

LCY

Linear slide cylinder

Multifunctioned

φ 10/φ 16/φ 20/φ 25

Overview

Highly rigid, high precision cylinder for Z-axis having a linear guide and cylinder in parallel configuration in a thin body.

Features

High precision/high rigidity

The sealed precision linear guide provides a micron accuracy and high rigidity at a higher level.

Simple, space saving

Space saving by providing the grooves in the main body for installing small switches.

Low-profile design

Low-profile Z-axis actuator designed to minimize effect in the moment load on the X-axis.

Flexible piping direction

Rear piping or side piping can be selected. (LCY-A-10 and 16: Side piping only)

Common piping

In LCY-A-20 and 25 with integrated air piping, all adjacent devices including a hand-chuck can be piped on the rear side of the body.

Simple, flexible installation

The top or back surface can fit to the equipment when installed. The holes for set screw on the front and top of the body enable easy mounting of a chuck, etc.



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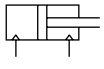
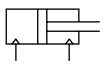
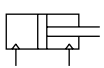
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2 COVP/IN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
SMD2
MSD/ MSDG
FC*
STK
STM
STG
STS/STL
LCR
LCG
LCX
LCM
LCT
LCY
STR2
UCA2
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
Shock absorber
FJ
FK
Speed controller
Ending

Series variation

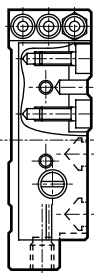


Discontinue Linear slide cylinder LCY Series

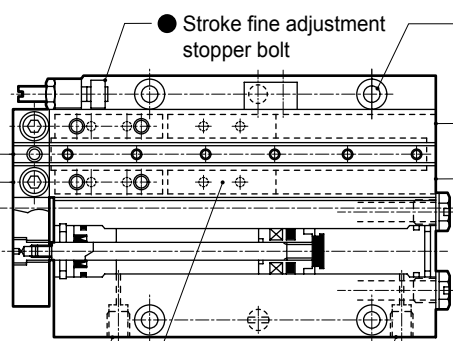
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
SMD2
MSD/
MSDG
FC*
STK
STM
STG
STS/STL
LCR
LCG
LCX
LCM
LCT
LCY
STR2
UCA2
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
Shock absorber
FJ
FK
Speed controller
Ending

Variation	Model no. JIS symbol	Bore size (mm)	Standard stroke length (mm)			
			15	30	50	
Basic type	LCY 	φ 10	●	●	●	
		φ 16/φ 20/φ 25	●	●	●	
Reduced piping type	LCY-A 	φ 10	●	●	●	
		φ 16/φ 20/φ 25	●	●	●	
Stroke adjustable type (when pulled)	LCY-R 	φ 10	●	●	●	
		φ 16/φ 20/φ 25	●	●	●	

Product introduction



A jig, etc. can be mounted on two sides



● Side piping port

●: Standard ◎: Option ■: Not available

Stroke length (mm)			Max. stroke length (mm)	Option		Switch	Page
				With positioning hole	Additional table tap		
	75	100		E	N		
			50	◎	◎	◎	2122
	●	●	100	◎	◎		
			50	◎	◎	◎	2122
	●	●	100	◎	◎		
			50	◎	◎	◎	2122
	●	●	100	◎	◎		

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2 COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
SMD2
MSD/ MSDG
FC*
STK
STM
STG
STS/STL
LCR
LCG
LCX
LCM
LCT
LCY
STR2
UCA2
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
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SCP*3 Variation and option selection table

●: Standard

◎: Option

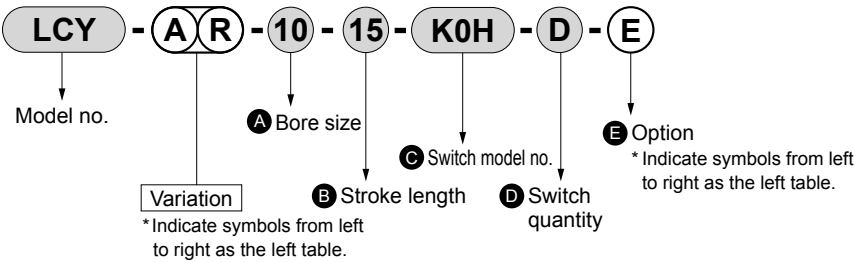
○: Available (custom order product)

△: Available depending on conditions (Contact CKD)

×: Not available

Category		Category	Variation			Port thread			Option		
			Double acting basic type	Reduced piping type	Adjustable stroke (pull)	NPT	G		Additional table tap	With positioning hole	
Variation		Symbol	No	A	R	N	G		N	E	
	Double acting basic type	Blank				×	×		◎	◎	
	Reduced piping type	A			○	×	×		◎	◎	
	Adjustable stroke (pull)	R				×	×		◎	◎	
	NPT	N					×		×	×	
	G	G							×	×	
	Additional table tap	N								◎	
	With positioning hole	E									
	Cylinder switch	Listed on ending	◎	◎	◎				◎	◎	

<Example of model no.>



- Model no.: Linear slide cylinder
- Variation: Reduced piping, stroke adjustable type
 - A Bore size : ϕ 10 mm
 - B Stroke length : 15 mm
 - C Switch model no. : Reed KOH switch, lead wire 1 m
 - D Switch quantity : 2
 - E Option : With positioning hole

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2 COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
SMD2
MSD/ MSDG
FC*
STK
STM
STG
STS/STL
LCR
LCG
LCX
LCM
LCT
LCY
STR2
UCA2
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
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Ending



Linear slide cylinder

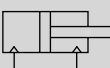
Double acting

Double acting reduced piping type

Stroke adjustable type

● Bore size: ϕ 10/ ϕ 16/ ϕ 20/ ϕ 25

JIS symbol



LCY Series
LCY-A Series
LCY-R Series



Specifications

Descriptions	LCY	LCY-A	LCY-R
Bore size mm	ϕ 10	ϕ 16	ϕ 20
Actuation	Double acting		
Working fluid	Compressed air		
Max. working pressure MPa	0.7		
Min. working pressure MPa	0.15	0.2	0.15
Proof pressure MPa	1.0		
Ambient temperature °C	-10 to 60 (no freezing)		
Port size	M5		
Stroke tolerance mm	+1.0 0		
Adjustable stroke range mm	0 to -5 (push side)		0 to -5 (both sides)
Working piston speed mm/s	50 to 300		
Cushion	Rubber cushion		
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary)		
Allowable absorbed energy J	0.023	0.023	0.030

Note) Maximum clearance between end plate and piston rod is 0.15 mm.

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)	Min. stroke with switch (mm)
φ 10	15, 30, 50	50	15	15
φ 16	15, 30, 50, 75, 100	100		
φ 20				
φ 25				

Note: Stroke length other than above is not available.

Switch specifications

● 1 color/2 color display type

① Color/2 color display type									
Descriptions	Proximity 2 wire		Proximity 3 wire			Reed 2 wire			
	K2H/K2V	K2YH/K2YV	K3H/K3V	K3PH/K3PV (custom order)	K3YH/K3YV	K0H/K0V		K5H/K5V	
Applications	Programmable controller		Programmable controller, relay			Programmable controller, relay		Programmable controller, relay IC circuit (without indicator light), serial connection	
Output method	-		NPNoutput	PNP output	NPNoutput	-			
Power supply voltage	-		10 to 28 VDC			-			
Load voltage	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC
Load current	5 to 20 mA (Note 1)		50 mA or less			5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less
Indicator light	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Yellow LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)		-	
Leakage current	1 mA or less		10 μA or less			0 mA			
Weight	g	1 m: 18	1 m: 31	1 m: 18		1 m: 31		1 m: 18 3 m: 49 5 m: 80	
		3 m: 49	3 m: 85	3 m: 49		3 m: 85			
		5 m: 80	5 m: 139	5 m: 80		5 m: 139			

Note 1: Max. load current of 20 mA is applied at 25°C. The current will be lower than 20 mA if ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

Note 2: Refer to Ending 1 for other switch specifications.

Note 3: Dimensions vary depending on switch model no. Refer to Ending 21 for details.

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa						
		0.15	0.2	0.3	0.4	0.5	0.6	0.7
φ 10	Push	11.8	15.7	23.6	31.4	39.3	47.1	55.0
	Pull	9.90	13.2	19.8	26.4	33.0	39.6	46.2
φ 16	Push	30.2	40.2	60.3	80.4	1.01×10^2	1.21×10^2	1.41×10^2
	Pull	25.9	34.6	51.8	69.1	86.4	1.04×10^2	1.21×10^2
φ 20	Push	47.1	62.8	94.2	1.26×10^2	1.57×10^2	1.88×10^2	2.20×10^2
	Pull	39.6	52.8	79.2	1.06×10^2	1.32×10^2	1.58×10^2	1.85×10^2
φ 25	Push	73.6	98.2	1.47×10^2	1.96×10^2	2.45×10^2	2.95×10^2	3.44×10^2
	Pull	61.9	82.5	1.24×10^2	1.65×10^2	2.06×10^2	2.47×10^2	2.89×10^2

Cylinder weight

Unit: g

Stroke length		15	30	50	75	100
Model no.						
φ 10	Basic type	167	197	237		
	Reduced piping type	167	198	238		
	Stroke adjustable type	175	205	245		
φ 16	Basic type	322	363	417	486	554
	Reduced piping type	322	363	418	487	556
	Stroke adjustable type	334	375	429	498	566
φ 20	Basic type	564	627	712	818	923
	Reduced piping type	565	628	714	820	926
	Stroke adjustable type	590	653	738	844	949
φ 25	Basic type	849	934	1048	1190	1333
	Reduced piping type	850	935	1050	1193	1336
	Stroke adjustable type	879	964	1078	1220	1363

(Example) Product weight

LCY-16-50-K2H-D

- Cylinder product weight $417 \text{ g} \times 1 = 417 \text{ g}$
- Weight of 2 cylinder switches ... $18 \text{ g} \times 2 = 36 \text{ g}$
- Product weight $417 \text{ g} + 36 \text{ g} = 453 \text{ g}$

 SCP*3
 CMK2
 CMA2
 SCM
 SCG
 SCA2
 SCS2
 CKV2
 CAV2
 COV/PIN2
 SSD2
 SSG
 SSD
 CAT
 MDC2
 MVC
 SMG
 SMD2
 MSD/
 MSDG
 FC*
 STK
 STM
 STG
 STS/STL
 LCR
 LCG
 LCX
 LCM
 LCT
 LCY
 STR2
 UCA2
 SRL3
 SRG3
 SRM3
 SRT3
 MRL2
 MRG2
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 Shock absorber
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SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
SMD2
MSD/
MSDG
FC*
STK
STM
STG
STS/STL
LCR
LCG
LCX
LCM
LCT
LCY
STR2
UCA2
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
Shock absorber
FJ
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Speed controller
Ending

How to order

Without switch

LCY-A - 10 - 15 ——— E

With switch

LCY-A - 10 - 15 - K2H - R - E

A Model no.

B Bore size

C Stroke length

D Switch model no.

E Switch quantity

F Option

<Example of model no.>

LCY-A-10-15-K0H-R-E

Model: Linear slide cylinder

- A Model : Reduced piping type
 B Bore size : ϕ 10 mm
 C Stroke length : 15 mm
 D Switch model no. : Reed K0H switch
 E Switch quantity : 1 (on rod end)
 F Option : With positioning hole

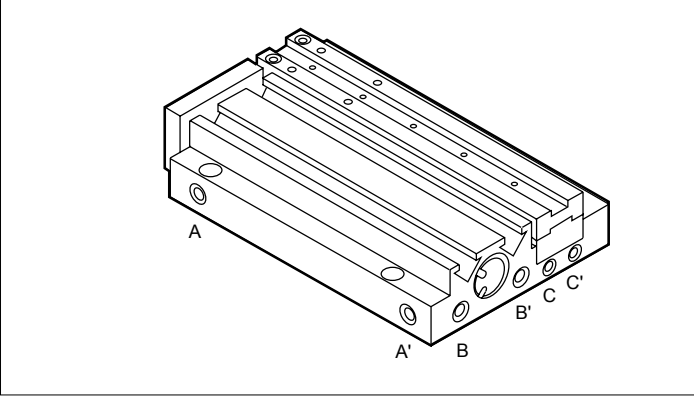
Symbol	Descriptions					
A Model no.						
LCY	Basic type					
LCY-A	Reduced piping type					
LCY-R	Stroke adjustable type					
B Bore size (mm)						
10	φ 10					
16	φ 16					
20	φ 20					
25	φ 25					
C Standard stroke length						
Symbol	Stroke length (mm)	Applicable bore size				
		φ 10	φ 16	φ 20	φ 25	
15	15	●	●	●	●	
30	30	●	●	●	●	
50	50	●	●	●	●	
75	75		●	●	●	
100	100		●	●	●	
D Switch model no.						
Lead wire straight type	Lead wire L-shaped type	Contact	Voltage		Display	Lead wire
			AC	DC		
K0H*	K0V*	Reed	●	●	1 color display type	2 line
K5H*	K5V*		●	●	Without indicator light	
K2H*	K2V*	Proximity		●	1 color display type	2 line
K3H*	K3V*		●			3 line
K3PH*	K3PV*		●		1 color display type (custom order)	3 line
K2YH*	K2YV*	Proximity		●		2 line
K3YH*	K3YV*		●		2 color display type	3 line
* Lead wire length						
Blank	1 m (standard)					
3	3 m (option)					
5	5 m (option)					
E Switch quantity						
R	1 (on rod end)					
H	1 (on head end)					
D	2					
F Option						
E	With positioning hole					
N	Additional table tap					

How to order switch

SW - K0H

Switch model no.
(Item D above)

Piping



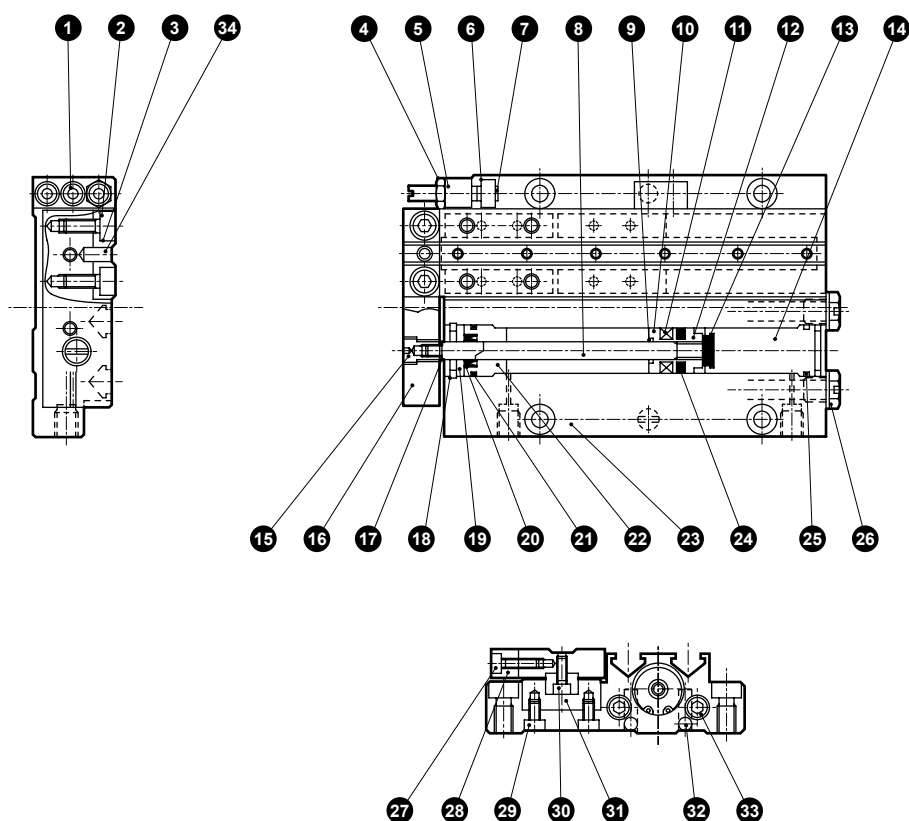
Model	Applicable bore size	Port position		
		A, A'	B, B'	C, C'
LCY	φ 10 to φ 25	○	○	-
LCY-A	φ 10, φ 16	○	△	-
	φ 20, φ 25	○	○	△
LCY-R	φ 10 to φ 25	○	○	-

○: Piping port for driving cylinder
△: Piping port for an actuator for a hand-chuck, etc. mounted on the end
- : Port not specified

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2 COV/PIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
SMD2
MSD/ MSDG
FC*
STK
STM
STG
STS/STL
LCR
LCG
LCX
LCM
LCT
LCY
STR2
UCA2
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
Shock absorber
FJ
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Speed controller
Ending

SCP*3 Internal structure and parts list

● Basic type LCY-10 to 25



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Hexagon socket head cap screw	Steel	Galvanizing	18	C type snap ring for hole	Steel	Phosphate coating
2	Hexagon socket head cap screw	Steel	Galvanizing	19	Cap	Aluminum alloy	φ 10 only
3	Table	Aluminum alloy	Black alumite	20	Rod packing	Nitrile rubber	
4	Hexagon nut	Steel	Blackening	21	Cylinder gasket	Nitrile rubber	
5	Stopper block	Steel	Galvanizing	22	Rod metal	Special aluminum alloy	Alumite
6	Stopper bolt	Steel	Blackening	23	Cylinder body	Aluminum alloy	Hard alumite
7	Cushion rubber	Urethane rubber		24	Piston packing	Nitrile rubber	
8	Piston rod	Stainless steel	φ 20, φ 25: industrial chrome plating	25	Gasket	Nitrile rubber	
9	Snap ring	Stainless steel	φ 10 only	26	Plug	Brass	Nickeling
10	Spacer	Special aluminum alloy		27	Hexagon socket head cap screw	Steel	Galvanizing
11	Magnet	Plastic		28	Stopper	Steel	Galvanizing
12	Piston	Special aluminum alloy		29	Hexagon socket head cap screw	Steel	Galvanizing
13	Cushion rubber (H)	Urethane rubber		30	Hexagon socket head cap screw	Steel	Galvanizing
14	Base plate	Aluminum alloy		31	Linear guide		
15	Floating bush	Steel	Galvanizing	32	Steel ball	Stainless steel	
16	End plate	Aluminum alloy	Black alumite	33	Hexagon socket set screw	Steel	Galvanizing
17	Plain washer	Steel	Blackening, φ 10 only	34	Spring pin	Steel	Blackening

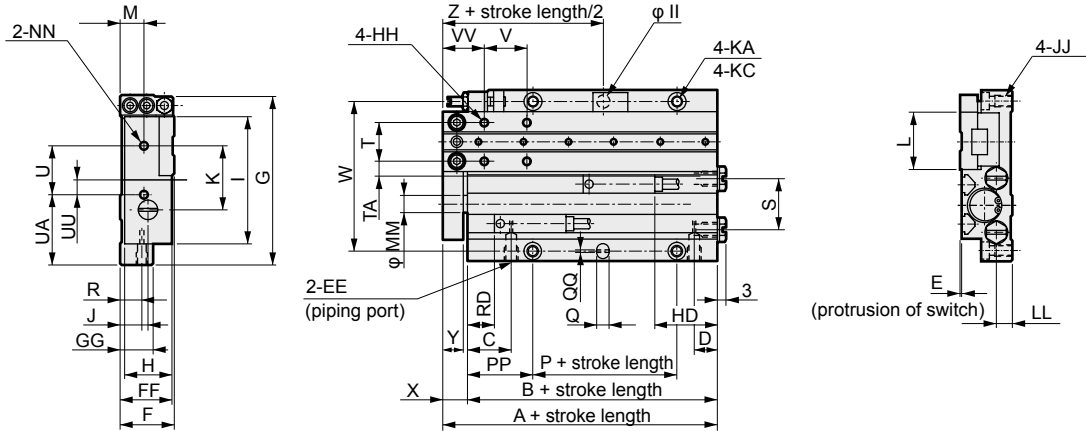
Repair parts list

Bore size (mm)	Kit no.	Repair parts no.
φ 10	LCY-10K	4 6 7 13 20 21 24 25
φ 16	LCY-16K	
φ 20	LCY-20K	
φ 25	LCY-25K	

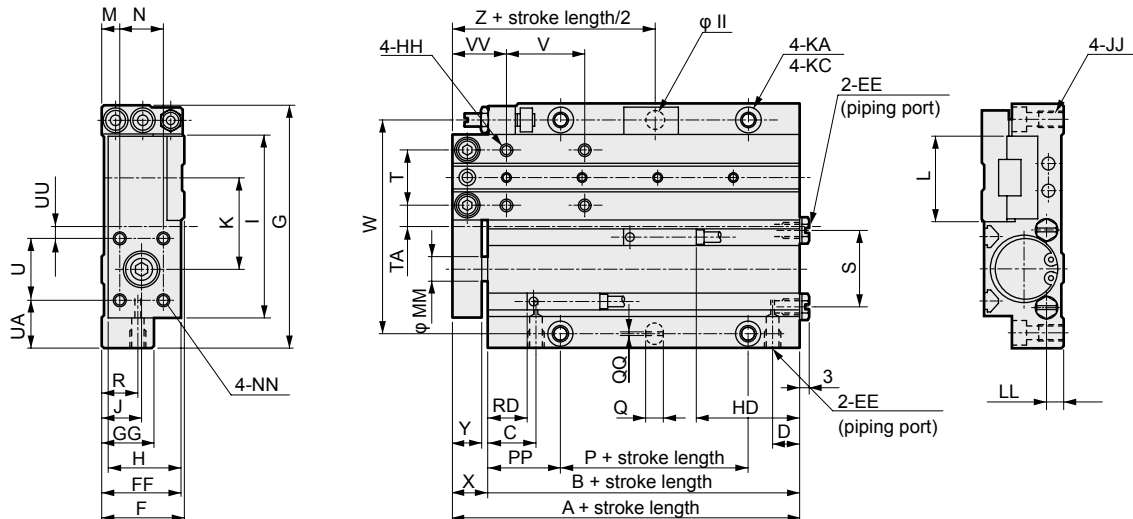
Dimensions



● Basic type LCY-10/16



● Basic type LCY-20/25



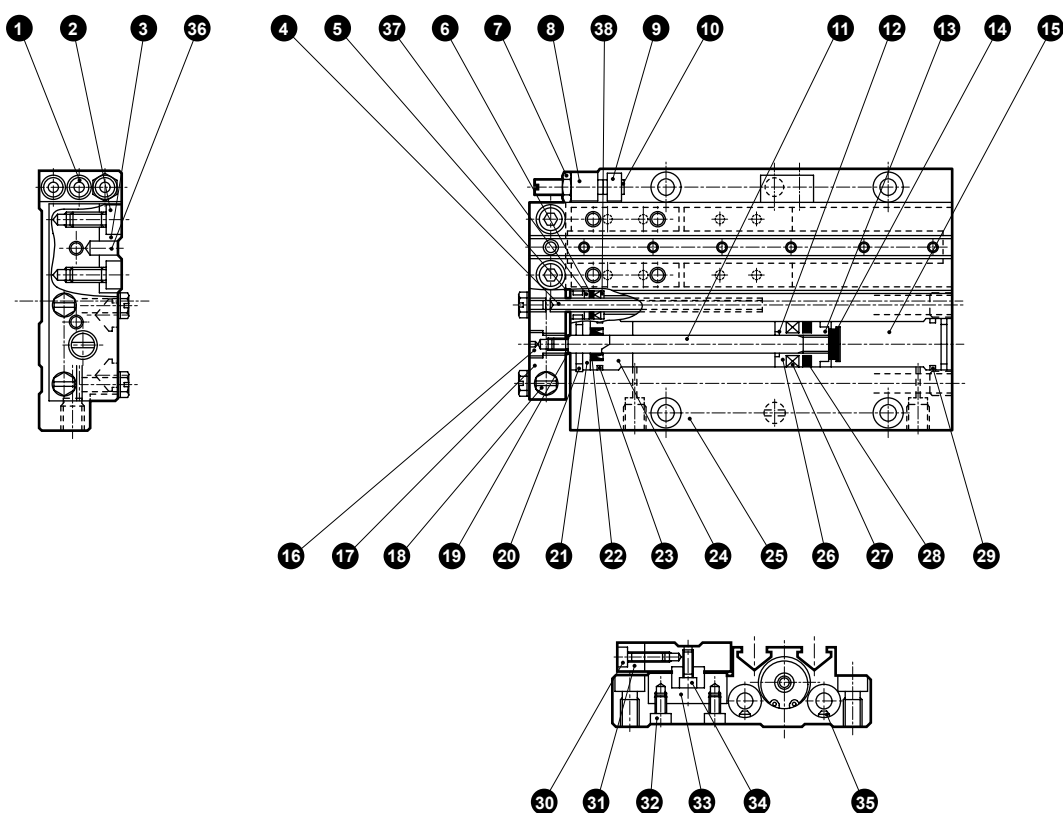
Symbol Bore size (mm)	A	B	C	D	E	EE	F	FF	G	GG	H	HH							
φ 10	62	53	14	7.5	1	M5	18	17	56	11	15	M3 depth 6							
φ 16	75	66	11.5	7.5	0.5	M5	21	20	68	13	18.8	M4 depth 7							
φ 20	85	73	16	9	0.5	M5	27	26	80	17	23.8	M4 depth 8							
φ 25	102	88	17	11	0.5	M5	33	32	88	20	29.5	M5 depth 10							
Symbol Bore size (mm)	I	II	J	JJ	K	KA	KC	L	LL	M	MM	N							
φ 10	42.5	4 ^{+0.07 +0.02} depth 4	9.5	M4 depth 6	21	3.4 penetrating	6.5 spot face depth 3.3	19	5.5	8	4	-							
φ 16	51	6 ^{+0.07 +0.02} depth 6	10	M5 depth 7.5	25.5	4.3 penetrating	8 spot face depth 4.4	21	5.5	8	6	-							
φ 20	60	6 ^{+0.07 +0.02} depth 6	13	M5 depth 8	30	4.3 penetrating	8 spot face depth 4.4	28	5.5	6	8	14							
φ 25	67	6 ^{+0.07 +0.02} depth 6	16	M6 depth 10	33.5	5.2 penetrating	9.5 spot face depth 5.4	34	5.5	8	10	16							
Symbol Bore size (mm)	NN			P		PP		Q			QQ		R	S					
φ 10	M3 depth 8			18		21		4 ^{+0.07 +0.02} depth 4			1		7.2	17					
φ 16	M4 depth 8			30		20		6 ^{+0.07 +0.02} depth 6			1		9	24					
φ 20	M4 depth 10			32		24		6 ^{+0.07 +0.02} depth 6			1		12	25					
φ 25	M5 depth 12			38		25		6 ^{+0.07 +0.02} depth 6			1		14	28					
Symbol Bore size (mm)	T	TA	U	UA	UU	V	VV	W	X	Y	Z	K0H, K5H		K2H, K3H		K0V, K5V		K2V, K3V	
φ 10	12	5.5	16	23.5	4.5	14	14	48.5	9 ^{+0.5 -1.0}	8	39	RD	HD	RD	HD	RD	HD	RD	HD
φ 16	14	8	18	31	3	19	15	59	9 ^{+0.5 -1.0}	8	44	10.5	31.5	11.5	30.5	10.5	28.5	11.5	27.5
φ 20	18	7	20	16	4	26	16	70	12 ^{+0.5 -1.0}	10	52	13.5	35.5	14.5	34.5	13.5	32.5	14.5	31.5
φ 25	22	5.5	22	16	6	26	16	77	14 ^{+0.5 -1.0}	12	58	14	50	15	49	14	47	15	46

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
SMD2
MSD/
MSDG
FC*
STK
STM
STG
STS/STL
LCR
LCG
LCX
LCM
LCT
LCY
STR2
UCA2
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
Shock absorber
FJ
FK
Speed controller
Ending

LCY-A Series

SCP*3 Internal structure and parts list

● Reduced piping type LCY-A-10/16



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Hexagon socket head cap screw	Steel	Galvanizing	20	C type snap ring for hole	Steel	Phosphate coating
2	Hexagon socket head cap screw	Steel	Galvanizing	21	Cap	Aluminum alloy	φ 10 only
3	Table	Aluminum alloy	Black alumite	22	Rod packing	Nitrile rubber	
4	Pipe	Stainless steel		23	Cylinder gasket	Nitrile rubber	
5	Piping cap	Aluminum alloy		24	Rod metal	Special aluminum alloy	Alumite
6	Piping packing	Nitrile rubber		25	Cylinder body	Aluminum alloy	Hard alumite
7	Hexagon nut	Steel	Blackening	26	Spacer	Special aluminum alloy	
8	Stopper block	Steel	Galvanizing	27	Magnet	Plastic	
9	Stopper bolt	Steel	Blackening	28	Piston packing	Nitrile rubber	
10	Cushion rubber	Urethane rubber		29	Gasket	Nitrile rubber	
11	Piston rod	Stainless steel	φ 20, φ 25: industrial chrome plating	30	Hexagon socket head cap screw	Steel	Galvanizing
12	Snap ring	Stainless steel	φ 10 only	31	Stopper	Steel	Galvanizing
13	Piston	Special aluminum alloy		32	Hexagon socket head cap screw	Steel	Galvanizing
14	Cushion rubber (H)	Urethane rubber		33	Linear guide		
15	Base plate	Aluminum alloy		34	Hexagon socket head cap screw	Steel	Galvanizing
16	Floating bush	Steel	Galvanizing	35	Hexagon socket set screw	Steel	Galvanizing
17	End plate	Aluminum alloy	Black alumite	36	Spring pin	Steel	Blackening
18	Plug	Copper or copper alloy	Nickeling	37	Piping spacer	Aluminum alloy	
19	Plain washer	Steel	Blackening	38	Plain washer	Stainless steel	

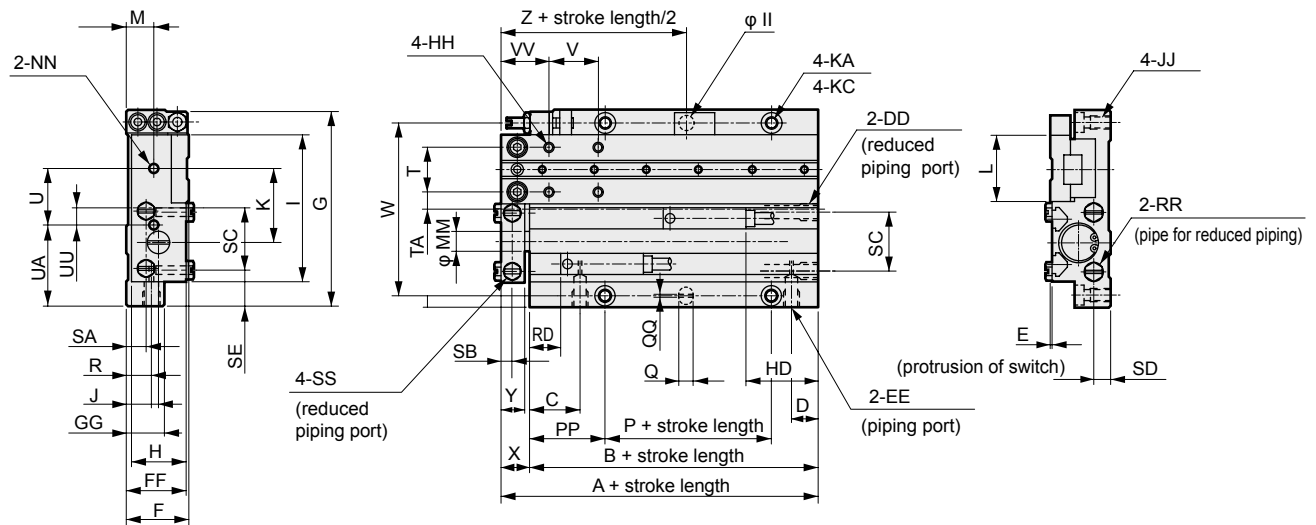
Repair parts list

Bore size (mm)	Kit no.	Repair parts no.
φ 10	LCY-A-10K	6 7 9 10 14 22 23 28 29
φ 16	LCY-A-16K	

Dimensions (φ 10, φ 16)



● Reduced piping type LCY-A-10/16



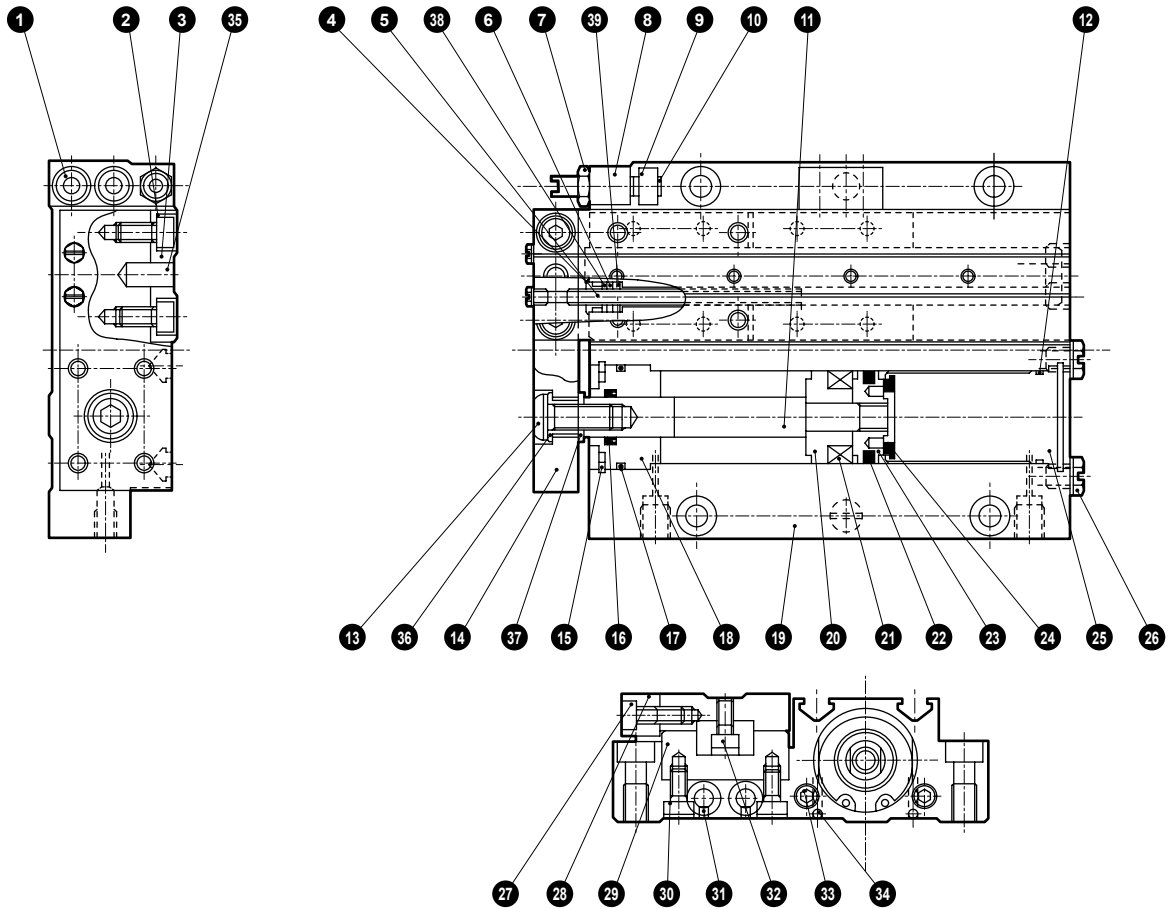
Symbol Bore size (mm)	A	B	C	D	DD	E	EE	F	FF	G	GG	H	HH						
φ 10	62	53	14	7.5	M5	1	M5	18	17	56	11	15	M3 depth 6						
φ 16	75	66	11.5	7.5	M5	0.5	M5	21	20	68	13	18.8	M4 depth 7						
Symbol Bore size (mm)	I	II	J	JJ	K	KA	KC	L	M	MM									
φ 10	42.5	4 ^{+0.07 -0.02} depth 4	9.5	M4 depth 6	21	3.4 penetrating	6.5 spot face depth 3.3	19	8	4									
φ 16	51	6 ^{+0.07 -0.02} depth 6	10	M5 depth 7.5	25.5	4.3 penetrating	8 spot face depth 4.4	21	8	6									
Symbol Bore size (mm)	NN	P	PP	Q	QQ	R	RR	SA	SB	SC	SD	SE	SS						
φ 10	M3 depth 8	18	21	4 ^{+0.07 -0.02} depth 4	1	7.2	3	5.5	3.5	17	5.5	10	M3 depth 3						
φ 16	M4 depth 8	30	20	6 ^{+0.07 -0.02} depth 6	1	9	3	5.5	3.5	24	5.5	11.5	M3 depth 3						
Symbol Bore size (mm)	T	TA	U	UA	UU	V	VV	W	X	Y	Z	K0H, K5H RD HD	K2H, K3H RD HD	K0V, K5V RD HD	K2V, K3V RD HD				
φ 10	12	5.5	16	23.5	4.5	14	14	48.5	9 ^{+0.5 -1.0}	8	39	8	21	9	20	8	18	9	17
φ 16	14	8	18	31	3	19	15	59	9 ^{+0.5 -1.0}	8	44	10.5	31.5	11.5	30.5	10.5	28.5	11.5	27.5

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2 COVP/IN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
SMD2
MSD/ MSDG
FC*
STK
STM
STG
STS/STL
LCR
LCG
LCX
LCM
LCT
LCY
STR2
UCA2
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
Shock absorber
FJ
FK
Speed controller
Ending

LCY-A Series

Internal structure and parts list

● Reduced piping type LCY-A-20/25



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Hexagon socket head cap screw	Steel	Galvanizing	21	Magnet	Plastic	
2	Hexagon socket head cap screw	Steel	Galvanizing	22	Piston packing	Nitrile rubber	
3	Table	Aluminum alloy	Black alumite	23	Piston	Special aluminum alloy	
4	Piping cap	Aluminum alloy		24	Cushion rubber (H)	Urethane rubber	
5	Pipe	Stainless steel		25	Base plate	Aluminum alloy	
6	Piping packing	Nitrile rubber		26	Plug	Brass	Nickeling
7	Hexagon nut	Steel	Blackening	27	Hexagon socket head cap screw	Steel	Galvanizing
8	Stopper block	Steel	Galvanizing	28	Stopper	Steel	Galvanizing
9	Stopper bolt	Steel	Blackening	29	Linear guide		
10	Cushion rubber	Urethane rubber		30	Hexagon socket head cap screw	Steel	Galvanizing
11	Piston rod	Stainless steel	φ 20, φ 25: industrial chrome plating	31	Hexagon socket set screw	Steel	Galvanizing
12	Gasket	Nitrile rubber		32	Hexagon socket head cap screw	Steel	Galvanizing
13	Hexagon socket button head bolt	Steel	Galvanizing	33	Hexagon socket set screw	Steel	Galvanizing
14	End plate	Aluminum alloy	Black alumite	34	Stainless steel ball	Stainless steel	
15	C type snap ring for hole	Steel	Phosphate coating	35	Spring pin	Steel	Blackening
16	Rod packing	Nitrile rubber		36	Floating bush	Steel	Galvanizing
17	Cylinder gasket	Nitrile rubber		37	Plain washer	Steel	Blackening
18	Rod metal	Special aluminum alloy	Alumite	38	Piping spacer	Aluminum alloy	
19	Cylinder body	Aluminum alloy	Hard alumite	39	Plain washer	Stainless steel	
20	Spacer	Special aluminum alloy					

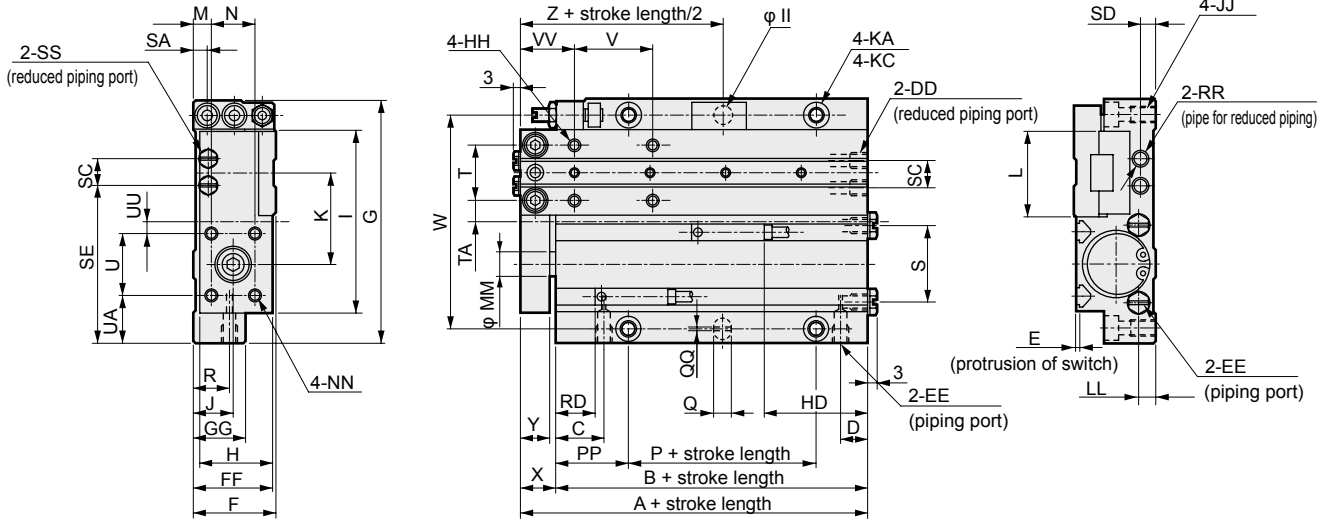
Repair parts list

Bore size (mm)	Kit no.	Repair parts no.
φ 20	LCY-A-20K	6 7 9 10 12 16 17 22 24
φ 25	LCY-A-25K	

Dimensions (φ 20, φ 25)



● Reduced piping type LCY-A-20/25



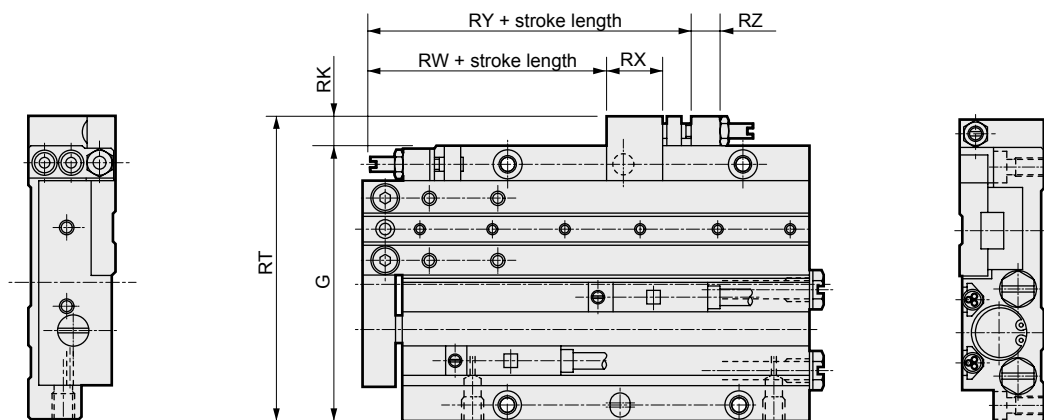
Symbol	A	B	C	D	DD	E	EE	F	FF	G	GG	H	HH		
Bore size (mm)															
φ 20	85	73	16	9	M5	0.5	M5	27	26	80	17	23.8	M4 depth 8		
φ 25	102	88	17	11	M5	0.5	M5	33	32	88	20	29.5	M5 depth 10		
Symbol	I	II	J	JJ	K	KA	KC	L	LL	M	MM	N			
Bore size (mm)															
φ 20	60	6 ^{+0.07 +0.02} depth 6	13	M5 depth 8	30	4.3 penetrating	8 spot face depth 4.4	28	5.5	6	8	14			
φ 25	67	6 ^{+0.07 +0.02} depth 6	16	M6 depth 10	33.5	5.2 penetrating	9.5 spot face depth 5.4	34	5.5	8	10	16			
Symbol	NN	P	PP	Q	QQ	R	RR	S	SA	SB	SC	SD	SE	SS	
Bore size (mm)															
φ 20	M4 depth 10	32	24	6 ^{+0.07 +0.02} depth 6	1	12	3	25	5	-	9	5	51.5	M3 depth 3	
φ 25	M5 depth 12	38	25	6 ^{+0.07 +0.02} depth 6	1	14	3	28	5	-	10	5	55.5	M3 depth 3	
Symbol	T	TA	U	UA	UU	V	VV	W	X	Y	Z	K0H, K5H	K2H, K3H	K0V, K5V	K2V, K3V
Bore size (mm)												RD	HD	RD	HD
φ 20	18	7	20	16	4	26	16	70	12 ^{+0.5 -1.5}	10	52	13.5	35.5	14.5	34.5
φ 25	22	5.5	22	16	6	26	16	77	14 ^{+0.5 -1.5}	12	58	14	50	15	49

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
SMD2
MSD/
MSDG
FC*
STK
STM
STG
STS/STL
LCR
LCG
LCX
LCM
LCT
LCY
STR2
UCA2
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
Shock absorber
FJ
FK
Speed controller
Ending

LCY-R Series

Dimensions

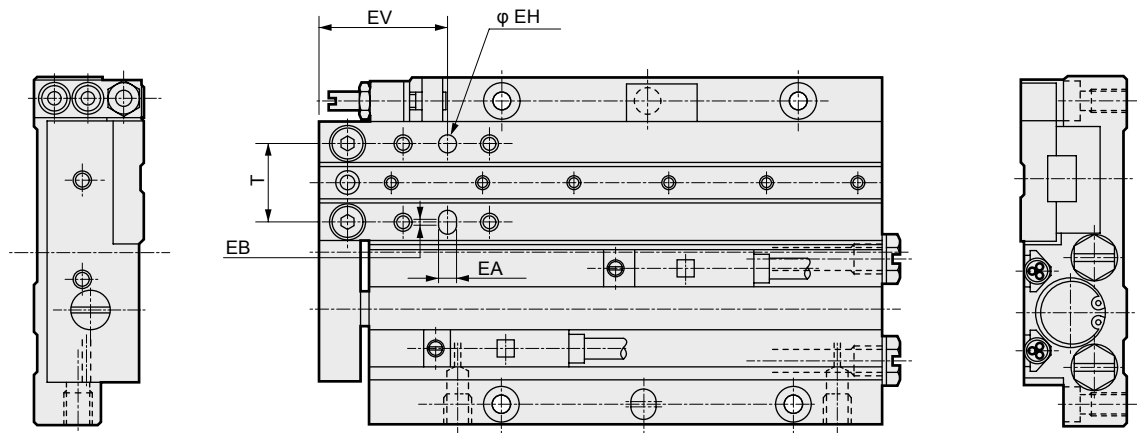
● Stroke adjustable type (when pulled) LCY-R



Symbol	G	RK	RT	RW	RX	RY	RZ
Bore size (mm)							
φ 10	56	6	62	20.2	11.5	37.2	6
φ 16	68	7	75	21.2	14	40.7	7
φ 20	80	9	89	26.7	18	50.7	9
φ 25	88	9	97	28.7	19.5	54.2	9

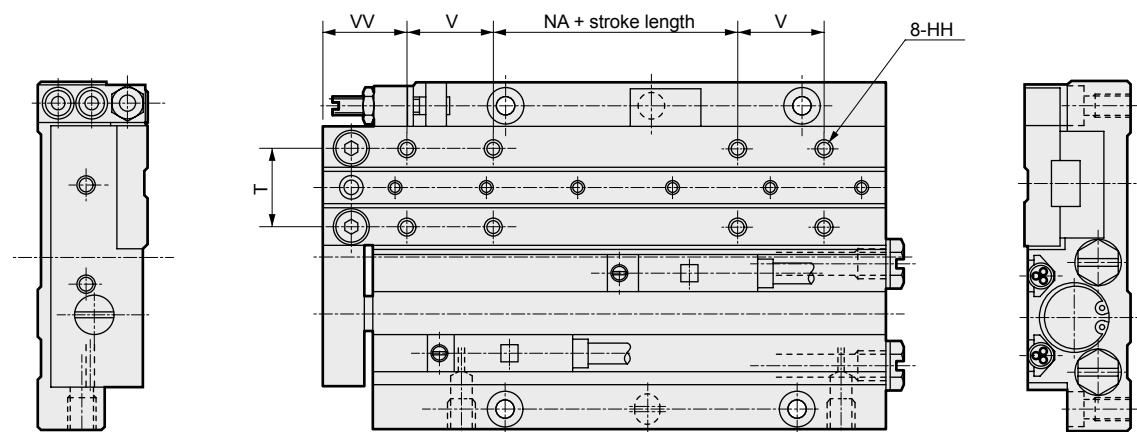
Dimensions; With option

● With positioning hole LCY-E



Symbol Bore size (mm)	EV	EH	EA	EB	T
φ 10	21	3H8 depth 4	3H8 depth 4	1	12
φ 16	24.5	3H8 depth 4	3H8 depth 4	1	14
φ 20	29	4H8 depth 4	4H8 depth 4	1	18
φ 25	29	4H8 depth 4	4H8 depth 4	1	22

● Additional table tap LCY-N



Symbol Bore size (mm)	V	VV	NA	HH	T
φ 10	14	14	8	M3 depth 6	12
φ 16	19	15	10	M4 depth 7	14
φ 20	26	16	5	M4 depth 8	18
φ 25	26	16	22	M5 depth 10	22

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
SMD2
MSD/
MSDG
FC*
STK
STM
STG
STS/STL
LCR
LCG
LCX
LCM
LCT
LCY
STR2
UCA2
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
Shock absorber
FJ
FK
Speed controller
Ending

LCY Series

Technical data

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
SMD2
MSD/
MSDG
FC*
STK
STM
STG
STS/STL
LCR
LCG
LCX
LCM
LCT
LCY
STR2
UCA2
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
Shock absorber
FJ
FK
Speed controller
Ending

Allowable load

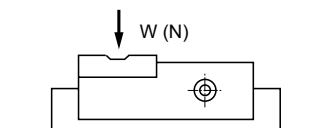
- (1) Calculate all load (W) and moment (M1, M2, M3) per load.
(2) Divide each load by the maximum value shown in the table below to find load/moment ratio, and confirm that the total is 1.0 or less.

$$\frac{W}{W_{\max}} + \frac{M1}{M1_{\max}} + \frac{M2}{M2_{\max}} + \frac{M3}{M3_{\max}} \leq 1.0$$

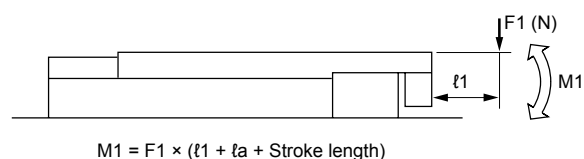
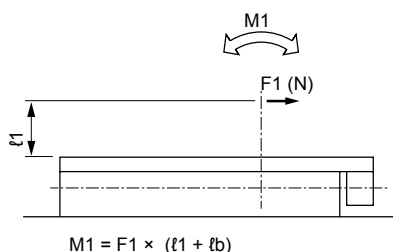
Max.allowable load

Descriptions	Vertical load	Bending moment	Lateral bending moment	Twist moment	ℓa (m)	ℓb (m)
Bore size (mm)	W (N)	M1 (N·m)	M2 (N·m)	M3 (N·m)		
φ 10	3.92	0.58	0.58	0.29	0.034	0.009
φ 16	9.80	1.17	1.17	0.58	0.041	0.0115
φ 20	17.65	1.76	1.76	0.88	0.047	0.012
φ 25	26.47	3.52	3.52	1.76	0.057	0.015

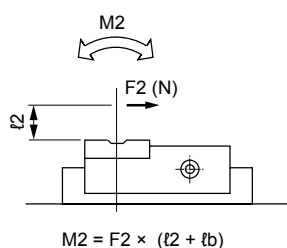
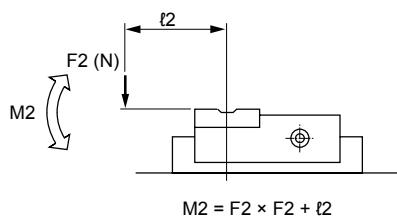
● Vertical load: W



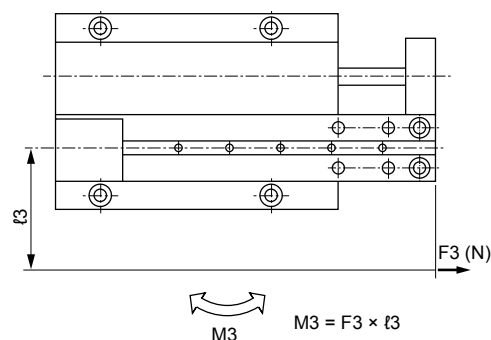
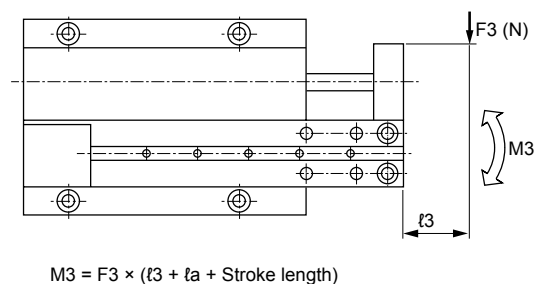
● Bending moment: M1



● Lateral bending moment: M2



● Twist moment: M3





Pneumatic components

Safety Precautions

Always read this section before use.

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

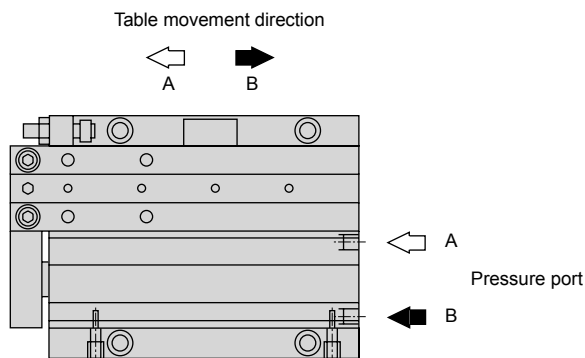
Linear slide cylinder LCY Series

Installation & adjustment

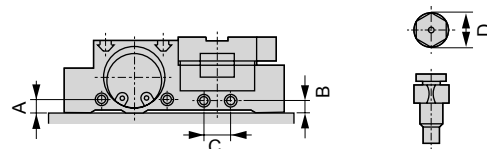
1. Common; when piping

CAUTION

- Check the piping port and the table movement direction before using the rear piping port.



- Applicable fittings for rear piping and reduced piping are limited. Refer to the following table to select a fitting.



Rear piping port

Descriptions	Port size	Port dimension			Fitting O.D.	Applicable fittings
Bore size (mm)		A	B	C	ϕD	
$\phi 10$	M5	5.5			$\phi 11$ or less	SC3W-M5-4, SC3W-M5-6, GWJS4-M5, GWJL4-M5, GWS4-M5, GWL4-M5, GWL6-M5, FTS4-M5, FTL4-M5, FTS6-M5, FTL6-M5
$\phi 16$						
$\phi 20$						
$\phi 25$						

Reduced piping port

Descriptions	Port size	Port dimension			Fitting O.D.	Applicable fittings
Bore size (mm)		A	B	C	ϕD	
$\phi 10$	M5	5.5			$\phi 11$ or less	GWJS4-M5, GWJL4-M5, GWS4-M5, GWL4-M5, GWL6-M5, FTS4-M5, FTL4-M5, FTS6-M5, FTL6-M5
$\phi 16$						
$\phi 20$		5		9	$\phi 9$ or less	FTS4-M5, FTL4-M5, FTS6-M5, FTL6-M5
$\phi 25$				10	$\phi 10$ or less	GWJL4-M5, GWL4-M5, GWL6-M5, FTS4-M5, FTL4-M5, FTS6-M5, FTL6-M5

2. Common; when installing

CAUTION

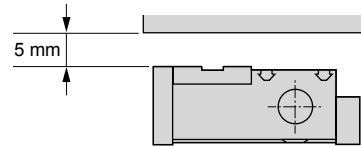
- Prevent the body (tube) mounting surface and the slide table surface from having indentations or scratches that inhibit the flatness of the surface.
- The linear slide cylinder has a bolt for 0 to -5 mm stroke length adjustment on the piston rod outlet side. Loosen the hexagon nut, adjust to the desired stroke length and tighten the hexagon nut to fix the length.
- Do not use the product with the stopper bolt removed.
- Use the cylinder within the allowable absorbed energy in the table below.
If kinetic energy exceeds the value, consider using a separate shock absorber.

Bore size (mm)	Rubber cushion	
	Allowable absorbed energy J	
	PUSH	PULL
φ 10	0.023	0.035
φ 16	0.023	0.098
φ 20	0.030	0.098
φ 25	0.030	0.186

(Note) In the PUSH state and if the stopper bolt is loosened, the cylinder will stop at the rod metal, which should be avoided since the rod metal has no rubber cushion and absorbs almost no energy. Make sure that the cylinder stops with the stopper bolt.

- Apply AFB grease (THK) to the guide rail in six months or when the number of operation times reaches one million, whichever is earlier.
- Do not apply a larger load than the allowable load to the piston rod. Take special care when applying a lateral load.
- The cylinder switch could malfunction if cylinders are installed adjacently. Check that the following distances are provided between cylinders.

- The cylinder switch could malfunction if there is a magnetic substance such as a metal plate installed adjacently. Check that the distance of 5 mm is provided from the surface of the cylinders.



- When using a hole for set screw on the table, prevent the bolt from protruding from the bottom surface of the table. Carefully select an appropriate length of bolt, or the bolt may contact the linear guide resulting in malfunction.

Unit: mm

Conditions of side-by-side installation		Symbol	Switch model no.	φ 10	φ 16	φ 20	φ 25	Remarks
Two cylinders in parallel	• Vertical mounting Switches are attached on the side of the adjacent cylinders	A	K0, K5	32	30	40	51	Be careful that the switch position adjustment cannot be performed if the length of the screw driver is longer than B dimension in the condition when cylinders are mounted.
			K2, K3	30	34	42	52	
		B	K0, K5	15	8	12	17	
			K2, K3	13	12	14	18	
More than two cylinders in parallel	• Vertical mounting	A	K0, K5	35	31	40	54	Be careful that the switch position adjustment cannot be performed if the length of the screw driver is longer than B dimension in the condition when cylinders are mounted.
			K2, K3	32	33	42	53	
		B	K0, K5	17	10	13	21	
			K2, K3	14	12	15	20	