	7.60x10 ²	1.01x10 ³	1.52x10 ³	2.03x10 ³	2.53x10 ³	3.04x10 ³	3.54x10 ³
ø100	Push/Pull	7.91x10 ²	1.19x10 ³	1.58x10 ³	2.37x10 ³	3.16x10 ³	3.95x10 ³	4.74x10 ³	5.53x10 ³

How to order switch (For configurations, refer to pages 1624 to 1626)

● Switch body + mounting bracket set (*1)

SRL3 - M0H*

Switch model No.
(Item ⑤ on page 1606)

● Switch body only

SW - M0H*

Switch model No.
(Item ⑤ on page 1606)

* Lead wire length

Blank	1 m (standard)
3	3 m (option)
5	5 m (option)

* indicates lead wire length.

● Mounting bracket set (*2)

· M-switch

SRL3 - M

· T-switch

SRL3 - T

● Lead wire holder (*3)

SRL3 - MH

*1: "Switch body + mounting bracket set" does not include lead wire holders. Order lead wire holders separately if necessary.

*2: The mounting bracket is different between the M-switch and T-switch.

*3: The quantity of lead wire holders per set is 10.

● How to order discrete shock absorber

SRL3 - 40 - NCK

Bore size
(Item ⑥ on page 1606)

(One shock absorber, one shock absorber fixing hexagon nut)

(Note) The shock absorber fixing hexagon nut for SRL3-40 is a made-to-order product.

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 floating fitting set

SRL3 - 40 - Y

Bore size
(Item ⑥ on page 1606)

(Mount, mount base, pin, plain washer, pan head machine screw with spring washer)

● How to order discrete intermediate support bracket

For 00/LB

SRL3 - 40 - L (2/set)

Bore size
(Item ⑥ on page 1606)

For LB1

SRL3 - 32 - N (2/set)

Bore size
(Item ⑥ on page 1606)

● How to order full stroke adjusting bracket kit

SRL3 - 40 - A1 (1 set)

Bore size
(Item ⑥ on page 1606)

(For configurations, refer to "Full stroke adjusting bracket kit" on page 1625.)

● How to order repair parts

SRL3-Q - 40 K - 200

Bore size
(Item ⑥ on page 1606) Stroke
(Item ⑤ on page 1606)

● How to order mounting bracket

SRL3 - LB - 40

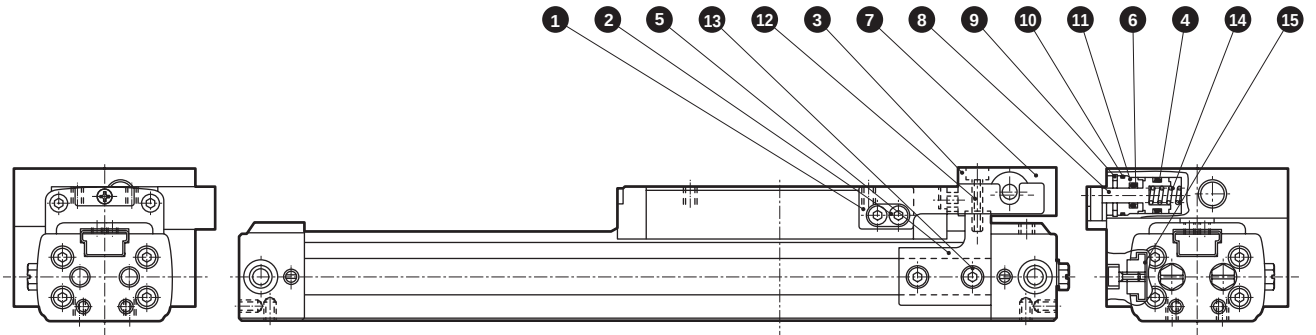
Mounting
(Item ① on page 1606) Bore size
(Item ⑥ on page 1606)
(Bracket x2, mounting bolt x4)

● How to order height adjustment plate set

SRL3 - 40 - U

Bore size
(Item ⑥ on page 1606)
(Plate, mounting bolt x4)

Internal structure and parts list (ø12 to ø25 equiv.)



Parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Lock lever	Alloy steel	Chrome plating	9	C-snap ring for hole	Steel	
2	Hexagon socket head cap screw	Alloy steel	Zinc chromate	10	Gasket	Nitrile rubber	
3	Stopper	Steel	Black finish	11	Rod cover	Aluminum alloy	Alumite
4	Piston packing	Nitrile rubber		12	Hexagon socket head cap screw	Alloy steel	Zinc chromate
5	Adaptor	Steel	Zinc chromate	13	Hexagon socket head cap screw	Alloy steel	Zinc chromate
6	Rod packing	Nitrile rubber		14	Spring	Steel	Electrodeposition
7	Position locking mechanism	Aluminum alloy	Alumite	15	Flat nut	Alloy steel	Black finish
8	Lock pin (stopper piston)	Alloy steel	Chrome plating				

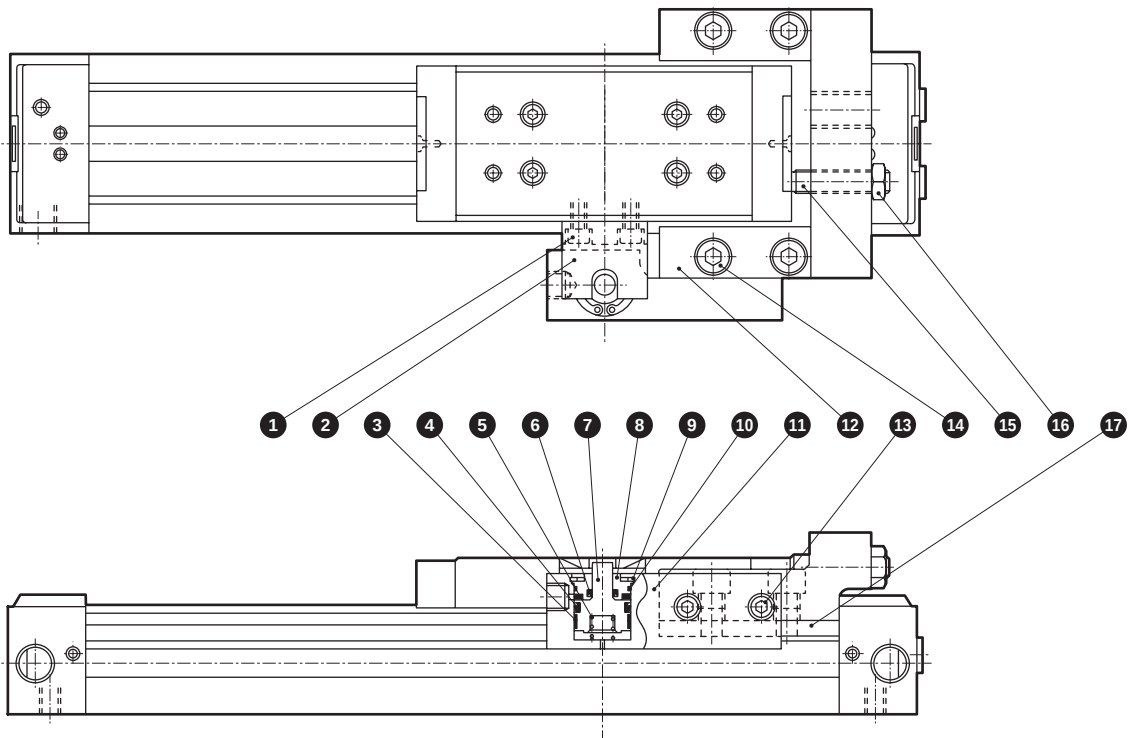
Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø12 or equiv.	SRL3-Q-12K-*	
ø16 or equiv.	SRL3-Q-16K-*	4 6 10 8 9 18
ø20 or equiv.	SRL3-Q-20K-*	21 22 26 27 28
ø25 or equiv.	SRL3-Q-25K-*	

*1 : Specify the kit No. when placing an order. Specify the stroke for *.

*2: Part numbers (8)(9)(18)(21)(22)(26)(27)(28) are the same as those on page 1579.

Internal structure and parts list (ø32 to ø63 equiv.)



Parts list

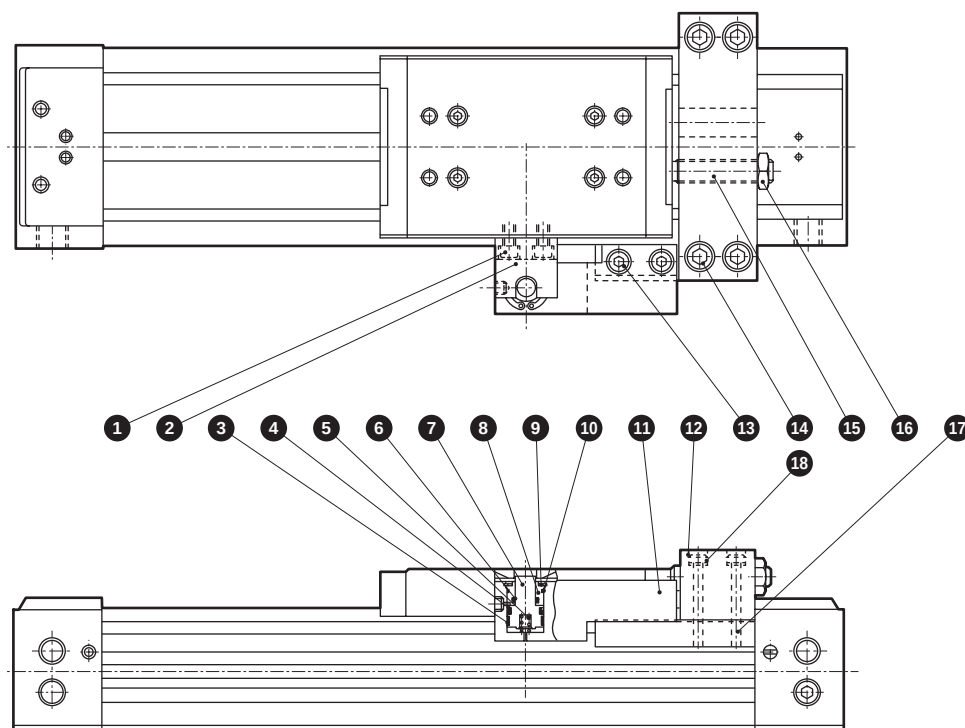
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Hexagon socket head cap screw	Alloy steel	Zinc chromate	10	Gasket	Nitrile rubber	
2	Lock lever	Alloy steel	Zinc chromate	11	Position locking mechanism	Aluminum alloy	Alumite
3	Wear ring	Acetal resin		12	Adaptor	Steel	Zinc chromate
4	Piston packing	Nitrile rubber		13	Hexagon socket head cap screw	Alloy steel	Zinc chromate
5	Spring	Steel	Electrodeposition	14	Hexagon socket head cap screw	Alloy steel	Zinc chromate
6	Rod packing	Nitrile rubber		15	Hexagon socket set screw	Alloy steel	Zinc chromate
7	Lock pin	Alloy steel	Chrome plating	16	Hexagon nut	Steel	Zinc chromate
8	Rod cover	Aluminum alloy	Alumite	17	Adaptor nut	Alloy steel	Zinc chromate
9	C-snap ring for hole	Steel					

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø32 or equiv.	SRL3-Q-32K-*	3 4 6
ø40 or equiv.	SRL3-Q-40K-*	10 8 9
ø50 or equiv.	SRL3-Q-50K-*	18 21 22
ø63 or equiv.	SRL3-Q-63K-*	26 27 28
		(32) *3

*1 : Specify the kit No. when placing an order. Specify the stroke for *.
*2 : Part numbers (8)(9)(18)(21)(22)(26)(27)(28)(32) are the same as those on pages 1579 and 1580.
*3 : (32) is only applicable to ø50 equiv./ø63 equiv.

Internal structure and parts list (ø80, ø100 equiv.)



Parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Hexagon socket head cap screw	Alloy steel	Zinc chromate	10	Gasket	Nitrile rubber	
2	Lock lever	Alloy steel	Zinc chromate	11	Position locking mechanism	Aluminum alloy	Alumite
3	Wear ring	Acetal resin		12	Adaptor	Steel	Zinc chromate
4	Piston packing	Nitrile rubber		13	Hexagon socket head cap screw	Alloy steel	Zinc chromate
5	Spring	Steel	Electrodeposition	14	Hexagon socket head cap screw	Alloy steel	Zinc chromate
6	Rod packing	Nitrile rubber		15	Hexagon socket set screw	Alloy steel	Zinc chromate
7	Lock pin	Alloy steel	Chrome plating	16	Hexagon nut	Steel	Zinc chromate
8	Rod cover	Aluminum alloy	Alumite	17	Adaptor nut	Alloy steel	Zinc chromate
9	C-snap ring for hole	Steel		18	Conical spring washer	Steel	

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø80 or equiv.	SRL3-Q-80K-*	3 4 6 10 8 9 18 21 22 26 27 28 29 32 33
ø100 or equiv.	SRL3-Q-100K-*	

*1 : Specify the kit No. when placing an order. Specify the stroke for *.

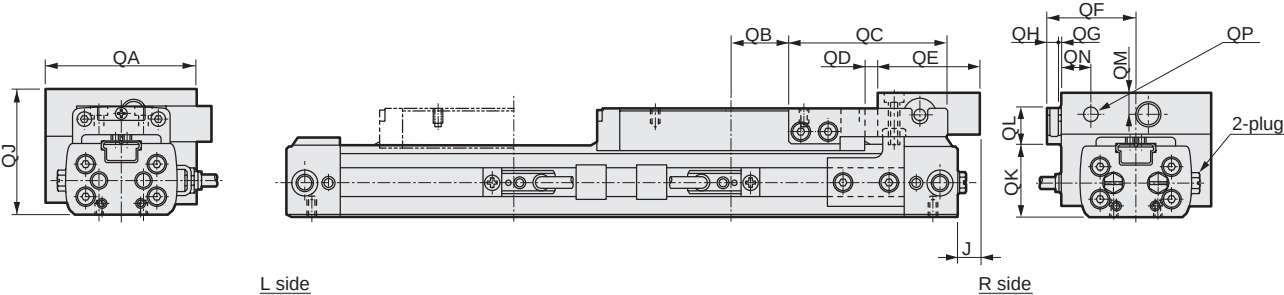
*2: Part numbers (8)(9)(18)(21)(22)(26)(27)(28)(29)(32)(33) are the same as those on page 1581.

SRL3-Q Series

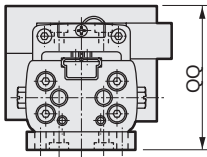
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

Dimensions (ø12 to ø25 equiv.)  *1: For dimensions other than those below, refer to pages 1582 to 1585.
*2: For dimensions with options and dimensions of accessories, refer to pages 1588, 1589, 1622 and 1623.

● SRL3-Q



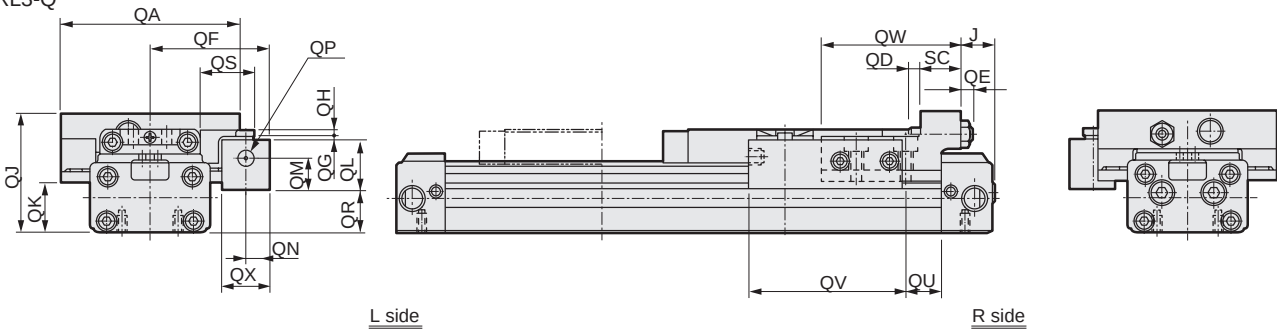
● With foot bracket SRL3-Q-LB1-**-***



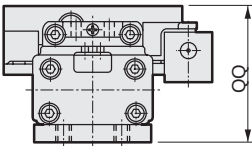
Code	J	QA	QB	QC	QD	QE	QF	QG	QH	QJ	QK	QL	QM	QN	QP	QQ
Bore size (mm)																
ø12 or equiv.	0	45	19	46	2.5	25	27.5	1	4	40	21.5	12.5	7	9.5	M5	46
ø16 or equiv.	0	49	19	52	2.5	28	29.5	1	4	42	25	12	7	9.5	M5	48
ø20 or equiv.	-1	57	24	53	2.5	31	33.5	1	4	48	29	13	8	10.5	Rc1/8	56
ø25 or equiv.	5.5	77	26	67.5	2.5	37	43.5	1	4	62.5	36	17	8	10.5	Rc1/8	72.5

Dimensions (ø32 to ø63 equiv.)  *1: For dimensions other than those below, refer to pages 1584 and 1585.
*2: For dimensions with options and dimensions of accessories, refer to pages 1588, 1589, 1622 and 1623.

● SRL3-Q



● With foot bracket SRL3-Q-LB1-32-***



Code	J	QA	QD	QE	QF	QG	QH	QJ	QK	QL	QM	QN	QP	QQ	QR	QS	QU	QV	QW	QX	SC
Bore size (mm)																					
ø32 or equiv.	19.5	98	7	6	65	2	4	66.5	28	27.5	18	13	Rc1/8	88.5	23.5	29	21	84	76	26	22
ø40 or equiv.	11.5	112	7	11	72	2	4	78.5	34	27.5	18	13	Rc1/8	-	31.5	29	27	84	87	26	32
ø50 or equiv.	9.5	136	8	9	84	2	5	99	40	33	21.5	15	Rc1/8	-	42	36	12.5	100	102	30	38
ø63 or equiv.	20.5	158	8	14	95	2	5	112	50	33	21.5	15	Rc1/8	-	55	36	31.5	100	91	30	38

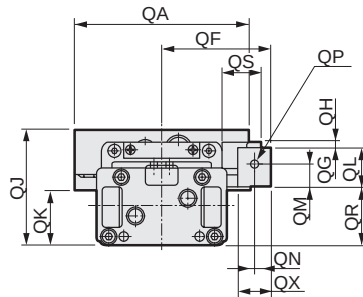
Dimensions (ø80, ø100 equiv.)



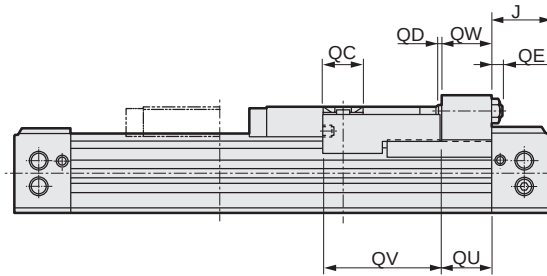
*1: For dimensions other than those below, refer to pages 1586 and 1587.

*2: For dimensions with options and dimensions of accessories, refer to pages 1588, 1589, 1622 and 1623.

● SRL3-Q



L side



R side

Code	J	QA	QC	QD	QE	QF	QG	QH	QJ	QK	QL	QM	QN	QP	QR	QS	QU	QV	QW	QX
Bore size (mm)																				
ø80 or equiv.	70	214	50	6	14	133	2	7	145	69	47.5	29	20	Rc1/8	73.5	48	62	143	60	40
ø100 or equiv.	80	250	50	6	14	145	2	7	164	88	47.5	29	20	Rc1/8	92.5	48	62	148	60	40

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/

COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/

MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

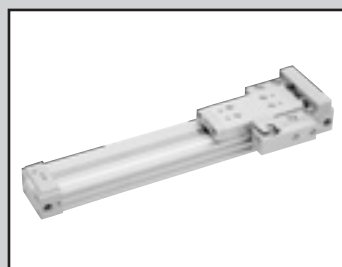
FJ

FK

Spd

Contr

Ending

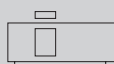


Rodless cylinder double acting/resin guide/position locking

SRL3-GQ Series

● Bore size: ø12, ø16, ø20, ø25, ø32
ø40, ø50, ø63, ø80, ø100

JIS symbol



Specifications

Item		SRL3-GQ									
Bore size	mm	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation		Double acting									
Working fluid		Compressed air									
Max. working pressure MPa		0.7 (≈100 psi, 7 bar)									
Min. working pressure MPa		0.25 (≈36 psi, 2.5 bar)			0.15 (≈22 psi, 1.5 bar)				0.1 (≈15 psi, 1 bar)		
Proof pressure MPa		1.05 (≈150 psi, 10.5 bar)									
Ambient temperature °C		5 (41°F) to 60 (140°F)									
Port size	Cylinder	M5		Rc1/8		Rc1/4		Rc3/8		Rc1/2	
	Position locking part	M5		Rc1/8							
Stroke tolerance mm		$^{+2.0}_0$ (to 1000), $^{+2.5}_0$ (to 3000), $^{+3.0}_0$ (to 5000)									
Working piston speed mm/s		50 to 2000 (standard piping) (*1)									
Cushion		Air cushion									
Lubrication		Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication. Once lubricated, the cylinder will need periodic lubrication.)									
Position locking mechanism		Attached to R side of cover									
Holding force N		Max. thrust x 0.7									

- *1: (1) When 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.
- (2) To reduce the speed, add an external shock absorber or deceleration circuit.
- (3) Apply grease regularly to the sliding part of the lock lever.

Allowable absorbed energy

Bore size (mm)	Cushioned		Without cushion	With shock absorber (initial set point)	
	Max absorbed energy (J)	Cushion stroke (mm)	Max absorbed energy (J)	Absorbed energy (J)	Effective stroke (mm)
ø12 or equiv.	0.03	14.5	0.003	2.4	5.5
ø16 or equiv.	0.22	19.2	0.007	2.4	5.5
ø20 or equiv.	0.59	22.2	0.010	5.7	7
ø25 or equiv.	1.40	20.9	0.015	10	9
ø32 or equiv.	2.57	23.5	0.030	18	13
ø40 or equiv.	4.27	23.9	0.050	50	16.5
ø50 or equiv.	9.13	24.9	0.072	86	21
ø63 or equiv.	17.4	29.6	0.138	86	21
ø80 or equiv.	40	45.8	0.393	143	25
ø100 or equiv.	67	45.8	0.622	143	25

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
ø12 equiv.	200/300 400/500 600/700 800/900 1000	5000	5
ø16 equiv.			
ø20 equiv.			
ø25 equiv.			
ø32 equiv.			
ø40 equiv.			
ø50 equiv.			
ø63 equiv.			
ø80 equiv.			
ø100 equiv.			

* The custom stroke is available in 1 mm increments.

Number of installed M-switches and min. stroke (mm)

Switch quantity	1		2		3		4		5		6	
Switch model No.	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H
Bore size (mm)												
ø12 or equiv.	10	10	30	70	60	120	90	170	120	220	150	270
ø16 or equiv.	10	10	30	70	60	120	90	170	120	220	150	270
ø20 or equiv.	10	10	30	70	60	120	90	170	120	220	150	270
ø25 or equiv.	10	10	30	70	60	120	90	170	120	220	150	270
ø32 or equiv.	10	10	30	45	60	90	90	135	120	180	150	225
ø40 or equiv.	10	10	30	45	60	90	90	135	120	180	150	225
ø50 or equiv.	15	15	30	45	60	90	90	135	120	180	150	225
ø63 or equiv.	15	15	30	45	60	90	90	135	120	180	150	225
ø80 or equiv.	25		50		100		150		200		250	
ø100 or equiv.	25		50		100		150		200		250	

Number of installed T-switches and min. stroke (mm)

Switch quantity	1		2		3		4		5		6	
Switch model No.	T*V	T*H	T*V	T*H	T*V	T*H	T*V	T*H	T*V	T*H	T*V	T*H
Bore size (mm)												
ø12 or equiv.	5	5	45	70	85	120	125	170	165	220	205	270
ø16 or equiv.	5	5	45	70	85	120	125	170	165	220	205	270
ø20 or equiv.	5	5	45	70	85	120	125	170	165	220	205	270
ø25 or equiv.	10	10	45	70	85	120	125	170	165	220	205	270
ø32 or equiv.	10	10	45	50	85	100	125	150	165	200	205	250
ø40 or equiv.	10	10	45	50	85	100	125	150	165	200	205	250
ø50 or equiv.	10	10	45	50	85	100	125	150	165	200	205	250
ø63 or equiv.	10	10	45	50	85	100	125	150	165	200	205	250
ø80 or equiv.	15	15	45	50	85	100	125	150	165	200	205	250
ø100 or equiv.	15	15	45	50	85	100	125	150	165	200	205	250

⚠ Be sure to read the Safety Precautions for **Position locking** on pages 1639 and 1642 to 1644 before use.

Switch specifications (M-switch)

● 1-color/2-color LED

Item	2-wire proximity		3-wire proximity		
	M2V,M2H	M2WV (2-color LED)	M3H/M3V	M3PH/M3PV (made to order)	M3WV
Applications	Dedicated for programmable controller		For programmable controller, relay, IC circuit, compact solenoid valve		
Output method	-		NPN output	PNP output	NPN output
Power supply voltage	-		4.5 to 28 VDC		10 to 28 VDC
Load voltage	10 to 30 VDC		30 VDC or less		
Load current	5 to 30 mA		100 mA or less	100 mA or less	100 mA or less
Indicator	LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)
Leakage current	1 mA or less		10 μA or less	0.05mA or less	10 μA or less
Weight	g 1 m:22 3 m:57 5 m:93				
Item	2-wire reed				
	M0V, M0H		M5V, M5H		
Applications	Programmable controller, relay		For programmable controller, relay, IC circuit (without indicator lamp), serial connection		
Power supply voltage	-		-		
Load voltage	12/24 VDC	110 VAC	5/12/24 VDC		110 VAC or less
Load current	5 to 50 mA	7 to 20 mA	50 mA or less		20 mA or less
Indicator	LED (Lit when ON)		No indicator lamp		
Leakage current	0 mA				
Weight	g 1 m:22 3 m:57 5 m:93				

*1: Refer to Ending Page 1 for detailed switch specifications and dimensions.

Switch specifications (T-switch)

● 2-color LED

Item	2-wire proximity		3-wire proximity	
	T2YH/T2YV	T2WH/T2WV	T3YH/T3YV	T3WH/T3WV
Applications	Dedicated for programmable controller		For programmable controller, relay	
Output method	-		NPN output	NPN output
Power supply voltage	-		10 to 28 VDC	
Load voltage	10 to 30 VDC	24 VDC ±10%	30 VDC or less	
Load current	5 to 20 mA (*1)		50 mA or less	
Indicator	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)
Leakage current	1 mA or less		10 µA or less	
Weight	g 1 m:33 3 m:87 5 m:142		1 m:33 3 m:87 5 m:142	
	1 m:18 3 m:49 5 m:80		1 m:18 3 m:49 5 m:80	

● For AC magnetic field

Item	2-wire proximity
	T2YD,T2YDT (*4)
Applications	Dedicated for programmable controller
Indicator	Red/green LED (Lit when ON)
Load voltage	24 VDC ±10%
Load current	5 to 20 mA
Internal voltage drop	6V or less
Leakage current	1.0 mA or less
Weight	g 1 m:61 3 m:166 5 m:272

*1:Refer to Ending Page 1 for detailed switch specifications and dimensions.

*2:Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

*3 : The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

*4 : AC magnetic field proof switch (T2YD/T2YDT) cannot be used in DC magnetic field.

Cylinder weight

Unit: kg

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

SRL3-GQ Series

How to order

No switch (built-in magnet for switch)

SRL3-GQ-00-12B-200-B

With switch (built-in magnet for switch)

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

A Mounting
*1, *2

B Bore size

C Port thread

D Cushion

E Stroke

F Switch model No.

Precautions for model No. selection

*1 : Mounting bracket will be shipped assembled with the product.

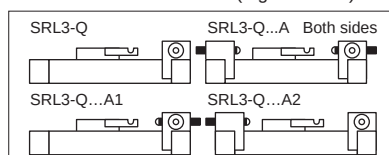
*2 : For 12, 16, 20, 25 and 32 bore sizes with option code "R" or "T", the mounting will be "00" or "LB1".

(Piping with "LB" is not possible for option codes "R" and "T".)

*3 : Refer to page 1614 for the min. stroke with switch.

*4 : Switches other than **F** Switch model No. are also available. (Made to order) Refer to Ending Page 1 for details.

*5 : The full stroke adjusting bracket on R side is provided as standard for the position locking. Therefore, if "A1" is selected, a shock absorber only is added to R side. In the case of "A", R side is position locking and full stroke adjustable with shock absorber, and L side is full stroke adjustable with shock absorber. (Figure below)



6 : "" of L* and N* indicates the number of sets. When more than one set are necessary, specify "L2" (for LB) or "N2" (for LB1). 2 pcs./set

*7 : For the port and cushion needle position codes, refer to dimensions on pages 1598 to 1603.

*8 : In the case of the standard with ø12 to ø25, remove the cover, attach a flat nut and install the full stroke adjusting bracket. A flat nut is attached to option "A3" to enable retrofitting the full stroke adjusting bracket without removing the cover.

*9 : In "H", the thread size for ø12 and ø16 will be "M4" and that for ø20 will be "M5".

*10 : Check the option combinations in "Option selection table" on the next page.

*11 : Copper and PTFE free as standard. (except for type with shock absorber)

[Example of model No.]

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

Model: Rodless cylinder Resin guide/position locking

A Mounting : Basic

B Bore size : ø12 mm

C Port thread : M5

D Cushion : Both sides cushioned

E Stroke : 200 mm

F Switch model No. : Reed M0H switch, lead wire 1 m

G Switch quantity : 1 on R side

H Option : Port position F, cushion needle position B

Code	Description										
A Mounting											
00	Basic										
LB	Axial foot										
LB1	Axial foot (ø12 to ø32 only)										
B Bore size (mm)											
12	ø12										
16	ø16										
20	ø20										
25	ø25										
32	ø32										
40	ø40										
50	ø50										
63	ø63										
80	ø80										
100	ø100										
C Port thread											
Blank	Rc thread (M5 for ø12 and ø16)										
N	NPT thread (ø20 or more) (made-to-order product)										
G	G thread (ø20 or more) (made-to-order product)										
D Cushion											
B	Both sides cushioned										
R	R side cushioned										
L	L side cushioned										
N	Without cushion										
E Stroke (mm)											
Bore size		Stroke *3	Custom stroke								
ø12 to ø100		5 to 5000	In 1 mm increments								
F Switch model No.											
Axial lead wire	Radial lead wire	Reed Contact	Voltage	Indicator	Lead wire						
M0H*	M0V*	Reed	AC	1-color LED	2-wire						
M5H*	M5V*		DC	No indicator lamp							
M2H*	M2V*	Proximity		1-color LED	2-wire						
-	M2WV*			2-color LED							
M3H*	M3V*			1-color LED	3-wire						
-	M3WV*			2-color LED							
M3PH*	M3PV*			1-color LED (custom)	3-wire						
T2WH*	T2WV*					2-wire					
T2YH*	T2YV*				3-wire						
T3WH*	T3WV*					2-wire					
T3YH*	T3YV*				2-wire						
T2YD*	-					2-wire					
T2YDT*	-			AC magnetic field							
* Lead wire length											
Blank	1 m (standard)										
3	3 m (option)										
5	5 m (option)										
G Switch quantity											
R	1 on R side										
L	1 on L side										
D	2										
T	3										
4	4 (when there are more than 4 switches, indicate switch quantity.)										
H Option											
Bore size (ø)		12	16	20	25	32	40	50	63	80	100
A	Both-sides full stroke adjustable, shock absorber		●	●	●	●	●	●	●	●	●
A1	R side full stroke adjustable, shock absorber		●	●	●	●	●	●	●	●	●
A2	L side full stroke, adjustable, shock absorber		●	●	●	●	●	●	●	●	●
A3	Full stroke adjustable, adjusting bracket to be added		●	●	●	●					
L*	Intermediate support bracket (for 00, LB)		●	●	●	●	●	●	●	●	●
N*	Intermediate support bracket (for LB1)		●	●	●	●					
H	Larger thread for table installation		●	●	●						
U	Height adjustment plate		●	●	●	●	●	●	●	●	●
Blank	Port position	F (Standard)	●	●	●	●	●	●	●	●	●
R		R (Common port)	●	●	●	●	●	●	●	●	●
B		F	●	●	●	●	●	●	●	●	●
T		R (Common port)	●	●	●	●	●	●	●	●	●
D		D	●	●	●	●	●	●	●	●	●
S		D	●	●	●	●	●	●	●	●	●
X	F (Common port)	F	●	●	●	●	●	●	●	●	●

G Switch quantity

H Option
*5, *6
*7, *8
*9

Option selection table

Available

Not available

		Option															
	Code	Both side full stroke adjustable, with shock absorber R side full stroke adjustable, with shock absorber L side full stroke adjustable, with shock absorber Full stroke adjustable with adjusting bracket to be added later Intermediate support bracket (for 00, LB) Intermediate support bracket (for LB1) Larger thread for table installation Height adjustment plate Port position F, cushion needle position F (standard) Port position R, cushion needle position F (common port) Port position F, cushion needle position B Port position R, cushion needle position B (common port) Port position D, cushion needle position F Port position D, cushion needle position D Port position F, cushion needle position F (common port)															
Option	A																
	A1																
	A2																
	A3																
	L*																
	N*																
	H																
	U																
	Blank																
	R																
	B																
	T																
	D																
	S																
	X																

*1: Some combinations are not available depending on the bore size. Be sure to check the **H** Option in "How to order" on the previous page.
 *2: LB1 with port position D is not possible. (ø25, ø32)

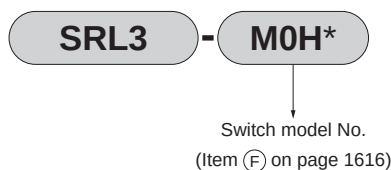
Theoretical thrust table

(Unit: N)

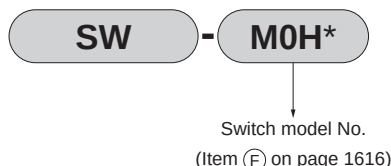
Bore size (mm)	Operating direction	Working pressure MPa								
		0.1	0.15	0.2	0.25	0.3	0.4	0.5	0.6	0.7
ø12	Push/Pull	—	—	—	34.6	41.5	55.3	69.1	83.0	96.8
ø16	Push/Pull	—	—	—	54.0	64.8	86.4	1.08x10 ²	1.30x10 ²	1.51x10 ²
ø20	Push/Pull	—	—	—	78.6	94.4	1.26x10 ²	1.57x10 ²	1.89x10 ²	2.20x10 ²
ø25	Push/Pull	—	81.4	1.08x10 ²	1.35x10 ²	1.63x10 ²	2.17x10 ²	2.71x10 ²	3.25x10 ²	3.80x10 ²
ø32	Push/Pull	—	1.22x10 ²	1.63x10 ²	2.04x10 ²	2.44x10 ²	3.26x10 ²	4.07x10 ²	4.88x10 ²	5.70x10 ²
ø40	Push/Pull	—	1.90x10 ²	2.53x10 ²	3.16x10 ²	3.80x10 ²	5.06x10 ²	6.33x10 ²	7.60x10 ²	8.86x10 ²
ø50	Push/Pull	—	2.98x10 ²	3.98x10 ²	4.94x10 ²	5.96x10 ²	7.95x10 ²	9.94x10 ²	1.19x10 ³	1.39x10 ³
ø63	Push/Pull	3.14x10 ²	4.70x10 ²	6.27x10 ²	7.84x10 ²	9.41x10 ²	1.25x10 ³	1.57x10 ³	1.88x10 ³	2.20x10 ³
ø80	Push/Pull	5.06x10 ²	7.60x10 ²	1.01x10 ³	1.26x10 ³	1.52x10 ³	2.03x10 ³	2.53x10 ³	3.04x10 ³	3.54x10 ³
ø100	Push/Pull	7.91x10 ²	1.19x10 ³	1.58x10 ³	1.98x10 ³	2.37x10 ³	3.16x10 ³	3.95x10 ³	4.74x10 ³	5.53x10 ³

How to order switch (For configurations, refer to pages 1624 to 1626)

● Switch body + mounting bracket set (*1)



● Switch body only



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

* indicates lead wire length.

● Mounting bracket set (*2)

· M-switch



· T-switch



Note: The mounting bracket is different between the M-switch and T-switch.

● Lead wire holder (*3)

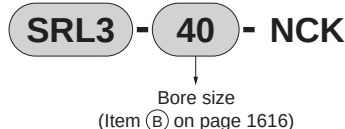


*1: "Switch body + mounting bracket set" does not include lead wire holders. Order lead wire holders separately if necessary.

*2: The mounting bracket is different between the M-switch and T-switch.

*3: The quantity of lead wire holders per set is 10.

● How to order discrete shock absorber



(One shock absorber, one shock absorber fixing hexagon nut)

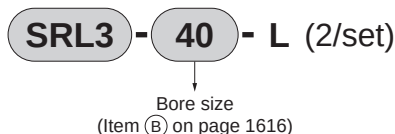
(Note) The shock absorber fixing hexagon nut for SRL3-40 is a made-to-order product.

Applicable shock absorber model No.

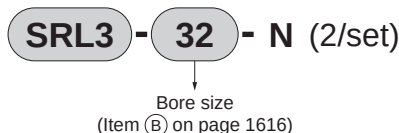
Model	Shock absorber model No.
SRL3-12	NCK-00-0.3-C
SRL3-16	NCK-00-0.3-C
SRL3-20	NCK-00-0.7-C
SRL3-25	NCK-00-1.2
SRL3-32	NCK-00-2.6
SRL3-40	NCK-00-7
SRL3-50	NCK-00-12
SRL3-63	NCK-00-12
SRL3-80	NCK-00-20
SRL3-100	NCK-00-20

● How to order discrete intermediate support bracket

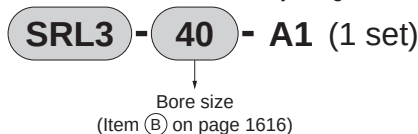
For 00/LB



For LB1

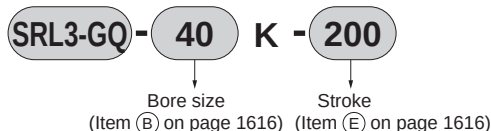


● How to order full stroke adjusting bracket kit

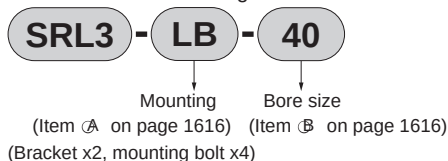


(For configurations, refer to "Full stroke adjusting bracket kit" on page 1625.)

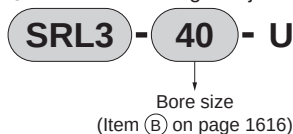
● How to order repair parts



● How to order mounting bracket



● How to order height adjustment plate set



(Plate, mounting bolt x4)

Internal structure and parts list

For the internal structure and parts list, refer to:

SRL3 Series Pages 1579 to 1581

SRL3-G Series Pages 1595 to 1597

SRL3-Q Series Pages 1609 to 1611.

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.		
ø12 or equiv.	SRL3-GQ-12K-*	8 9 18 21 22 26	4 6 10	1 5
ø16 or equiv.	SRL3-GQ-16K-*	27		
ø20 or equiv.	SRL3-GQ-20K-*	(The same as part numbers on page 1579.)	(The same as part numbers on page 1609.)	(The same as part numbers on page 1595.)
ø25 or equiv.	SRL3-GQ-25K-*			
ø32 or equiv.	SRL3-GQ-32K-*	8 9 18 21 22 26	3 4 6 10	1 5
ø40 or equiv.	SRL3-GQ-40K-*	27		
ø50 or equiv.	SRL3-GQ-50K-*	(The same as part numbers on page 1579.)	(The same as part numbers on page 1610.)	(The same as part numbers on page 1595.)
ø63 or equiv.	SRL3-GQ-63K-*	8 9 18 21 22 26	3 4 6 10	1 5
ø80 or equiv.	SRL3-GQ-80K-*	27 32		
ø100 or equiv.	SRL3-GQ-100K-*	(The same as part numbers on page 1580.)	(The same as part numbers on page 1610.)	(The same as part numbers on page 1596.)
		8 9 18 21 22 26	3 4 6 10	1
		27 28 29 32 33		
		(The same as part numbers on page 1581.)	(The same as part numbers on page 1611.)	(The same as part numbers on page 1597.)

Dimensions

SRL3 Series Pages 1582 to 1587

SRL3-G Series Pages 1598 to 1603

SRL3-Q Series Pages 1612 and 1613.

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/

COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/

MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

SRL3-Q Series

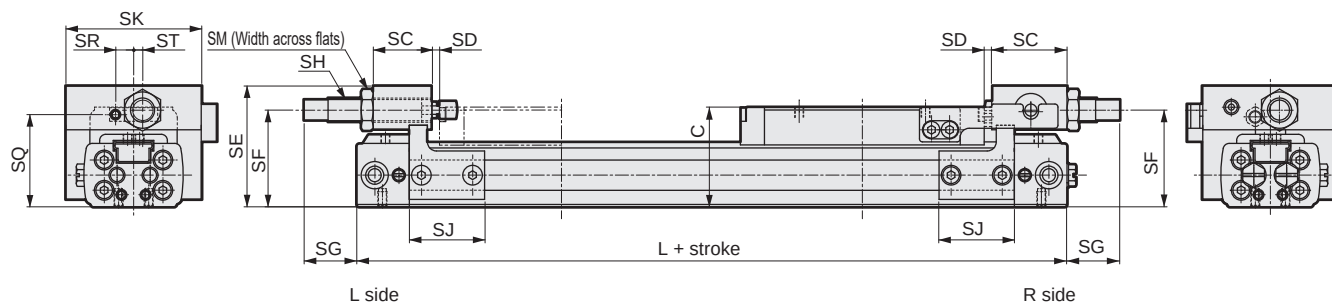
SRL3-Q Series common dimensions

● Full stroke adjustable with shock absorber

Note: In the case of option A or A1, adjust the stroke on the position locking side by adjusting the stroke of the entire unit. Do not perform fine adjustment using the shock absorber and hexagon socket set screw.

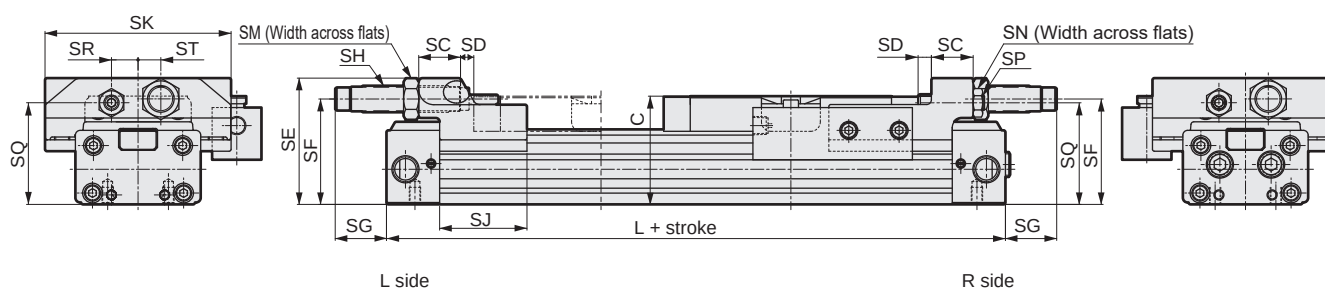
Fine adjustment with the shock absorber and hexagon socket set screw will cause the lock lever and the position locking mechanism to be misaligned, which prevents secure locking.

·ø12 to ø25 or equiv.



Code	SC	SD	SE	SF	SG			SH		SJ	SK	SM	SN	SP	SQ	SR	ST	C	L
Bore size (mm)					At max.	At min.	Adj. range	Thread size	Max. absorbed energy (J)										
ø12 or equiv.	19.5	2.5	40	32	17.5	7.5	10	M8x0.75	3	25	45	12	5.5	M3	30.5	6	3	33	136
ø16 or equiv.	18	4	42	35	14.5	4.5	10	M8x0.75	3	25	49	12	5.5	M3	34	6	4	37	149
ø20 or equiv.	22.5	3.5	48	40	14.5	4.5	10	M10x1.0	7	39	57	14	7	M4	38	8	5	42	169
ø25 or equiv.	20	2.5	62.5	51.5	14.5	4.5	10	M12x1.0	12	50	77	17	10	M6	50	12	10	53	190

·ø32 to ø63 or equiv.



Code	SC	SD	SE	SF	SG			SH		SJ	SK	SM	SN	SP	SQ	SR	ST	C	L
Bore size (mm)					At max.	At min.	Adj. range	Thread size	Max. absorbed energy (J)										
ø32 or equiv.	22	7	66.5	55.5	27	17	10	M14x1.5	26	46	98	19	13	M8	53.5	14	12	57	226
ø40 or equiv.	32	7	78.5	65.5	34	24	10	M20x1.5	70	51	112	24	17	M10	63.5	17	12	67	244
ø50 or equiv.	38	8	99	80	55	45	10	M25x1.5	120	53	136	32	19	M12	77.5	22	17	82	258
ø63 or equiv.	38	8	112	93.5	44	34	10	M25x1.5	120	64	158	32	24	M16	89	25	20	95	296

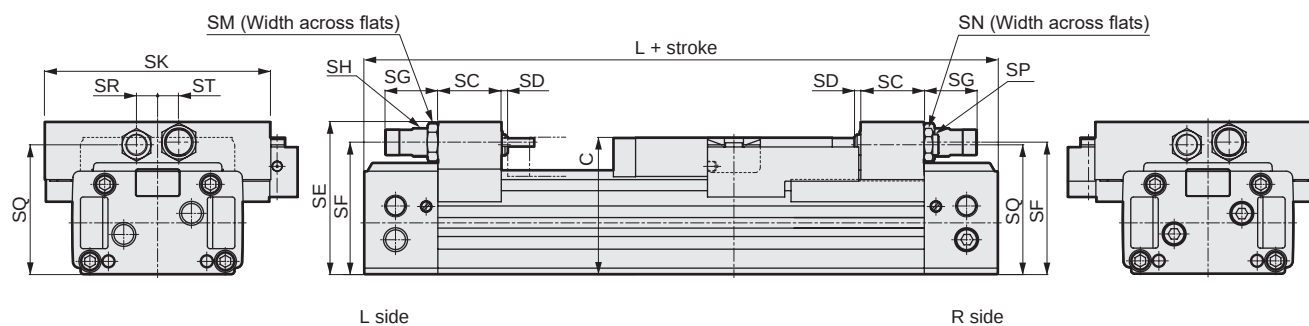
SRL3-Q Series common dimensions

● Full stroke adjustable with shock absorber

Note: In the case of option A or A1, adjust the stroke on the position locking side by adjusting the stroke of the entire unit. Do not perform fine adjustment using the shock absorber and hexagon socket set screw.

Fine adjustment with the shock absorber and hexagon socket set screw will cause the lock lever and the position locking mechanism to be misaligned, which prevents secure locking.

·ø80 to ø100 or equiv.



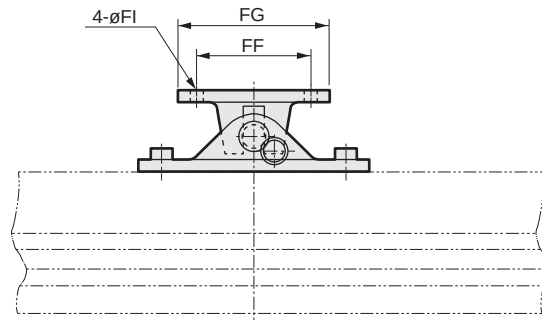
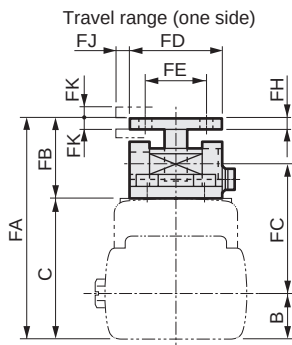
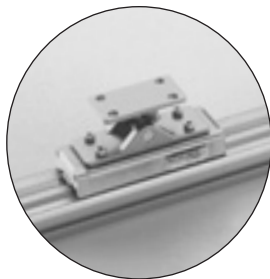
Code	SC	SD	SE	SF	SG			SH		SK	SM	SN	SP	SQ	SR	ST	C	L
Bore size (mm)					At max.	At min.	Adj. range	Thread size	Max. absorbed energy (J)									
ø80 or equiv.	60	6	145	125.5	50	40	10	M27x1.5	200	214	32	27	M20	123	20	20	130	500
ø100 or equiv.	60	6	164	144.5	50	40	10	M27x1.5	200	250	32	27	M20	142	20	20	150	530

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/IN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

SRL3 Series common option dimensions

● Floating fitting (Y)

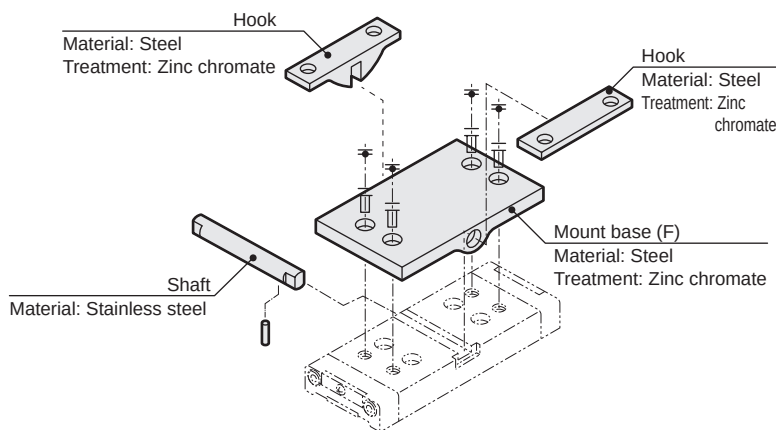
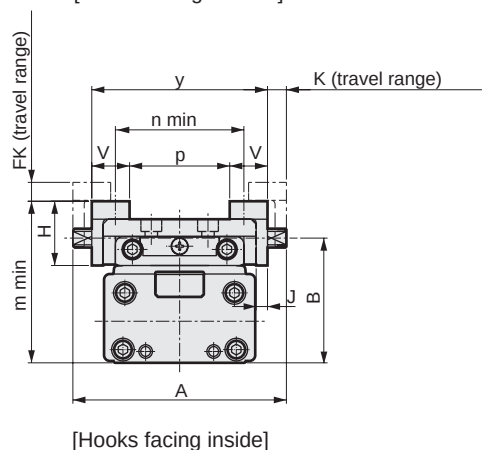
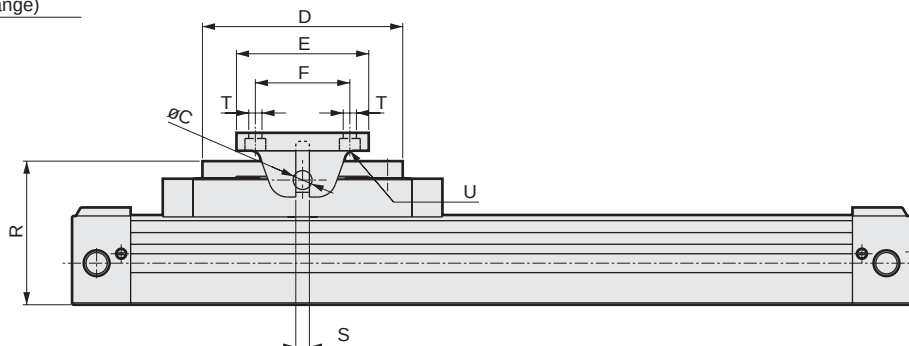
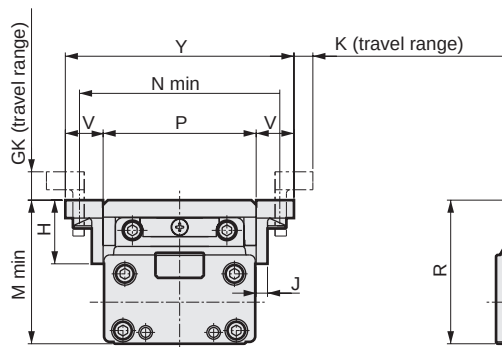
Material: Steel
Zinc chromate treatment



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

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

● Thin floating fitting (Y1) ø12 to ø63



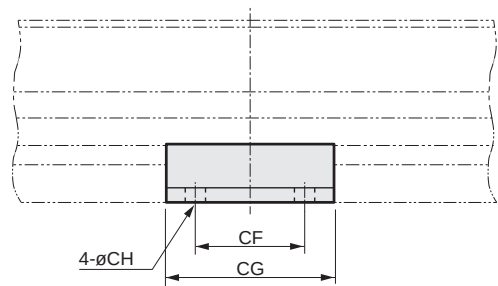
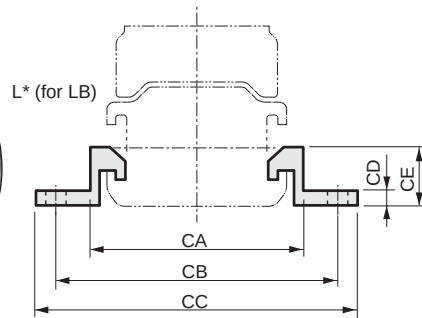
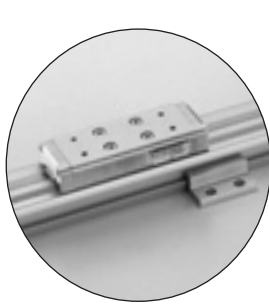
Code	A	B	C	D	E	F	H	J	K	FK	GK	M min	m min	N min	n min	P	p	R	S	V	Y	y	T	U
Bore size																								
ø12	52	32	5	60	40	30	20	3	6	6	9	38	43	47.5	26.5	34	16	38	3.5	12	58	40	ø3.4	ø6.5 spot face depth 3.3
ø16	56	36.5	5	60	40	30	20	3	6	6	9	42	47	51.5	30.5	38	20	42	3.5	12	62	44	ø3.4	ø6.5 spot face depth 3.3
ø20	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 spot face depth 4.4
ø25	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 spot face depth 5.4
ø32	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 spot face depth 6.5
ø40	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 spot face depth 6.5
ø50	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 spot face depth 8.6
ø63	155	94	14	136	90	70	43	8	10	10	15	108	120	151	103	119	85	107	10	25	169	135	ø9	ø14 spot face depth 8.6

SRL3 Series common option dimensions



- Intermediate support bracket (L*N*)
(auxiliary bracket for preventing sag)

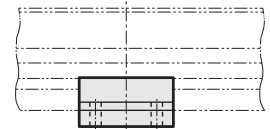
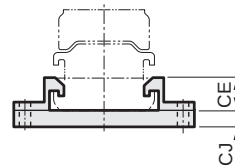
Material: Aluminum alloy
Alumite treatment



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

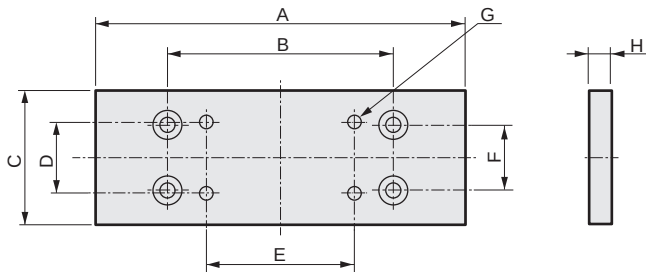
L* (for 00/LB)N* (for LB1)

N* (for LB1)



- Height adjustment plate (U)

Material: Aluminum alloy
Alumite treatment



Code	A	B	C	D	E	F	G	H
Bore size								
ø 12	80	42	29	16	30	13	4-M3 through	8
ø 16	87	48	32	16	30	15	4-M3 through	6
ø 20	99	60	38	20	40	18	4-M4 through	7
ø 25	121	70	48	20	40	20	4-M5 through	10.5
ø 32	134	80	56	30	50	20	4-M6 through	10.5
ø 40	147	90	68	30	50	30	4-M6 through	12.5
ø 50	151	100	80	40	70	30	4-M8 through	18
ø 63	167	110	102	40	70	40	4-M8 through	18
ø 80	227	150	146	50	90	50	4-M12 through	18
ø100	237	160	170	60	110	60	4-M12 through	18

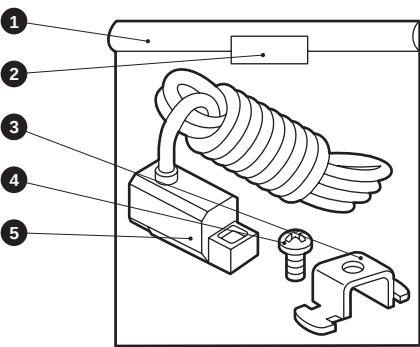
Configurations table

Switch

● Switch body + mounting bracket set (*1)

SRL3 - M0H*

Switch model No.
(Item ㊦ on page 1576)

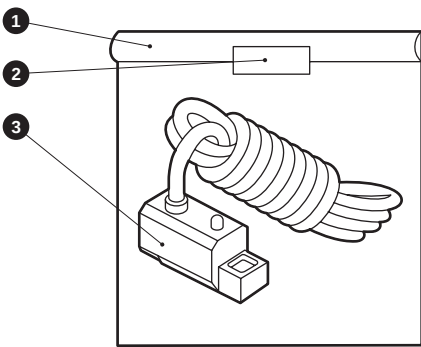


No.	Part name	Qty.
1	Plastic bag	1
2	Label	1
3	Switch mounting bracket	1
4	Cross-recessed pan head machine screw	1
5	Switch	1

● Switch body only

SW - M0H*

Switch model No.
(Item ㊦ on page 1576)

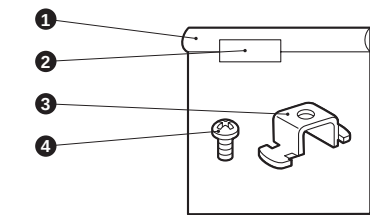


No.	Part name	Qty.
1	Plastic bag	1
2	Label	1
3	Switch	1

Switch

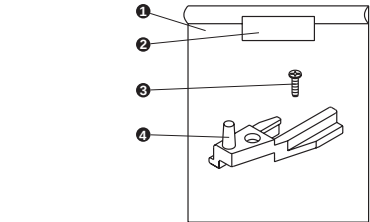
● Mounting bracket only

SRL3 - M



● Mounting bracket only

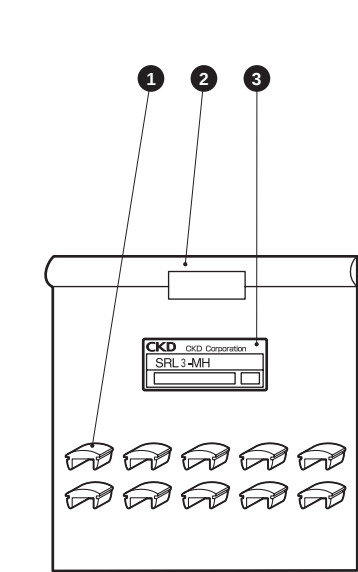
SRL3 - T



No.	Part name	Qty.
1	Plastic bag	1
2	Label	1
3	Switch mounting bracket	1
4	Cross-recessed pan head machine screw	1

● Lead wire holder

SRL3 - MH



No.	Part name	Qty.
1	Lead wire holder	10
2	Plastic bag	1
3	Package label (S)	1

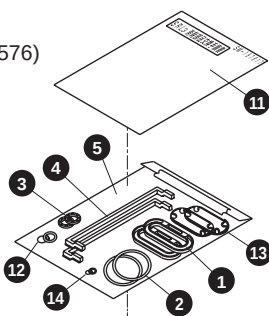
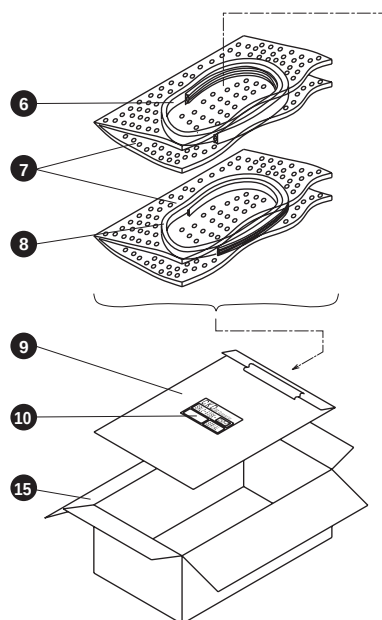
Note: Packing details may differ depending on the product size.

Repair parts

SRL3 - 40 K - 200

Bore size
(Item (B) on page 1576)

Stroke
(Item (E) on page 1576)



No.	Part name	Qty.
1	Piston packing	2
2	O-ring P	2
3	Cushion packing	2
4	Dust wiper	2
5	Plastic bag	1
6	Seal belt	1
7	Bubble wrapping	1
8	Dust-proof belt	1
9	Plastic bag	1
10	Package label (L)	1
11	Repair parts replacement procedures	1
12	Special O-ring	2
13	Cushion ring gasket	2
14	Needle gasket	2
15	Carton	1

*1: Cushion ring gaskets are not included in $\phi 12$ to $\phi 40$.

*2: Four gaskets are added with $\phi 80$ to $\phi 100$.

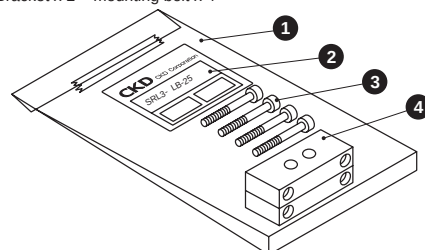
Mounting bracket

SRL3 - LB - 40

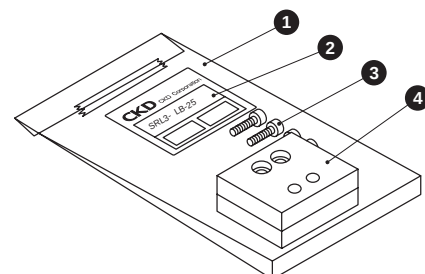
Mounting
(Item (A) on page 1576)

Bore size
(Item (B) on page 1576)

Bracket x 2 + mounting bolt x 4



No.	Part name	Qty.
1	Plastic bag	1
2	Package label (S)	1
3	Hexagon socket head cap screw	4
4	Foot bracket (A)	2



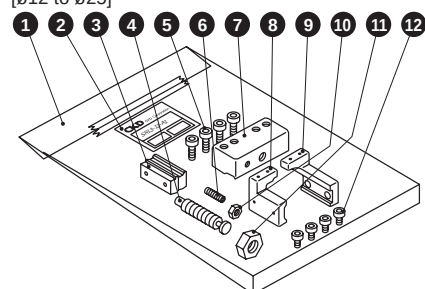
No.	Part name	Qty.
1	Plastic bag	1
2	Package label (S)	1
3	Hexagon socket head cap screw	4
4	Foot bracket (B)	2

Full stroke adjusting bracket kit

SRL3 - 40 - A1 1 set

Bore size
(Item (B) on page 1576)

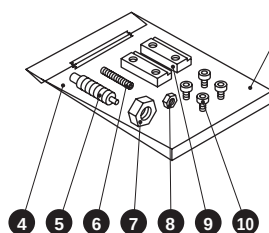
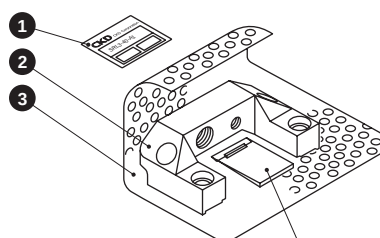
[$\phi 12$ to $\phi 25$]



No.	Part name	Qty.
1	Plastic bag	1
2	Package label (S)	1
3	Flat nut	2
4	Shock absorber	1
5	Hexagon socket head cap screw	4
6	Hexagon socket set screw	1
7	Plate	1
8	Adaptor (R)	1
9	Adaptor (L)	1
10	Stopper bolt fixing nut	1
11	Shock absorber fixing nut	1
12	Hexagon socket head cap screw	4

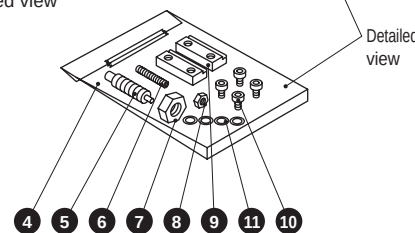
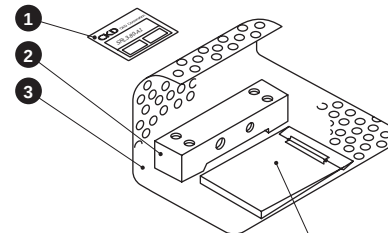
Note: Packing details may differ depending on the product size.

[$\phi 32$ to $\phi 63$]



No.	Product name	Qty.
1	Package label (S)	1
2	Adaptor	1
3	Bubble wrapping	1
4	Plastic bag	1
5	Shock absorber	1
6	Hexagon socket set screw	1

[$\phi 80$ / $\phi 100$]



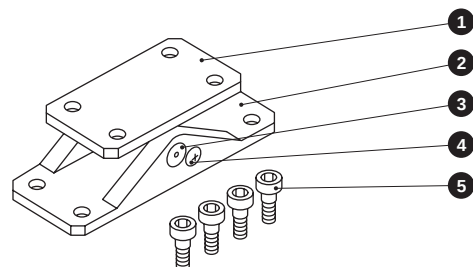
No.	Product name	Qty.
7	Hexagon nut	1
8	Hexagon nut	1
9	Adaptor nut	2
10	Hexagon socket head cap screw	4
11	Disc spring	4

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

Floating fitting set

SRL3 - 40 - Y

Bore size
(Item (B) on page 1576)



No.	Part name	Qty.
1	Mount	1
2	Mount base	1
3	Pin	1
4	Pan head machine screw with spring washer	1
5	Mounting bolt	4

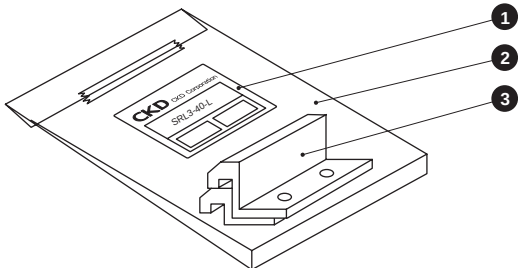
Note: Packing details may differ depending on the product size.

Intermediate support bracket

● For 00/LB

SRL3 - 40 - L 2 pcs./set

Bore size
(Item (B) on page 1576)

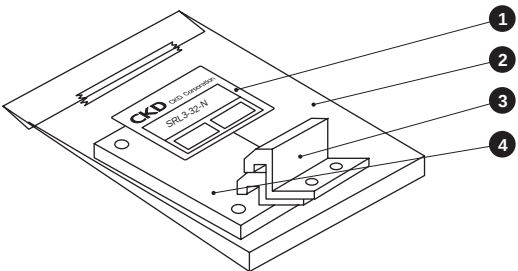


No.	Part name	Qty.
1	Package label (S)	1
2	Plastic bag	1
3	Intermediate support bracket	2

● For LB1

SRL3 - 32 - N 2 pcs./set

Bore size
(Item (B) on page 1576)



No.	Part name	Qty.
1	Package label (S)	1
2	Plastic bag	1
3	Intermediate support bracket	2
4	Plate	1

Kit weight list

Floating fitting

Kit No.	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

Intermediate support bracket

● For 00/LB

Kit No.	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 No.	Weight (g)
SRL3-12-N	40
SRL3-16-N	49
SRL3-20-N	81
SRL3-25-N	123
SRL3-32-N	136

Discrete shock absorber

Kit No.	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

Thin floating fitting

Kit No.	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

Mounting bracket

● For LB

Kit No.	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 No.	Weight (g)
SRL3-LB1-12	25
SRL3-LB1-16	27
SRL3-LB1-20	58
SRL3-LB1-25	123
SRL3-LB1-32	161

Height adjustment plate

Kit No.	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

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

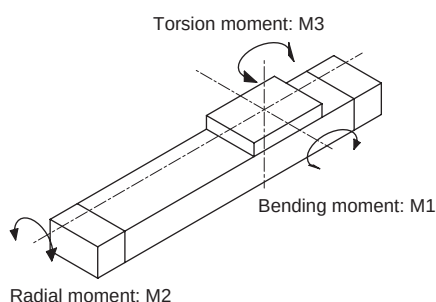
SCP*3	Kit weight list																																													
CMK2																																														
CMA2	Switch related parts																																													
SCM	● Mounting bracket only																																													
SCG	<table><tr><th>Kit No.</th><th>Weight (g)</th></tr><tr><td>SRL3-M</td><td>1</td></tr><tr><td>SRL3-T</td><td>5</td></tr></table>	Kit No.	Weight (g)	SRL3-M	1	SRL3-T	5	<table><tr><th>Kit No.</th><th>Weight (g)</th></tr><tr><td>SRL3-MH</td><td>3</td></tr></table>	Kit No.	Weight (g)	SRL3-MH	3																																		
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SRL3-T	5																																													
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SCA2	Note: In the case of the mounting bracket + switch, add the switch weight.																																													
SCS2																																														
CKV2																																														
CAV2/ COVPIN2	Repair parts																																													
SSD2	● SRL3 Series																																													
SSG	<table><tr><th>Kit No.</th><th>Weight (g)</th></tr><tr><td>SRL3-12K-□</td><td>7 + 5 x stroke/100</td></tr><tr><td>SRL3-16K-□</td><td>8 + 5 x stroke/100</td></tr><tr><td>SRL3-20K-□</td><td>10 + 5 x stroke/100</td></tr><tr><td>SRL3-25K-□</td><td>24 + 10 x stroke/100</td></tr><tr><td>SRL3-32K-□</td><td>31 + 10 x stroke/100</td></tr><tr><td>SRL3-40K-□</td><td>54 + 18 x stroke/100</td></tr><tr><td>SRL3-50K-□</td><td>66 + 18 x stroke/100</td></tr><tr><td>SRL3-63K-□</td><td>91 + 18 x stroke/100</td></tr><tr><td>SRL3-80K-□</td><td>248 + 42 x stroke/100</td></tr><tr><td>SRL3-100K-□</td><td>268 + 42 x stroke/100</td></tr></table>	Kit No.	Weight (g)	SRL3-12K-□	7 + 5 x stroke/100	SRL3-16K-□	8 + 5 x stroke/100	SRL3-20K-□	10 + 5 x stroke/100	SRL3-25K-□	24 + 10 x stroke/100	SRL3-32K-□	31 + 10 x stroke/100	SRL3-40K-□	54 + 18 x stroke/100	SRL3-50K-□	66 + 18 x stroke/100	SRL3-63K-□	91 + 18 x stroke/100	SRL3-80K-□	248 + 42 x stroke/100	SRL3-100K-□	268 + 42 x stroke/100	<table><tr><th>Kit No.</th><th>Weight (g)</th></tr><tr><td>SRL3-G-12K-□</td><td>7 + 5 x stroke/100</td></tr><tr><td>SRL3-G-16K-□</td><td>9 + 5 x stroke/100</td></tr><tr><td>SRL3-G-20K-□</td><td>11 + 5 x stroke/100</td></tr><tr><td>SRL3-G-25K-□</td><td>28 + 10 x stroke/100</td></tr><tr><td>SRL3-G-32K-□</td><td>36 + 10 x stroke/100</td></tr><tr><td>SRL3-G-40K-□</td><td>59 + 18 x stroke/100</td></tr><tr><td>SRL3-G-50K-□</td><td>78 + 18 x stroke/100</td></tr><tr><td>SRL3-G-63K-□</td><td>104 + 18 x stroke/100</td></tr><tr><td>SRL3-G-80K-□</td><td>296 + 42 x stroke/100</td></tr><tr><td>SRL3-G-100K-□</td><td>319 + 42 x stroke/100</td></tr></table>	Kit No.	Weight (g)	SRL3-G-12K-□	7 + 5 x stroke/100	SRL3-G-16K-□	9 + 5 x stroke/100	SRL3-G-20K-□	11 + 5 x stroke/100	SRL3-G-25K-□	28 + 10 x stroke/100	SRL3-G-32K-□	36 + 10 x stroke/100	SRL3-G-40K-□	59 + 18 x stroke/100	SRL3-G-50K-□	78 + 18 x stroke/100	SRL3-G-63K-□	104 + 18 x stroke/100	SRL3-G-80K-□	296 + 42 x stroke/100	SRL3-G-100K-□	319 + 42 x stroke/100
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SSD	● SRL3-Q Series																																													
CAT	<table><tr><th>Kit No.</th><th>Weight (g)</th></tr><tr><td>SRL3-Q-12K-□</td><td>7 + 5 x stroke/100</td></tr><tr><td>SRL3-Q-16K-□</td><td>8 + 5 x stroke/100</td></tr><tr><td>SRL3-Q-20K-□</td><td>10 + 5 x stroke/100</td></tr><tr><td>SRL3-Q-25K-□</td><td>25 + 10 x stroke/100</td></tr><tr><td>SRL3-Q-32K-□</td><td>31 + 10 x stroke/100</td></tr><tr><td>SRL3-Q-40K-□</td><td>54 + 18 x stroke/100</td></tr><tr><td>SRL3-Q-50K-□</td><td>68 + 18 x stroke/100</td></tr><tr><td>SRL3-Q-63K-□</td><td>92 + 18 x stroke/100</td></tr><tr><td>SRL3-Q-80K-□</td><td>250 + 42 x stroke/100</td></tr><tr><td>SRL3-Q-100K-□</td><td>270 + 42 x stroke/100</td></tr></table>	Kit No.	Weight (g)	SRL3-Q-12K-□	7 + 5 x stroke/100	SRL3-Q-16K-□	8 + 5 x stroke/100	SRL3-Q-20K-□	10 + 5 x stroke/100	SRL3-Q-25K-□	25 + 10 x stroke/100	SRL3-Q-32K-□	31 + 10 x stroke/100	SRL3-Q-40K-□	54 + 18 x stroke/100	SRL3-Q-50K-□	68 + 18 x stroke/100	SRL3-Q-63K-□	92 + 18 x stroke/100	SRL3-Q-80K-□	250 + 42 x stroke/100	SRL3-Q-100K-□	270 + 42 x stroke/100	<table><tr><th>Kit No.</th><th>Weight (g)</th></tr><tr><td>SRL3-GQ-12K-□</td><td>8 + 5 x stroke/100</td></tr><tr><td>SRL3-GQ-16K-□</td><td>9 + 5 x stroke/100</td></tr><tr><td>SRL3-GQ-20K-□</td><td>11 + 5 x stroke/100</td></tr><tr><td>SRL3-GQ-25K-□</td><td>29 + 10 x stroke/100</td></tr><tr><td>SRL3-GQ-32K-□</td><td>37 + 10 x stroke/100</td></tr><tr><td>SRL3-GQ-40K-□</td><td>60 + 18 x stroke/100</td></tr><tr><td>SRL3-GQ-50K-□</td><td>80 + 18 x stroke/100</td></tr><tr><td>SRL3-GQ-63K-□</td><td>105 + 18 x stroke/100</td></tr><tr><td>SRL3-GQ-80K-□</td><td>298 + 42 x stroke/100</td></tr><tr><td>SRL3-GQ-100K-□</td><td>322 + 42 x stroke/100</td></tr></table>	Kit No.	Weight (g)	SRL3-GQ-12K-□	8 + 5 x stroke/100	SRL3-GQ-16K-□	9 + 5 x stroke/100	SRL3-GQ-20K-□	11 + 5 x stroke/100	SRL3-GQ-25K-□	29 + 10 x stroke/100	SRL3-GQ-32K-□	37 + 10 x stroke/100	SRL3-GQ-40K-□	60 + 18 x stroke/100	SRL3-GQ-50K-□	80 + 18 x stroke/100	SRL3-GQ-63K-□	105 + 18 x stroke/100	SRL3-GQ-80K-□	298 + 42 x stroke/100	SRL3-GQ-100K-□	322 + 42 x stroke/100
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SRL3-GQ-12K-□	8 + 5 x stroke/100																																													
SRL3-GQ-16K-□	9 + 5 x stroke/100																																													
SRL3-GQ-20K-□	11 + 5 x stroke/100																																													
SRL3-GQ-25K-□	29 + 10 x stroke/100																																													
SRL3-GQ-32K-□	37 + 10 x stroke/100																																													
SRL3-GQ-40K-□	60 + 18 x stroke/100																																													
SRL3-GQ-50K-□	80 + 18 x stroke/100																																													
SRL3-GQ-63K-□	105 + 18 x stroke/100																																													
SRL3-GQ-80K-□	298 + 42 x stroke/100																																													
SRL3-GQ-100K-□	322 + 42 x stroke/100																																													
MDC2																																														
MVC																																														
SMG																																														
MSD/ MSDG																																														
FC*																																														
STK																																														
SRL3																																														
SRG3																																														
SRM3																																														
SRT3																																														
MRL2																																														
MRG2	Full stroke adjusting kit																																													
SM-25	<table><tr><th>Kit No.</th><th>Weight (g)</th></tr><tr><td>SRL3-12-A1</td><td>110</td></tr><tr><td>SRL3-16-A1</td><td>114</td></tr><tr><td>SRL3-20-A1</td><td>187</td></tr><tr><td>SRL3-25-A1</td><td>375</td></tr><tr><td>SRL3-32-A1</td><td>644</td></tr><tr><td>SRL3-40-A1</td><td>1032</td></tr><tr><td>SRL3-50-A1</td><td>2128</td></tr><tr><td>SRL3-63-A1</td><td>2454</td></tr><tr><td>SRL3-80-A1</td><td>3108</td></tr><tr><td>SRL3-100-A1</td><td>3422</td></tr></table>	Kit No.	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																							
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SRL3-12-A1	110																																													
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SRL3-100-A1	3422																																													
ShkAbs																																														
FJ																																														
FK																																														
Spd Contr																																														
Ending																																														

Rodless cylinder selection guide

[STEP1]

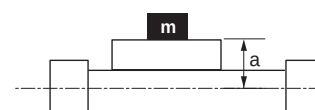
Moment actuates according to the cylinder mounting direction and the position of center of gravity of load.

- Types of moment caused by load



[Table 1] Value of a

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



1 Obtain the static moment.

Unit: N·m

Mounting orientation		Horizontal upward	Horizontal downward	Horizontal lateral	Vertical
Vertical load W		m×9.8			-
Static moment	M1	$W \times l_1$	$W \times l_1$	-	$W \times (l_3 + a)$
	M2	$W \times l_2$	$W \times l_2$	$W \times (l_3 + a)$	-
	M3	-	-	$W \times l_1$	$W \times l_2$

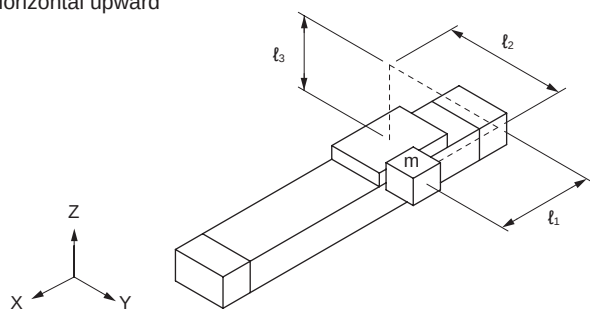
m : Load weight [kg]

l_1 : Length along the stroke direction from the center of table to the center of gravity of load [m]

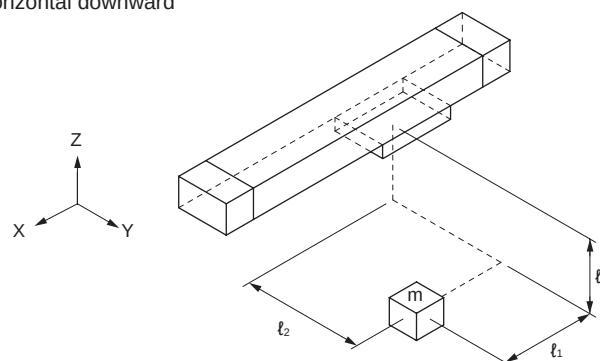
l_2 : Length in the width direction from the center of table to the center of gravity of load [m]

l_3 : Length in the vertical direction from the center of table to the center of gravity of load [m]

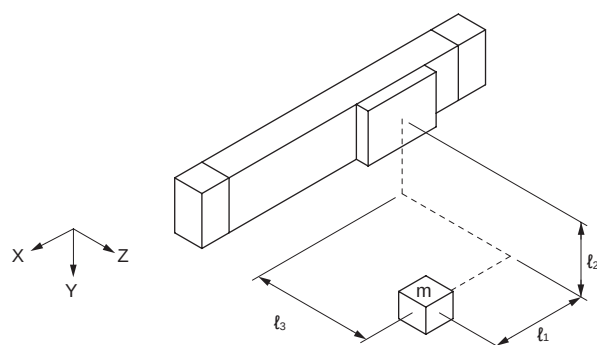
Horizontal upward



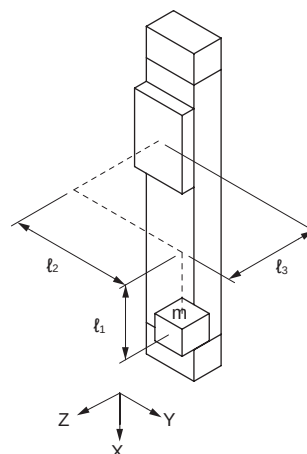
Horizontal downward



Horizontal lateral



Vertical



2 Obtain the dynamic moment caused by the load inertia at the stroke end.

Unit: N·m

Mounting orientation	Horizontal upward	Horizontal downward	Vertical	Horizontal lateral
Dynamic moment	M1i	$Wx(l_3 + a) \times G$		
	M2i	M2i dynamic moment is not generated.		
	M3i	$Wx l_2 \times G$		

Dynamic moment can be calculated with the formulas above regardless of the mounting direction.

Obtain an approximate G coefficient from Table 2.

[Table 2] V_a (Average speed) = $\frac{\text{Travel distance}}{\text{Travel time}}$ (m/s)

V_a (Average speed) (m/s)	V_m (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 an approximate bore size.

Select an approximate bore size.

$M1 + M1i = \text{ } (N \cdot m) \rightarrow (\text{ })$
 $M2 = \text{ } (N \cdot m) \rightarrow (\text{ })$
 $M3 + M3i = \text{ } (N \cdot m) \rightarrow (\text{ })$
 $W = \text{ } (N) \rightarrow (\text{ })$
 $E_0 = \frac{1}{2} \times m \times V_m^2 = \text{ } (J) \rightarrow (\text{ })$



Select a temporary max. bore size.

[Table 3] Allowable value

Item		W_{max} (N)	$M1_{max}$ (N·m)	$M2_{max}$ (N·m)	$M3_{max}$ (N·m)
Bore size (mm)					
SRL3	ø12	30	1.5	0.6	0.6
	ø16	140	5	1	1
	ø20	200	10	1.5	3
	ø25	360	17	5	10
	ø32	620	36	10	21
	ø40	970	77	23	26
	ø50	1470	154	32	42
	ø63	2320	275	52	76
	ø80	3500	460	70	100
	ø100	5000	750	95	130
SRL3-G	ø12	30	1.5	0.6	0.4
	ø16	140	5	1	0.6
	ø20	200	10	1.5	1
	ø25	360	17	5	2
	ø32	620	36	10	4
	ø40	810	41	18	5
	ø50	1440	76	32	9
	ø63	1630	98	51	12
	ø80	3500	351	70	37
	ø100	4130	386	95	42

[Table 4] Allowable absorbed energy value of SRL3 (E_0)

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

4 Obtain the resultant moment at the stroke end (M_T).

(Confirm that the bore size selected in 3 satisfies the formula below.)

$$M_T = \frac{M_1 + M_{1i}}{M_{1max}} + \frac{M_2}{M_{2max}} + \frac{M_3 + M_{3i}}{M_{3max}} + \frac{W}{W_{max}} < 1$$

M : Resultant moment (must be smaller than 1)

W_{max} : Max. allowable value of W (from Table 3)

M_{1max} : Max. allowable value of M_1 (from Table 3)

M_{2max} : Max. allowable value of M_2 (from Table 3)

M_{3max} : Max. allowable value of M_3 (from Table 3)

- If M_T is much more than 1, change the selection condition.
- If M_T is slightly more than 1, improving the accuracy in STEP 2 may make the value 1 or less. Perform STEP 2 to see the result.

[STEP2]

Next, obtain a more accurate load factor, effective thrust, stroke end speed and resultant moment.

● Calculate the load factor.

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

α : Load factor

F_0 : Force (N) required to move the workpiece

F : Effective thrust of the cylinder (N) (Fig. 1 to 4)

For horizontal operation	For vertical operation
$F_0 = F_w + F_1 + F_2 + F_3 + F_L$	$F_0 = W + F_1 + F_2 + F_3 + F_L$
F_w : $W \times 0.2$ (N) F_2 : $M_2 \times C_2$ Note (N) F_L : Other kinds of resistance (e.g., guide resistance) (N)	F_1 : $M_1 \times C_1$ Note (N) F_3 : $M_3 \times C_3$ Note (N) W : Load (N)

Note: Coefficient to correct the increase of friction caused when moment is applied

[Table 5] Moment friction coefficients

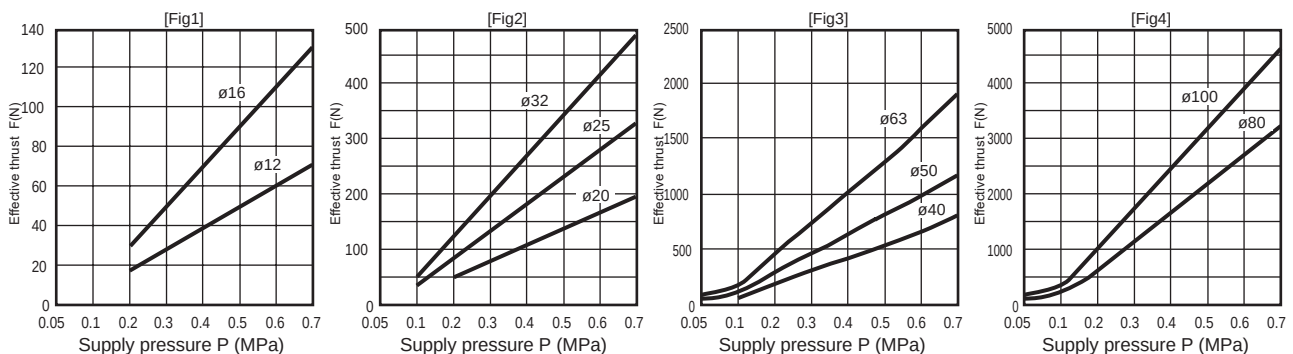
1/m

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

[Table 6] Load factor guidelines

Working pressure (MPa)	Load factor (%)
0.2 to 0.3	$\alpha \leq 40$
0.3 to 0.6	$\alpha \leq 50$
0.6 to 0.7	$\alpha \leq 60$

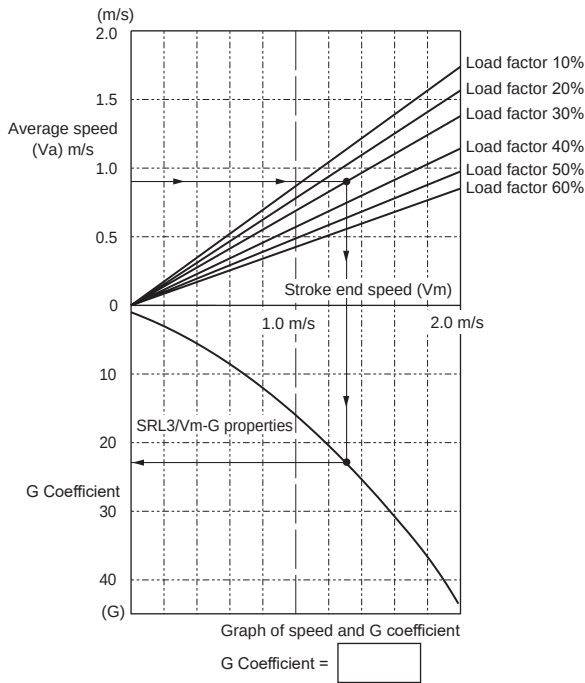
● Graph for obtaining effective thrust



[STEP3]

In [Fig. 1], obtain the stroke end speed (Vm) and G coefficient from the average speed (Va) and load factor obtained in STEP 2.

● Graph of speed and G coefficient [Fig. 1]



● The arrow (→) in the figure is the formula for obtaining

- Stroke end speed : 1.3 m/s
- G Coefficient : 22.5
- at
- Average speed : 0.9 m/s
- Load factor : 30 %

[STEP4]

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

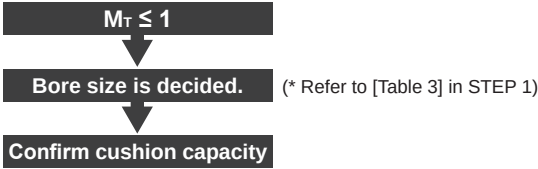
M1 + M1i = (N·m)

M2 = (N·m)

M3 + M3i = (N·m)

W = (N)

$$M_r = \frac{M1+M1i}{M1max} + \frac{M2}{M2max} + \frac{M3+M3i}{M3max} + \frac{W}{Wmax}$$



Unit: N·m				
Mounting orientation	Horizontal upward	Horizontal downward	Vertical	Horizontal lateral
Dynamic moment	M1i	$W \times (\ell_3 + a) \times G$		
	M2i	M2i dynamic moment is not generated.		
	M3i	$W \times \ell_2 \times G$		

Although the formulas are the same as those in STEP 1, use the G coefficient obtained in STEP 3 for calculation.

[STEP5]

● Confirming cushion capacity

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

E : Kinetic energy at workpiece end (J)

m : Load weight (kg)

Vm : Speed of the piston entering the cushion (m/s)

Checking the allowable absorbed energy of shock absorber
Calculate the colliding energy E and the colliding object equivalent weight Me from the formula in the table below. Confirm that Me is within the allowable values shown in Figure 2. As well, check that it is within the allowable values shown in Table 7.

Note that the allowable colliding object equivalent weight Me and allowable colliding energy E change depending on the colliding speed.

- The allowable absorbed energy changes depending on the colliding speed. Keep it within 1/3 of the max. energy absorption in Table 7 at 2000 mm/s colliding speed, and within 1/2 at 1000 mm/s colliding speed.

Applications	Horizontal movement	Vertical down	Vertical up
Colliding object equivalent weight Me (kg)	$Me = \frac{2xE}{V^2}$	$Me = \frac{2xE}{V^2}$	$Me = \frac{2xE}{V^2}$
Energy E (J)	$E = \frac{mV^2}{2} + F \cdot St$	$E = \frac{mV^2}{2} + (F+mg) \cdot St$	$E = \frac{mV^2}{2} + (F-mg) \cdot St$

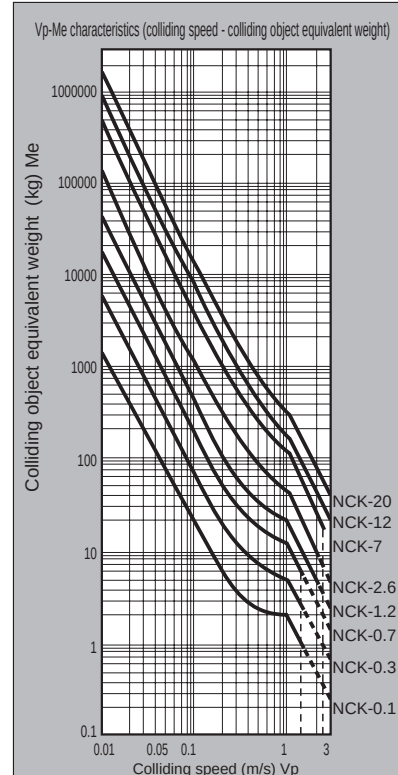
● Code

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

[Table 7] Allowable absorbed energy value of SRL3 (Eo)

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

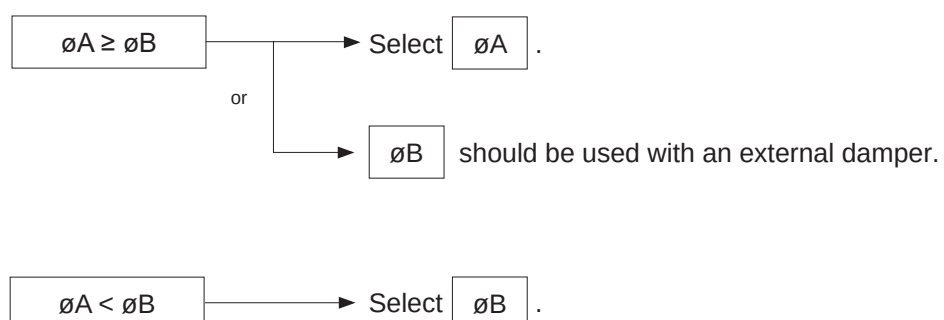
[Figure 2] Allowable colliding object equivalent weight



[STEP6]

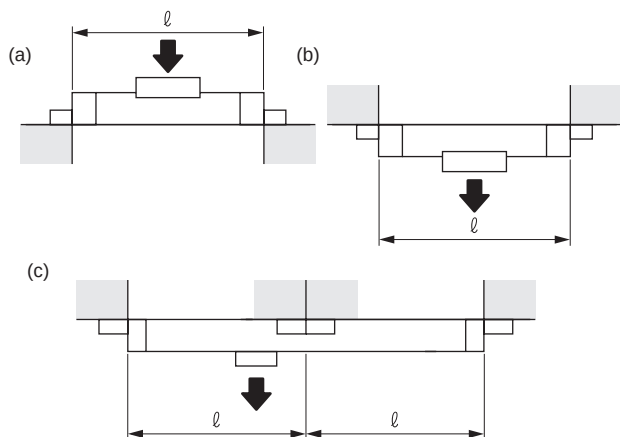
- The bore size determined from the cushion performance is øA. (Bore size determined in STEP 5)

- The bore size determined from the load conditions is øB. (Bore size determined in STEP 4)

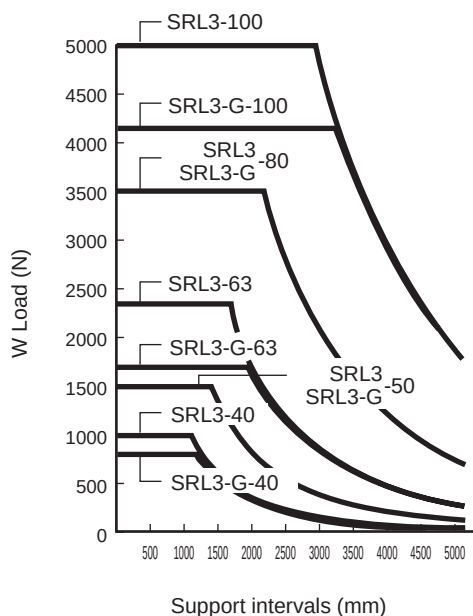
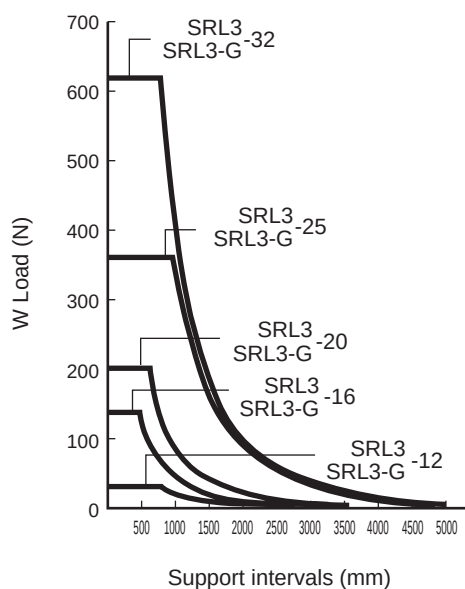


1 Limits of vertical load

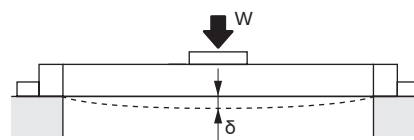
- If the stroke is long, the cylinder tube sags with its self weight and load. In this case, use an intermediate support bracket to keep the support interval in the figure below within the value of the graph.
(The intermediate support bracket is an auxiliary bracket for reducing sag. It is not a fixing bracket.)



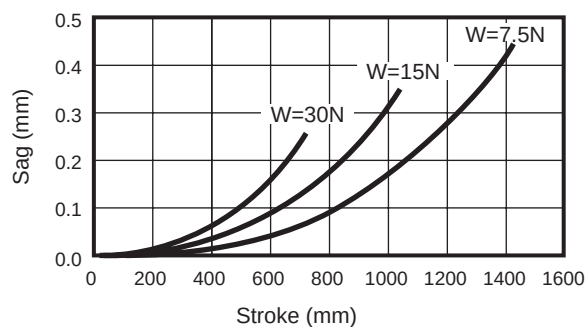
- Allowable load for the supporting methods (a), (b) and (c) above



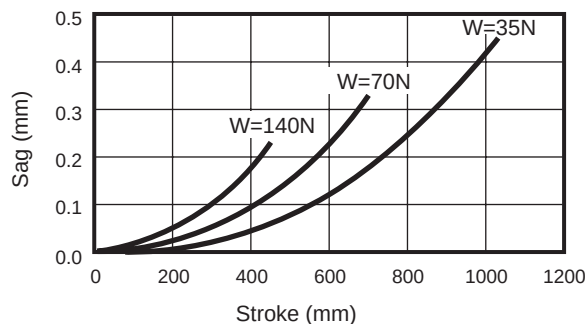
2 Sag of cylinder tube δ



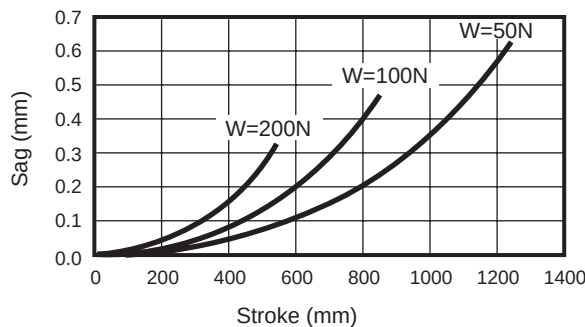
- SRL3-12, SRL3-G-12 (ø12 or equiv.)



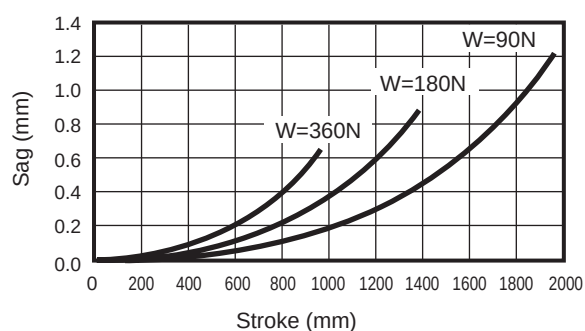
- SRL3-16, SRL3-G-16 (ø16 or equiv.)



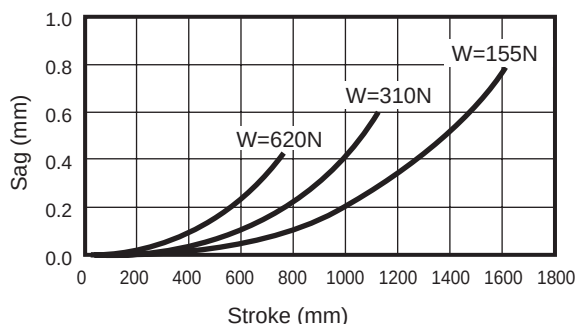
- SRL3-20, SRL3-G-20 (ø20 or equiv.)



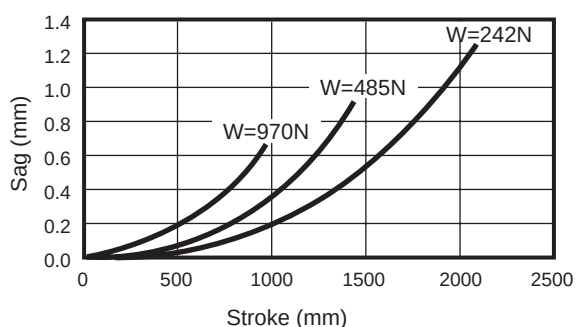
- SRL3-25, SRL3-G-25 (ø25 or equiv.)



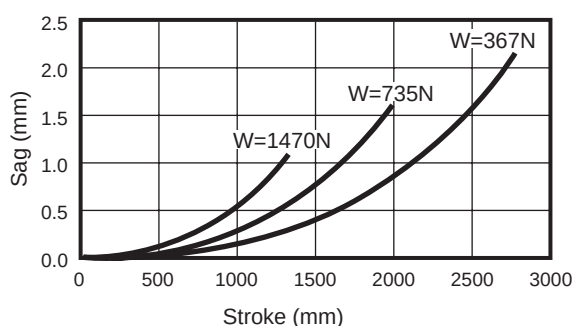
● SRL3-32, SRL3-G-32 (ø32 or equiv.)



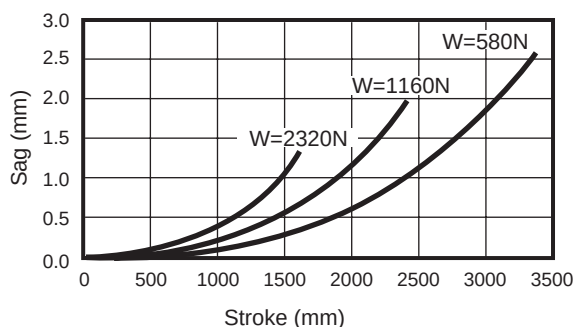
● SRL3-40, SRL3-G-40 (ø40 or equiv.)



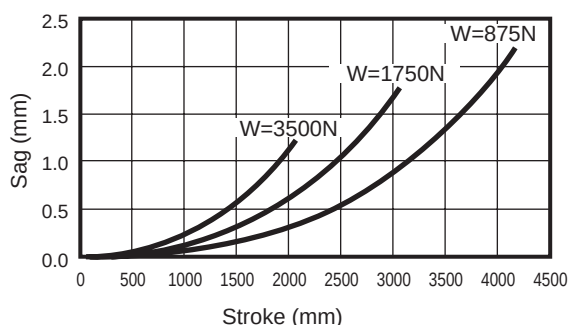
● SRL3-50, SRL3-G-50 (ø50 or equiv.)



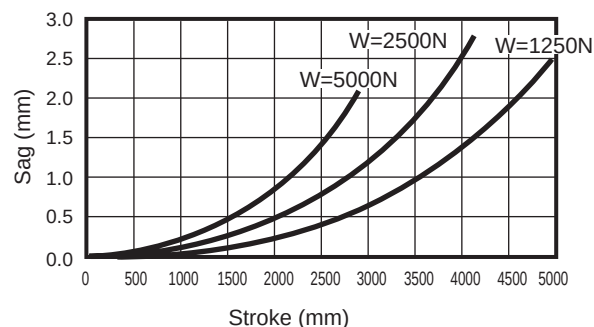
● SRL3-63, SRL3-G-63 (ø63 or equiv.)



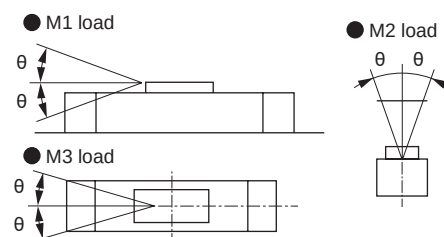
● SRL3-80, SRL3-G-80 (ø80 or equiv.)



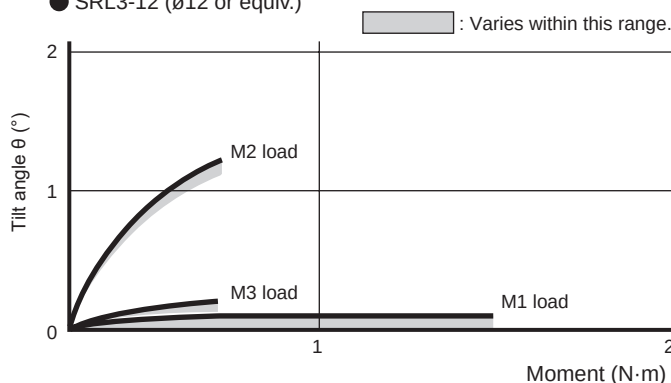
● SRL3-100, SRL3-G-100 (ø100 or equiv.)



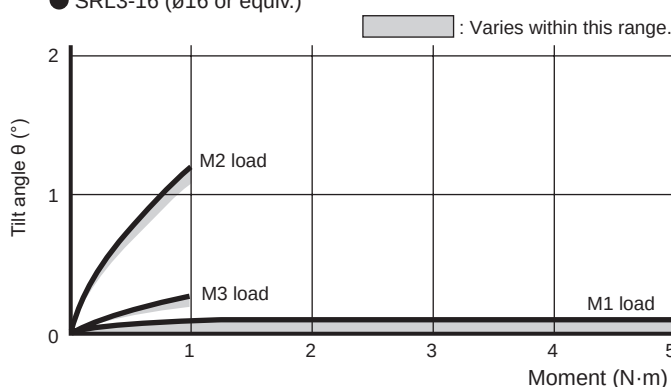
3 Inclination θ of table



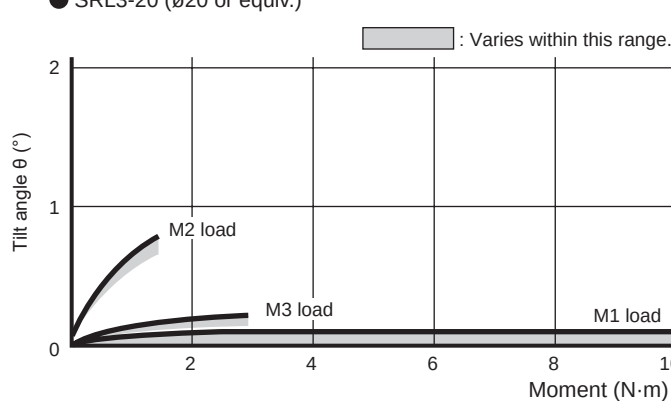
● SRL3-12 (ø12 or equiv.)



● SRL3-16 (ø16 or equiv.)



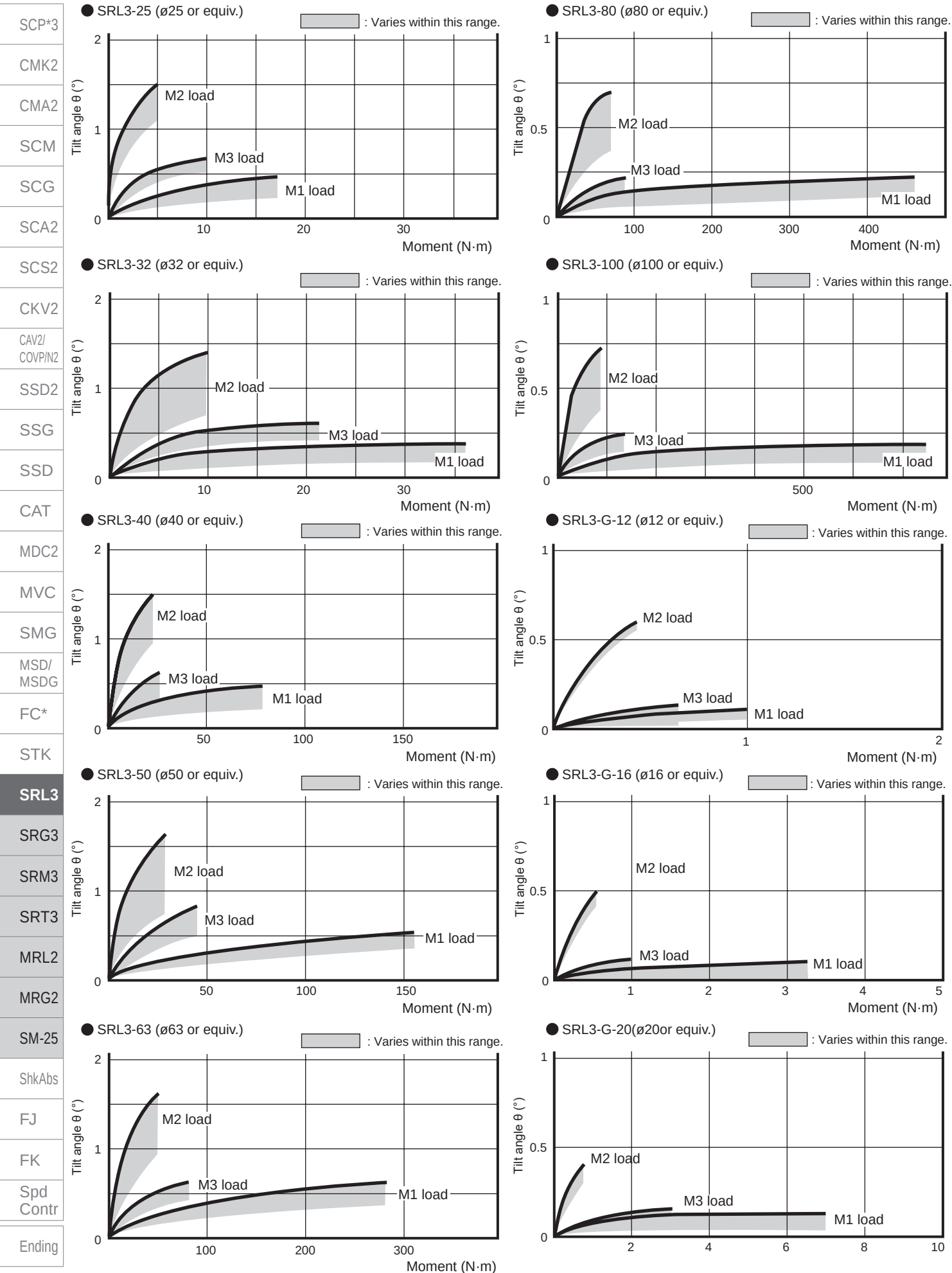
● SRL3-20 (ø20 or equiv.)



SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/IN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

SRL3 Series

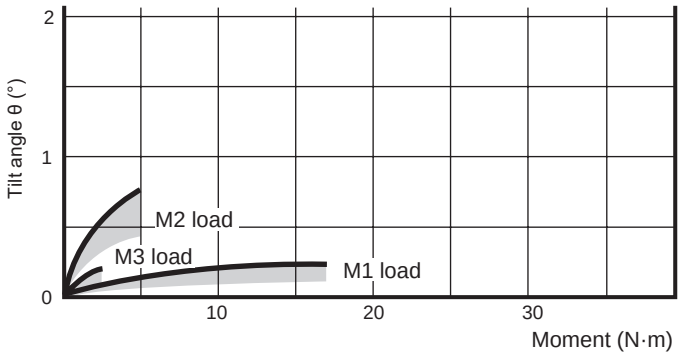
Selection guide



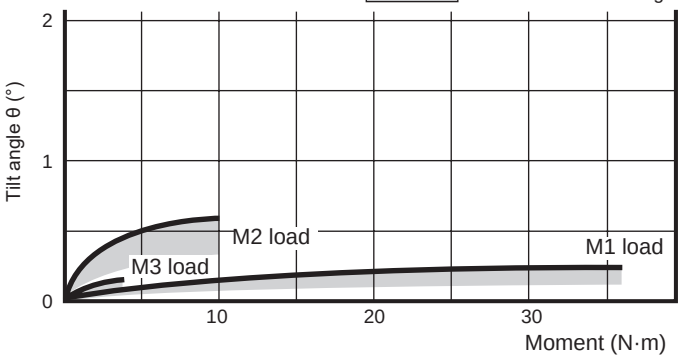
SRL3 Series

Selection guide

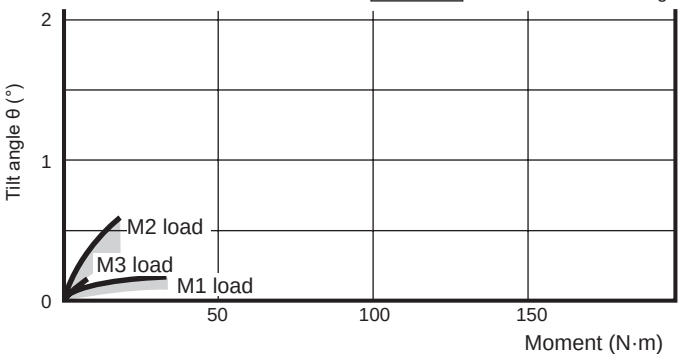
● SRL3-G-25 (ø25 or equiv.) : Varies within this range.



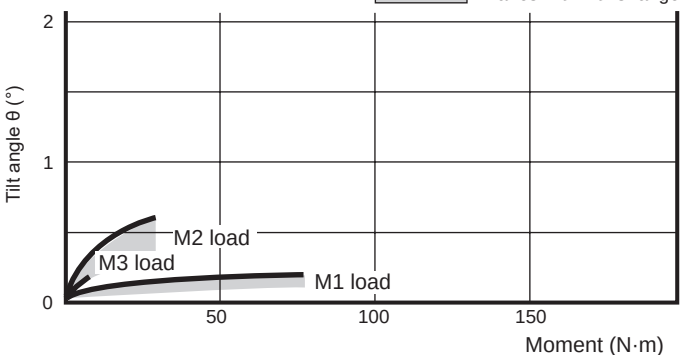
● SRL3-G-32 (ø32 or equiv.) : Varies within this range.



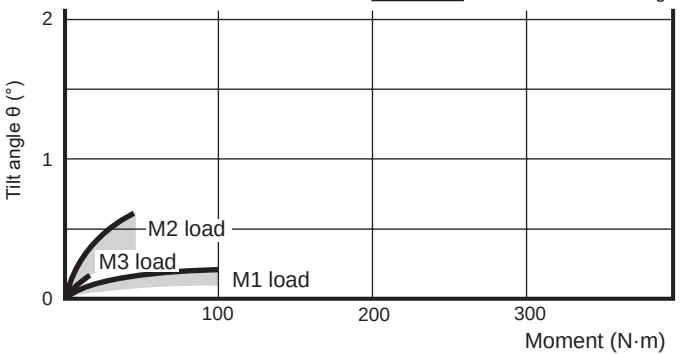
● SRL3-G-40 (ø40 or equiv.) : Varies within this range.



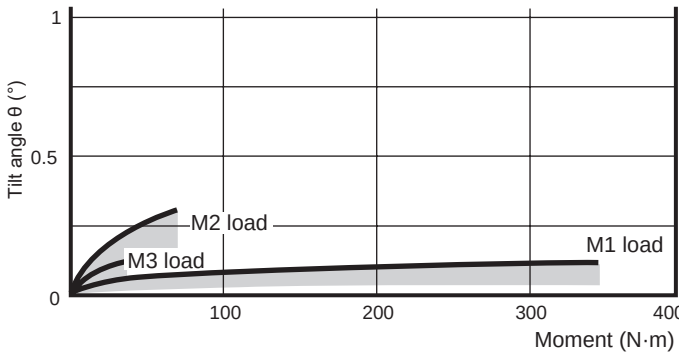
● SRL3-G-50 (ø50 or equiv.) : Varies within this range.



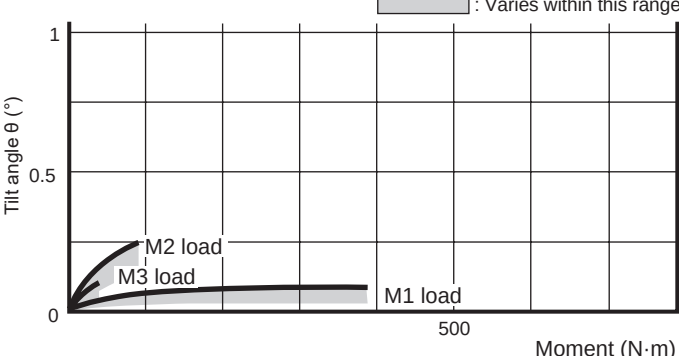
● SRL3-G-63 (ø63 or equiv.) : Varies within this range.



● SRL3-G-80 (ø80 or equiv.) : Varies within this range.



● SRL3-G-100 (ø100 or equiv.) : Varies within this range.



SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

MEMO

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/IN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending



Safety Precautions

Be sure to read this section before use.

Refer to Intro Page 73 for general information of the cylinder, and to Intro Page 80 for general information of the cylinder switch.

Product-specific cautions: Rodless cylinder SRL3 Series

Design/selection

1. Common

⚠ CAUTION

■ Pay attention when designing the brake control circuit.

A slight amount of external leakage is inherent to the structure of SRL3 and other slit rodless cylinders. Therefore, brake control using a 3-position valve with all ports closed may fail to keep the stop position of the table. Use the control circuit with both sides pressurized with 3-position P/A/B connection valve. However, note that the table may deviate from origin if air pressure is applied in the de-energized state when starting after a pressure drop.

Do not brake with A/B/R connection control: air may leak from both sides, risking popping out when restarting operation, as well as making speed control difficult.

■ Basic circuit diagram

● Horizontal load

When piping is as shown in Fig. 1, equal pressure is applied to both ends of the piston when stopped to prevent the table from popping out when operation is restarted.

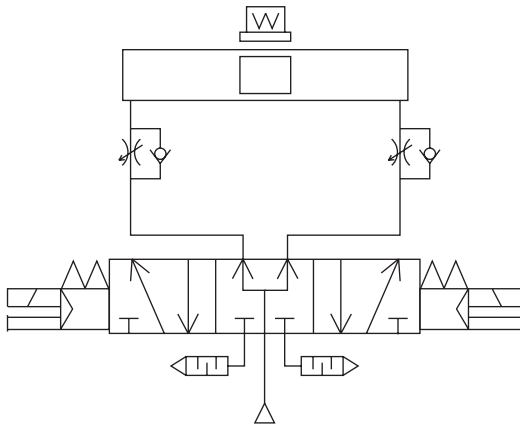


Fig. 1

● Vertical load

● If vertical load works as shown in Figure 2, the table moves in the load direction. Install a regulator with check valve on the top to reduce thrust in the load direction to balance the load.

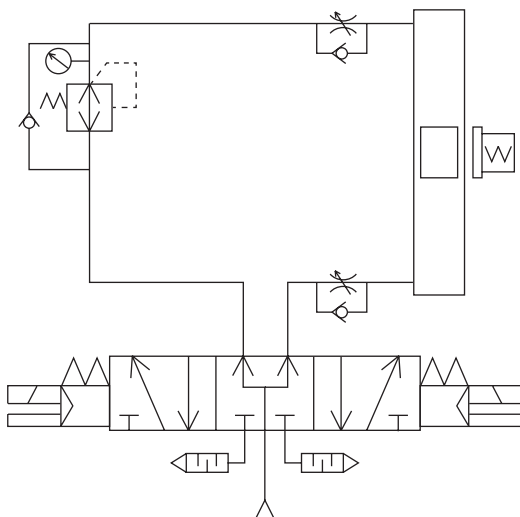


Fig. 2

■ 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. Using the cylinder as an air balancer or operating the table with external force or inertia force with all ports closed may cause negative pressure inside the cylinder, resulting in air leakage if the seal belt comes off. Do not use external force or inertia force, otherwise negative pressure will occur inside the cylinder.

2. Position locking SRL3-Q

⚠ CAUTION

■ Cylinder load factor must be 50% or less. If the load factor is high, the lock may not be released, or the lock section may be damaged.

■ 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. To reduce the speed, add an external shock absorber or deceleration circuit.

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

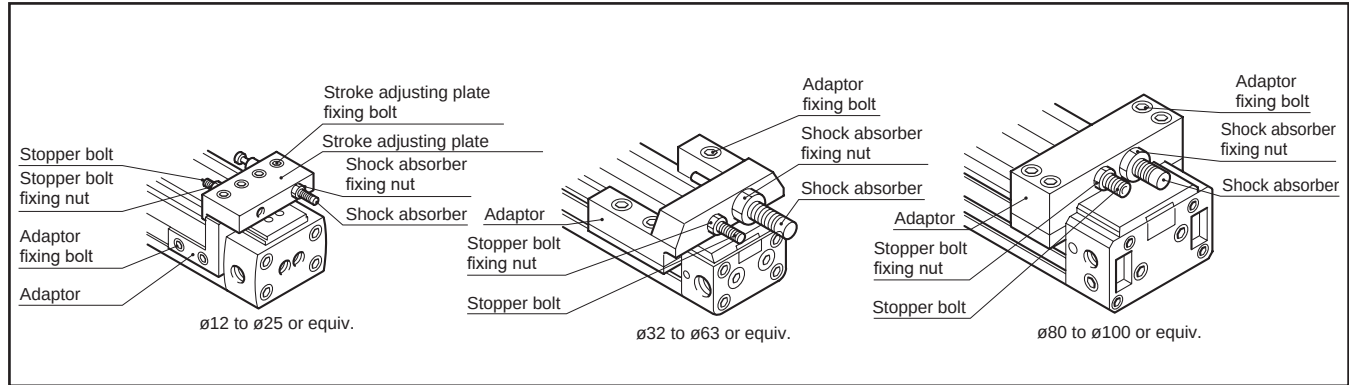
Ending

Mounting, installation and adjustment

1. Common

⚠ WARNING

■ How to adjust the stroke adjusting unit



(1) Moving the stroke adjusting unit

Loosen the adaptor fixing bolt (adaptor fixing bolt and stroke adjusting plate fixing bolt for ø12 to ø25) to move the stroke adjusting unit.

(2) Fixing the stroke adjusting unit

After moving the stroke adjusting unit to the desired position, tighten the adaptor fixing bolt (adaptor fixing bolt and stroke adjusting plate fixing bolt for ø12 to ø25) with the value in Table 8 to fix the unit. Note that if tightened with a value less than that in the table below, the stroke adjusting unit may be displaced.

Table 1 Tightening torque of adaptor fixing bolt and stroke adjusting plate fixing bolt

Tightening torque Model	Adaptor fixing bolt (N·m)	Stroke adjusting plate fixing bolt (N·m)
SRL3-12/16	1 to 1.2	0.5 to 0.7
SRL3-20	2.5 to 2.7	
SRL3-25	5.2 to 5.6	2.5 to 2.7
SRL3-32	22 to 24	—
SRL3-40	44 to 48	—
SRL3-50/63	77 to 83	—
SRL3-80/100	100 to 110	—

(3) Adjusting the stroke with a stopper bolt

In the case of ø12 to ø20, adjust the stroke normally by moving the stroke adjusting unit, since there is a danger that fingers may be caught in a narrow space between the table and the stroke adjusting plate.

To adjust the stroke, loosen the stopper bolt fixing nut and turn the stopper bolt. After adjustment, tighten the stopper bolt fixing nut with the value in Table 2 to fix the stopper bolt.

(4) Adjusting the shock absorber
Change the operational stroke of the shock absorber to adjust its absorbed energy.

To adjust the operational stroke of the shock absorber, loosen the shock absorber fixing nut and turn the shock absorber. After adjustment, tighten the shock absorber fixing nut with the value in Table 2 to fix the shock absorber.

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

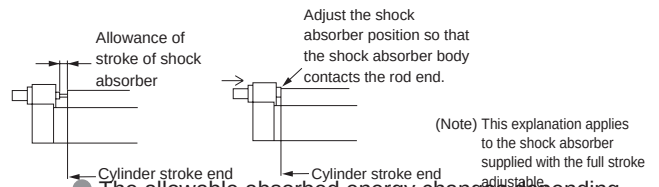
(5) Precautions for use

Table 2 Tightening torque of stopper bolt fixing nut and shock absorber fixing nut

Tightening torque Model	Stopper bolt fixing nut (N·m)	Shock absorber fixing nut (N·m)
SRL3-12/16	1.1 to 1.2	1.3 to 1.8
SRL3-20	2.5 to 2.7	2.9 to 3.9
SRL3-25	8.8 to 9.5	4.5 to 6
SRL3-32	22 to 24	7.5 to 10
SRL3-40	44 to 48	22 to 30
SRL3-50	77 to 83	55 to 70
SRL3-63	200 to 216	55 to 70
SRL3-80/100	215 to 235	100 to 130

- A shock absorber can absorb the rated energy at the rated stroke. However, the initial shock absorber position is adjusted to have an stroke allowance at the cylinder's stroke end.

Therefore, the absorbed energy will be less than the allowable absorbed energy of a discrete shock absorber. If the rated absorbed energy is required, adjust the shock absorber so that the full stroke can be used. At the time, adjust so that the table stops with the stopper bolt. Even at the cylinder stroke end, if the cylinder's thrust is continuously applied, the shock absorber may be damaged.



The allowable absorbed energy changes depending on the colliding speed. Keep it within 1/3 of the max. energy absorption in Table 3 at 2000 mm/s colliding speed, and within 1/2 at 1000 mm/s colliding speed.

Table 3 Specifications of full stroke adjustable with shock absorber (initial set point)

Type	Absorbed 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.

Otherwise electric current passes into the cylinder and causes sparks between the dust-proof belt and cylinder tube, which will damage the dust-proof belt.

- The cylinder body may be damaged or may malfunction if a unit with excessive inertia, etc., is moved. 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. Consider the connection method (floating) so that the displacement can be absorbed.

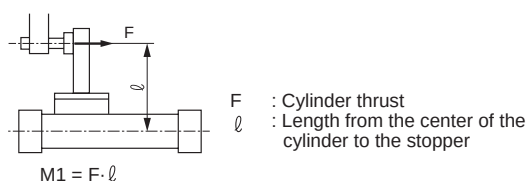
- Keep moment, including inertia force caused by load transfer or stop, within the allowable load. If this valve is exceeded, it will lead to damage.

(When the overhang load 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, adjust so that the cylinder contacts with the center of gravity of workpiece or the closest point to it.

(When an external stopper is used)

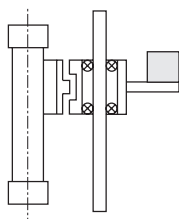
- When using an external stopper, make a selection considering bending moment due to the cylinder thrust.
- Moment that operates when the cylinder stops with an external stopper



(When an external guide is used)

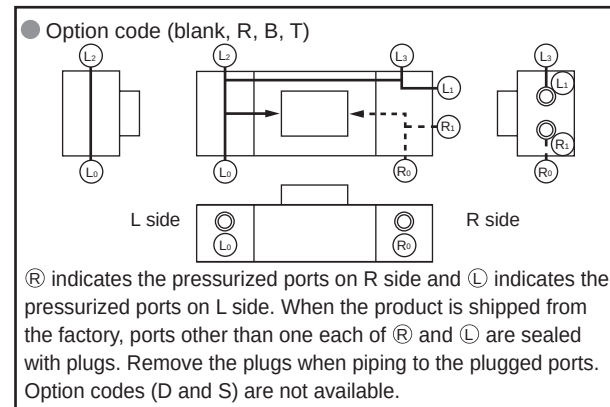
- If the centers are not coincident when an external guide is attached, movement will not be smooth and resistance due to interference will operate as moment. Design the connection part so that it can accept non-coincidence of the centers.

- Example of guide use

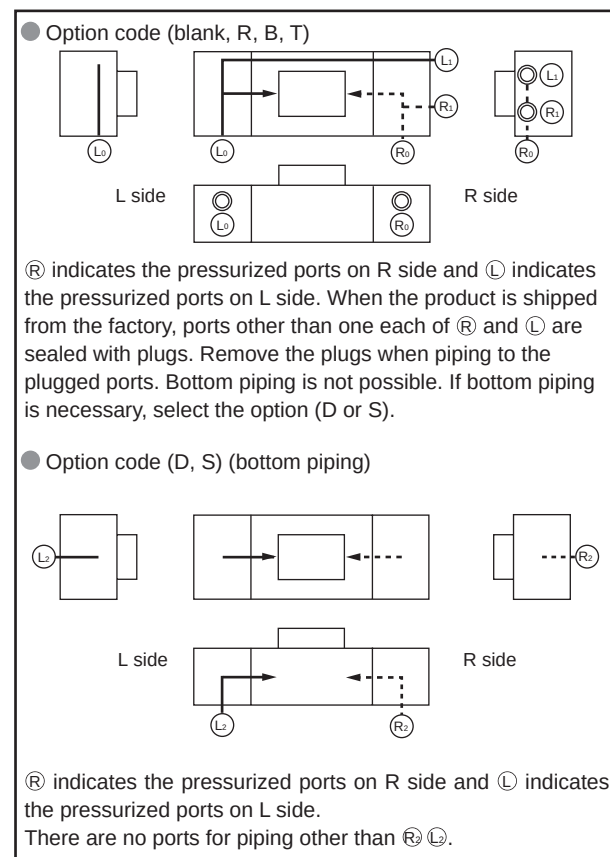


■ Piping port position and operating direction

Bore size $\phi 12$ to $\phi 20$ equiv.



Bore size $\phi 25$ to $\phi 63$ equiv.



SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

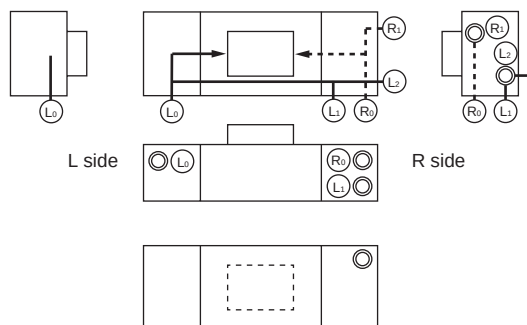
FK

Spd
Contr

Ending

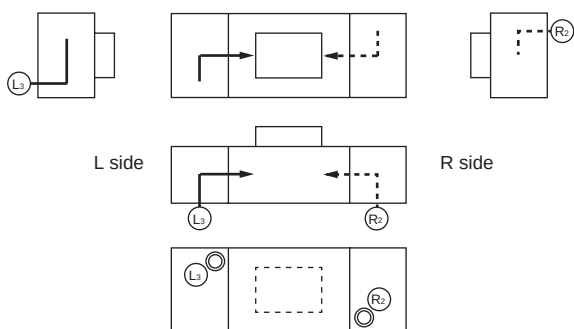
Bore size $\varnothing 80/\varnothing 100$ equiv.

● Option code (blank, R, B, T)



Ⓡ indicates the pressurized ports on R side and Ⓛ indicates the pressurized ports on L side. When the product is shipped from the factory, ports other than one each of Ⓡ and Ⓛ are sealed with plugs. Remove the plugs when piping to the plugged ports.

● Option code (D, S) (bottom piping)

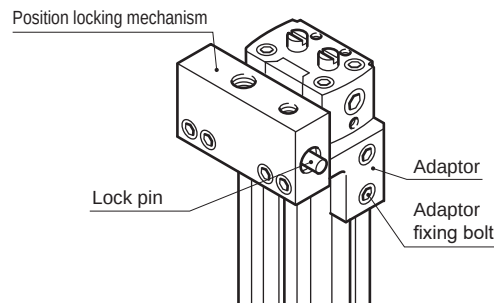


There are no ports for piping other than Ⓡ Ⓛ.

2. Position locking SRL3-Q

⚠ WARNING

■ How to adjust the stroke adjusting unit

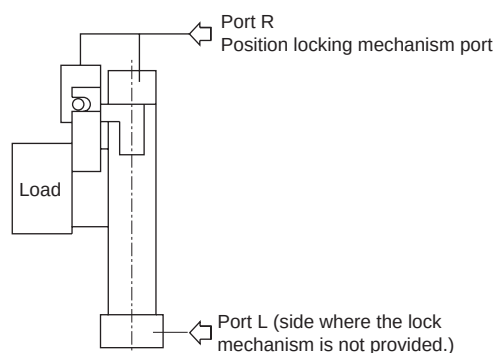


- Loosen the adaptor fixing bolt to move the position locking mechanism.
The type with shock absorber (A or A1) should be used in this case. Using the shock absorber for fine adjustment of the stroke will displace the position locking mechanism, which prevents secure locking. Therefore, use the adaptor fixing bolt for fine adjustment.
- After moving it to the desired position, tighten the adaptor fixing bolt with the value in the table below. If tightened with a value less than that in the table below, the position locking mechanism may be displaced.
- When setting a load, make sure to check that the lock mechanism functions before installing the product.

Model	Adaptor 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

■ Piping

- Piping to the position locking mechanism is necessary.

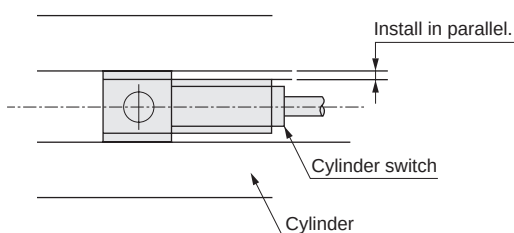


- Divide the piping to R side of the rodless cylinder using a tee fitting, etc., and with the same kind of pipe, connect the piping to the position locking mechanism.
- When the piping to the position locking mechanism is long and thin, or when the speed controller is far away from the cylinder port, note that it takes time to engage the lock. Clogging in the silencer mounted on the EXH port of the valve may cause the same result.

- Supply pressure equal to or higher than the min. working pressure to the position locking mechanism port.

- CKD's shock absorber is a repair part.
Replace when the energy absorption performance has degraded or the operation is not smooth.

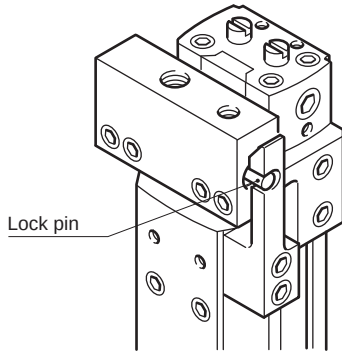
- Install the switch in parallel with the mounting groove and do not apply force to the lead wire.



■ Manual release

- Push in the lock pin of position locking mechanism using a stick. At this time, make sure to supply pressure to port L, and before unlocking, check that load is not applied to the lock mechanism.

If pressure is supplied to port R when both ports R and L are exhausted and the piston is locked, the lock may be unlocked and the table may pop out. This can be extremely hazardous.



■ 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 rate is increased using the quick exhaust valve, the lock may not release normally because the cylinder body starts operating before the lock pin.
For the position locking cylinder, do not use the quick exhaust valve.

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

	Use/maintenance
SCP*3	
CMK2	1. Position locking SRL3-Q
CMA2	⚠ WARNING
SCM	■ For safety purposes, prevent the load from falling under its own weight during maintenance.
SCG	■ 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 bounces off at the stroke end, which may similarly damage the mechanism. Adjust the needle of the air cushion so that there is no bound. When stopping the piston with an external buffer device (shock absorber, etc.), adjust it similarly so that there is no bound.
SCA2	Inspect the piston once or twice per year to make sure there is no damage to the retainer caused by this phenomenon.
SCS2	
CKV2	
CAV2/ COVPIN2	
SSD2	
SSG	
SSD	
CAT	
MDC2	
MVC	
SMG	
MSD/ MSDG	
FC*	
STK	
SRL3	⚠ CAUTION
SRG3	■ After the lock mechanism is manually operated, make sure to confirm manual operation and return the mechanism to the original state before use. Do not perform manual operation except for adjustment, as it is dangerous.
SRM3	■ When mounting or adjusting the cylinder, release the lock. If mounting work, etc., is done while the lock is engaged, the lock part may be damaged.
SRT3	■ Do not use multiple synchronized cylinders. Do not use so that 1 workpiece is moved by synchronizing 2 or more position locking cylinders. Lock release may fail for one of the cylinders.
MRL2	■ Use the speed controller with meter-out. If the meter-in control is used, the lock may not be able to be released.
MRG2	■ At the side where the lock mechanism is attached, be sure to use the cylinder from the stroke end. If the cylinder piston does not reach the stroke end, the lock may not be engaged or the lock may not be able to be released.
SM-25	■ Apply grease regularly to the sliding part of the lock lever.
ShkAbs	
FJ	
FK	
Spd Contr	
Ending	