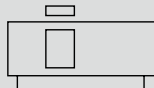


High precision guided rodless cylinder

SRG3 Series

● Bore size: φ12/φ16/φ20/φ25 or equiv.



Specifications

Descriptions	SRG3 (Standard/with switch)			
Bore size	φ12	φ16	φ20	φ25
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)
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	
Stroke tolerance mm	+2.0 0			
Working piston speed mm/s	50 to 1000 (*1)			
Repeat stopping accuracy mm	±0.05 (With shock absorber)			
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 length. Contact CKD.

Allowable absorbed energy

Bore size (mm)	Cushioned		Without cushion	With shock absorber (initial set point)	
	Allowable absorbed energy (J)	Cushion stroke (mm)	Allowable absorbed energy (J)	Absorbed energy (J)	Effective stroke length (mm)
φ12 or equiv.	0.03	14.5	0.003	2.4	5.5
φ16 or equiv.	0.22	19.2	0.007	2.4	5.5
φ20 or equiv.	0.59	22.2	0.010	5.7	7
φ25 or equiv.	1.40	20.9	0.015	10	9

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
φ12 or equiv.	200, 300, 400	450	1
φ16 or equiv.	200, 300, 400, 500	800	
φ20 or equiv.	600, 700, 800		
φ25 or equiv.	200/300/400/ 500/600/700/ 800/900/1000	1000	

* The custom stroke length is available in 1 mm increments.

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

Switch quantity	1		2		3		4		5		6	
	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H
Switch model No.												
Bore size (mm)												
φ12 or equiv.	10	10	30	45(70)	60	90(120)	90	135(170)	120	180(220)	150	225(270)
φ16 or equiv.	10	10	30	45(70)	60	90(120)	90	135(170)	120	180(220)	150	225(270)
φ20 or equiv.	10	10	30	45(70)	60	90(120)	90	135(170)	120	180(220)	150	225(270)
φ25 or equiv.	10	10	30	45(70)	60	90(120)	90	135(170)	120	180(220)	150	225(270)

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

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

Switch quantity	1		2		3		4		5		6	
	T*V	T*H	T*V	T*H	T*V	T*H	T*V	T*H	T*V	T*H	T*V	T*H
Switch model No.												
Bore size (mm)												
φ12 or equiv.	5	5	45	50(70)	85	100(120)	125	150(170)	165	200(220)	205	250(270)
φ16 or equiv.	5	5	45	50(70)	85	100(120)	125	150(170)	165	200(220)	205	250(270)
φ20 or equiv.	5	5	45	50(70)	85	100(120)	125	150(170)	165	200(220)	205	250(270)
φ25 or equiv.	10	10	45	50(70)	85	100(120)	125	150(170)	165	200(220)	205	250(270)

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

Switch specifications (M type switch)

- 1-color/2-color display

Descriptions	Proximity 2-wire		Proximity 3-wire		
	M2V, M2H	M2WV (2-color display)	M3H, M3V	M3PH/M3PV (custom 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 20 mA		100 mA or less	100 mA or less	100 mA or less
Indicator lamp	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		

Descriptions	Reed 2-wire			
	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	24 VDC or less	110 VAC or less
Load current	5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less
Indicator lamp	LED (Lit when ON)		Without indicator lamp	
Leakage current	0 mA			
Weight	g		1 m:22 3 m:57 5 m:93	

1 : M0 switch can be used for 24 VAC and 48 VAC within load current range of 7 to 20 mA.

*2: Refer to Ending Page 1 for other switch specifications.

Switch specifications (T type switch)

- 2-color display

Descriptions	Proximity 2-wire		Proximity 3-wire	
	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 lamp	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	

- For AC magnetic field

Descriptions	Proximity 2-wire		
	T2YD, T2YDT		
Applications	Dedicated for programmable controller		
Indicator lamp	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		

Note: This switch cannot be used in DC magnetic field.

Cylinder weight

Unit: kg

Bore size (mm)	Weight for 0 mm stroke length			Switch weight	Mounting bracket weight		Additional weight per 100mm stroke length
	Basic (00)	Foot			T type	M type	
		(LB)	(LB1)				
φ12 or equiv.	0.46	0.47	0.48	Refer to the weight in the switch specifications.	0.005	0.001	0.23
φ16 or equiv.	0.61	0.62	0.64				0.28
φ20 or equiv.	0.96	0.98	1.02				0.33
φ25 or equiv.	1.73	1.83	1.83				0.52

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

SRG3 Series

How to order

Without switch (built-in magnet for switch)

SRG3-00-25-B-200-A

With switch (built-in magnet for switch)

SRG3-00-25-B-200-M0H-R-A

A Mounting
*1

B Bore size

C Port thread

D Cushion

E Stroke length

F Switch model No.
*3/*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 : Refer to page 1632 for the min. stroke length with switch.

*3 : Avoid environments where the cylinder is exposed to welding spatter.

Be careful with T2YD and T2YDT in use.

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

*5 : Refer to the dimensions for the port and cushion needle position codes.

*6 : For option codes "R" and "T", the mounting will be "00" or "LB1".

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

*7 : A flat nut is already attached to option code "A3" so that you can add the full stroke length adjusting bracket later.

*8 : The thread size of option code "H" is M4 for φ12/φ16 and M5 for φ20.

*9 : LB1 with port position D is not possible. (φ25)

[Example of model No.]

SRG3-00-25B-200-M0H-R-A

Model: High precision guided rodless cylinder

- A** Mounting : Basic
- B** Bore size : φ25 mm
- C** Port thread : Rc thread
- D** Cushion : Both sides cushioned
- E** Stroke length : 200 mm
- F** Switch model No. : Reed MOH switch
- G** Switch quantity : 1 on R side
- H** Option : Both-side full stroke length adjustable, with shock absorber

Code	Content					
A Mounting						
00	Basic					
LB	Axial foot					
LB1	Axial foot					
B Bore size (mm)						
12	φ12					
16	φ16					
20	φ20					
25	φ25					
C Port thread						
Blank	Rc thread					
N	NPT thread (φ20 or more) (custom order product)					
G	G thread (φ20 or more) (custom order product)					
D Cushion						
B	Both sides cushioned					
R	R side cushioned					
L	L side cushioned					
N	Without cushion					
E Stroke length (mm)						
Bore size	Stroke length *2	Custom stroke length				
φ12	1 to 450	In 1 mm increments				
φ16	1 to 800					
φ20	1 to 800					
φ25	1 to 1000					
F Switch model No.						
Axial lead wire	Radial lead wire	Contact	Voltage	Indicator lamp	Lead wire	
			AC	DC		
M0H*	M0V*	Reed	●	●	1-color display	2-wire
M5H*	M5V*		●	●	Without indicator lamp	
M2H*	M2V*	Proximity		●	1-color display	2-wire
-	M2WV*			●	2-color display	
M3H*	M3V*			●	1-color display	3-wire
-	M3WV*			●	2-color display	
M3PH*	M3PV*			●	1-color display (custom)	3-wire
T2WH*	T2WV*			●	2-color display	
T2YH*	T2YV*		●	2-wire		
T3WH*	T3WV*		●		3-wire	
T3YH*	T3YV*		●	2-wire		
T2YD*	-		●		2-color display	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 (φ)	12	16	20	25	
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	●	●	●	●	
H	Larger thread for table installation	●	●	●	●	
Blank	Port position : F (Standard)	●	●	●	●	
R	: R (Common port)	●	●	●	●	
B	: F	●	●	●	●	
T	: R (Common port)	●	●	●	●	
D	: D				●	
	Cushion needle position : F (Standard)	●	●	●	●	
	: F	●	●	●	●	
	: B	●	●	●	●	
	: B	●	●	●	●	
	: F				●	

How to order switch

(Common with SRL3.)

- Switch body + mounting bracket set

SRL3 - M0H

Switch model No.
(Item ⑤ on the previous page)

- Switch body only

SW - M0H

Switch model No.
(Item ⑤ on the previous page)

- Mounting bracket set (*2)
M type switch

SRL3 - M

T type 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 type switch and T type switch.

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

How to order discrete shock absorber

SRL3 - 20 - NCK

Bore size
(Item ⑥ on the previous page)

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

Applicable shock absorber model No.

Model No.	Compatible model
NCK-00-0.3-C	SRG3-12/16
NCK-00-0.7-C	SRG3-20
NCK-00-1.2	SRG3-25

How to order repair parts

SRL3 - 20 K - 200

Bore size
(Item ⑥ on the previous page)

Stroke length
(Item ⑤ on the previous page)

How to order mounting bracket

SRL3 - LB - 20

Mounting
(Item ① on the previous page)

Bore size
(Item ⑥ on the previous page)

(Bracket x 2, mounting bolt x 4)

How to order full stroke length adjusting bracket kit

(Applies to option code A3.)

SRG3 - 20

Bore size
(Item ⑥ on the previous page)

- A** (Both-side full stroke length adjusting bracket kit)
- A1** (R side full stroke length adjusting bracket kit)
- A2** (L side full stroke length adjusting bracket kit)

(For configurations, refer to page 1641)

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa						
		0.1	0.2	0.3	0.4	0.5	0.6	0.7
φ12	Push/Pull	-	27.7	41.5	55.3	69.1	83.0	96.8
φ16	Push/Pull	-	43.2	64.8	86.4	1.08 × 10 ²	1.30 × 10 ²	1.51 × 10 ²
φ20	Push/Pull	-	62.9	94.4	1.26 × 10 ²	1.57 × 10 ²	1.89 × 10 ²	2.20 × 10 ²
φ25	Push/Pull	54.2	1.08 × 10 ²	1.63 × 10 ²	2.17 × 10 ²	2.71 × 10 ²	3.25 × 10 ²	3.80 × 10 ²

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

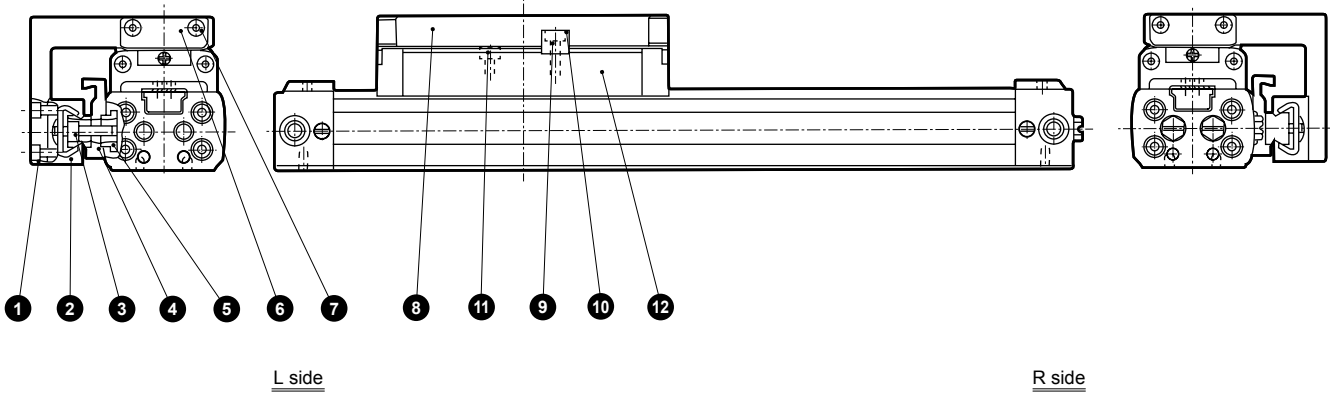
FJ

FK

Spd Contr

Ending

Internal structure and parts list



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Hexagon socket head cap screw	Alloy steel	Black finish	7	Hexagon socket head cap screw	Alloy steel	Zinc chromate
2	High precision guide	Stainless steel		8	Connection plate	Aluminum alloy	Alumite
3	Hexagon socket head cap screw	Alloy steel	Black finish	9	Key	Steel	Black finish
4	Guide holder	Aluminum alloy	Alumite	10	Hexagon socket head cap screw	Alloy steel	Black finish
5	Flat nut (B)	Steel	Black finish	11	Hexagon socket head cap screw	Alloy steel	Zinc chromate
6	Stopper plate	Steel	Zinc chromate	12	Table	Aluminum alloy	Alumite

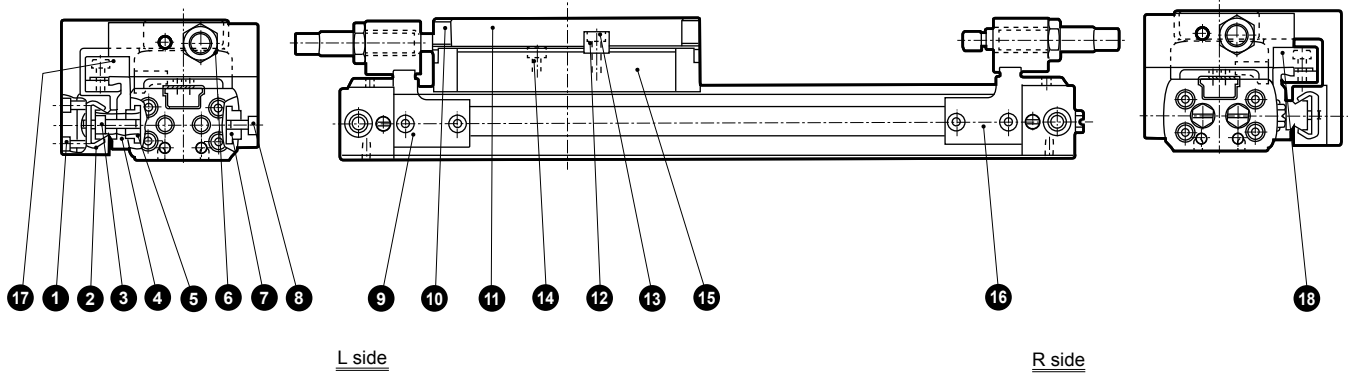
Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ12 or equiv.	SRL3-12K-*	The repair parts are the same as those of the rodless cylinder SRL3 Series. Refer to page 1561.
φ16 or equiv.	SRL3-16K-*	
φ20 or equiv.	SRL3-20K-*	
φ25 or equiv.	SRL3-25K-*	

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

Internal structure and parts list

- Full stroke length adjustable with shock absorber



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Hexagon socket head cap screw	Alloy steel	Black finish	10	Stopper plate	Steel	Zinc chromate
2	High precision guide	Stainless steel		11	Connection plate	Aluminum alloy	Alumite
3	Hexagon socket head cap screw	Alloy steel	Black finish	12	Key	Steel	Black finish
4	Guide holder	Aluminum alloy	Alumite	13	Hexagon socket head cap screw	Alloy steel	Black finish
5	Flat nut (B)	Steel	Black finish	14	Hexagon socket head cap screw	Alloy steel	Zinc chromate
6	Hexagon nut	Steel	Zinc chromate	15	Table	Aluminum alloy	Alumite
7	Flat nut	Alloy steel	Black finish	16	Adaptor (L)	Steel	Zinc chromate
8	Hexagon socket head cap screw	Alloy steel	Zinc chromate	17	Adaptor (LG)	Steel	Zinc chromate
9	Adaptor (R)	Steel	Zinc chromate	18	Adaptor (RG)	Steel	Zinc chromate

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

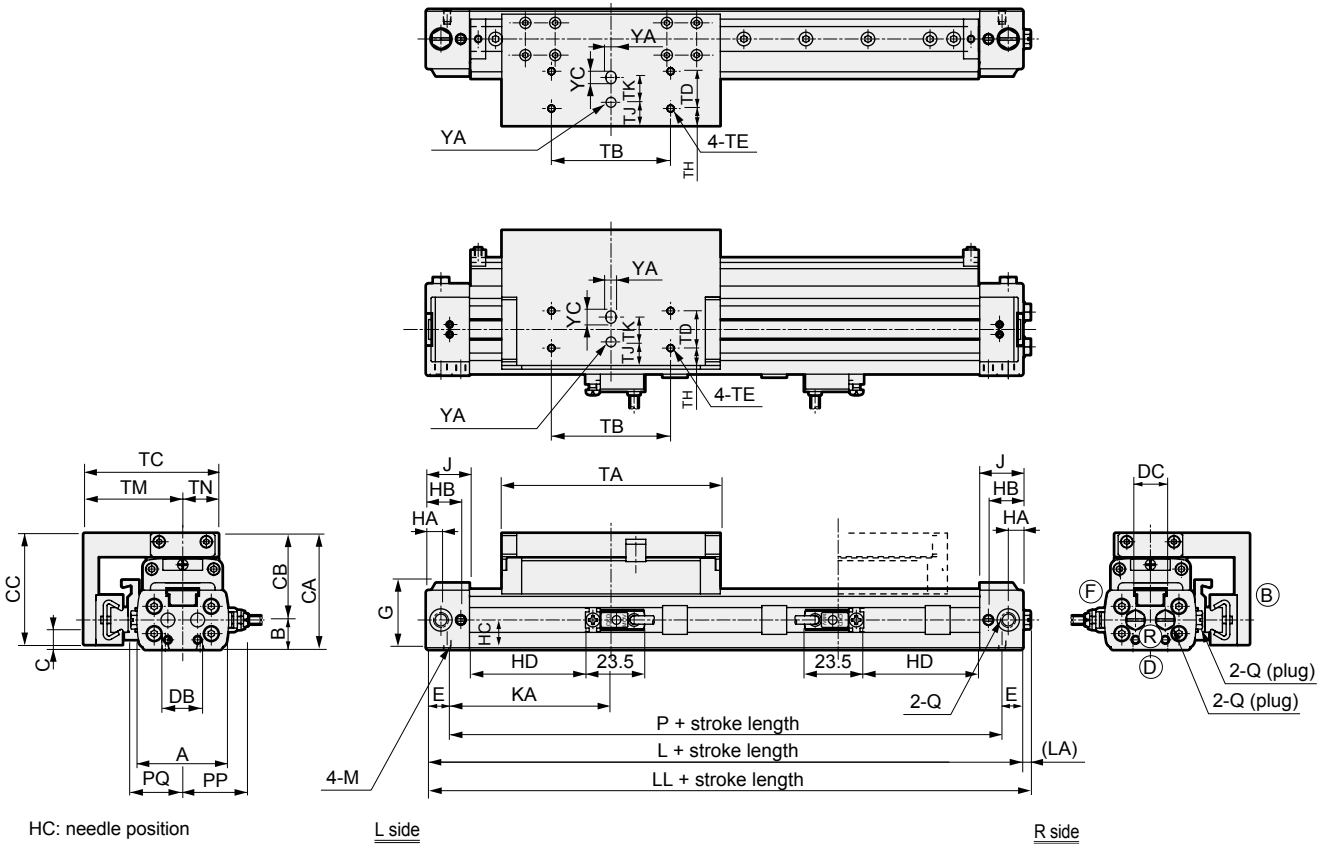
Spd
Contr

Ending

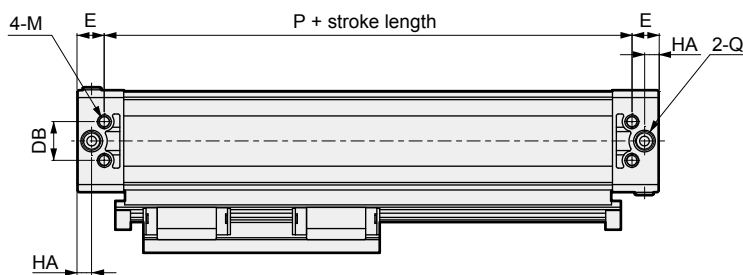
SRG3 Series

Dimensions

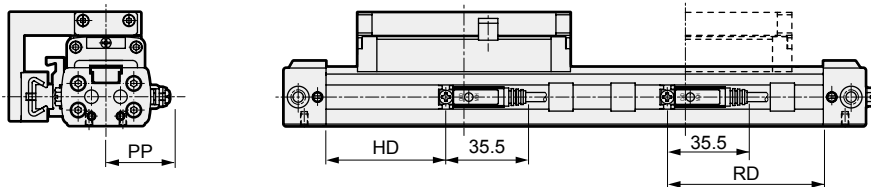
- With cylinder switch SRG3-**-***-M*V*
(lead wire L-shaped)



- Bottom piping (option code: D)
Bottom piping is only for $\phi 25$ or equiv.



- With cylinder switch SRG3-**-***-M*H*
(lead wire straight)

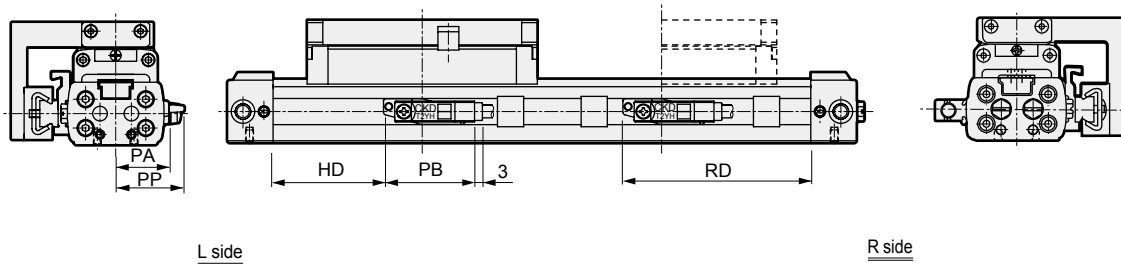


Code	A	B	CA	CB	CC	DB	DC	E	G	HA	HB	HC	J	KA	L	LL	LA	M	P	PQ	Q	TA	TB	TC
$\phi 12$ or equiv.	33	10.5	43	32.5	40.5	10	11	8.5	24	6	14	10.5	17.5	59.5	136	139	3	M3 depth 5	119	19	M5	81	42	49
$\phi 16$ or equiv.	37	12	47	35	45	14	12	8.5	27	6	14	12	17.5	66	149	152	3	M3 depth 5	132	21	M5	88	48	54.5
$\phi 20$ or equiv.	44	14	54	40	50	16	16	10.5	31	8.5	18.5	14	22	74	169	171.5	2.5	M4 depth 6.5	148	24.5	Rc1/8	100	60	61.5
$\phi 25$ or equiv.	53	17	67	50	63.5	20	26	14	40.5	7.5	20	18.9	24	81	190	192	2	M6 depth 9	162	—	Rc1/8	122	70	80

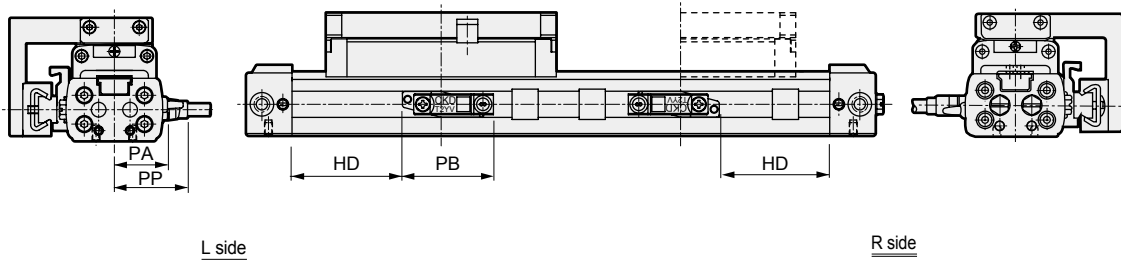
Note: Refer to the table on the right as well.

Dimensions

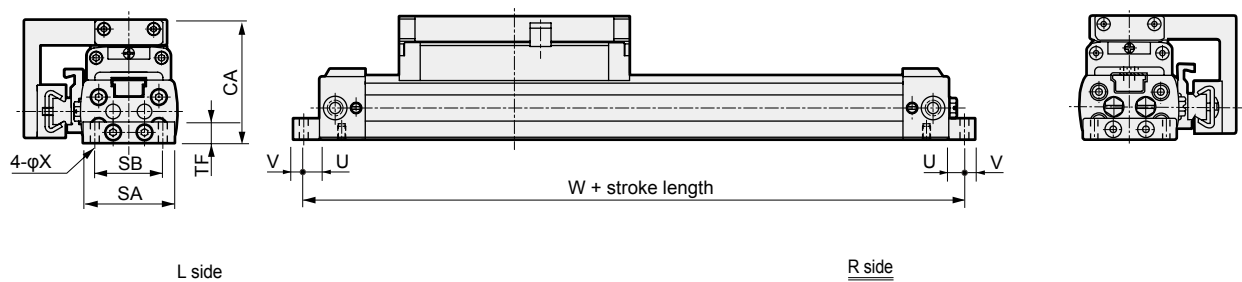
- With cylinder switch SRG3-**-**-***-T*H (T*W, T*Y, T2YD)



- With cylinder switch SRG3-**-**-***-T*V (T*W, T*Y)



- With foot bracket SRG3-LB-**-***



Code	TD	TE	TH	TJ	TK	TM	TN	YA	YC	With foot bracket (LB)						
										SA	SB	TF	U	V	W	X
φ12 or equiv.	13	M3 depth 5	6.5	8	10	36	13	4 ^{+0.07} / _{-0.02} depth 4	5	32	24	8	6	4	148	3.4
φ16 or equiv.	15	M3 depth 6	7	9.5	10	40	14.5	4 ^{+0.07} / _{-0.02} depth 4	5	35	26	8	6	4	161	3.4
φ20 or equiv.	18	M4 depth 6	8.5	10	15	44	17.5	6 ^{+0.07} / _{-0.02} depth 6	7	43	33	10	6	6	181	4.5
φ25 or equiv.	20	M5 depth 8	12	14.5	15	58	22	6 ^{+0.07} / _{-0.02} depth 6	7	52	20	12	9	11	208	7

Code	With switch																
	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
φ12 or equiv.	40.5	36	32	60.5	65	69	24.3	35	34	33.5	23	24.5	26	23	28.4	20.7	17.2
φ16 or equiv.	47	42	38	67	72	76	26.3	35	34	33.5	25	26.5	28	25	30.4	22.7	19.2
φ20 or equiv.	52.5	48	44	72.5	77	81	29.3	35	34	33.5	28	29.5	31	28	33.4	25.7	22.2
φ25 or equiv.	60	56	52	82	86	90	34.3	35	34	33.5	33	34.5	36	33	38.4	30.7	27.2

Note: Refer to the table on the left as well.

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

SRG3 Series

SCP*3

Dimensions



CMK2

● With foot bracket SRG3-LB1-**-***

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVPIN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

Dimensions: With option



MSD/
MSDG

● Full stroke length adjustable with shock absorber (SRG3)

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

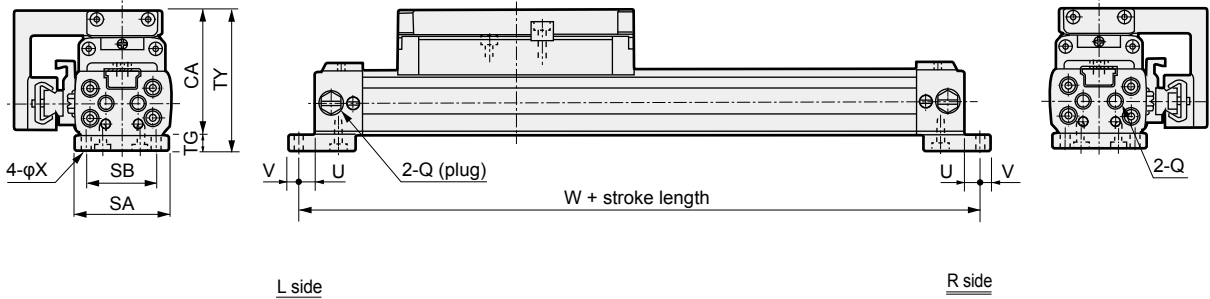
ShkAbs

FJ

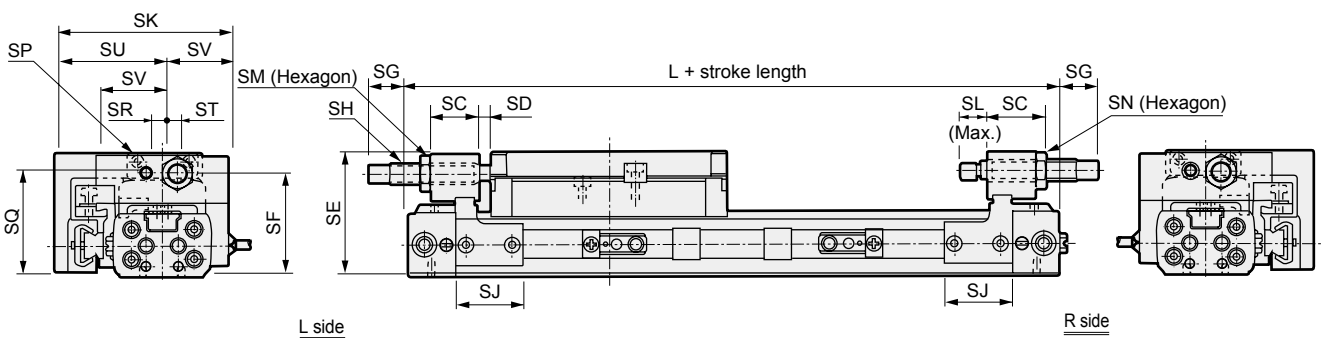
FK

Spd
Contr

Ending



Code	With foot bracket (LB1)									
	Bore size (mm)	Q	SA	SB	TG	TY	CA	U	V	W
φ12 or equiv.	M5	32	24	6	49	43	6	4	148	3.4
φ16 or equiv.	M5	35	26	6	53	47	6	4	161	3.4
φ20 or equiv.	Rc1/8	43	33	8	62	54	6	6	181	4.5
φ25 or equiv.	Rc1/8	50	20	10	77	67	9	11	208	7



Code	SC	SD	SE	SF	SG			SH		SJ	SK	SL	SM	SN	SP	SQ	SR	ST	SU	SV
					At max.	At min.	Adjusting range	O.D. thread	Max. absorbed energy(J)											
φ12 or equiv.	19.5	2.5	42	35	17.5	7.5	10	M8 × 0.75	3	25	58.5	8.5	12	7	M4	35.5	6	3	36	22.5
φ16 or equiv.	18	4	46	39	14.5	4.5	10	M8 × 0.75	3	25	64.5	10	12	7	M4	40	6	4	40	24.5
φ20 or equiv.	22.5	3.5	53	45	14.5	4.5	10	M10 × 1.0	7	39	72.5	11.5	14	8	M5	48	8	5	44	28.5
φ25 or equiv.	20	2.5	65.5	54.5	14.5	4.5	10	M12 × 1.0	12	50	96.5	11.5	17	10	M6	56	12	10	58	38.5