

SCP3
CMK2
SCM
SSD2
MDC2
MSD
MSDG-L
SMG
LCR
LCG
STM
STG
STR2
SCP3
CMK2
SCM
SCG
SSD2
SMG
LCR
STG
STS
STL
LSH
LSHL
LSHM
LST
LSTM
HMC
CKW
ABP2
SCP3
CMK2
SCM
SSD2
MSD
MSDG-L
SMG
STG
STM
LCR
LCG
STR2
LSH
LSHL
SCP3
CMK2
SCM
SCG
SSD2
STG

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

Low-profile long stroke hand

Wide Parallel Hand

Chuck

Air Booster

Compatible with rechargeable batteries

Supports food mfg. processes



Linear slide cylinder Double acting/Single rod

Long service life cylinder

LCR-HP1 Series

● Bore size: ø6/ø8/ø12/ø16/ø20/ø25



Specifications

Item		LCR-HP1					
Bore size mm		ø6	ø8	ø12	ø16	ø20	ø25
Actuation		Double acting					
Working fluid		Compressed air					
Max. working pressureMPa		0.7					
Min. working pressure MPa		0.15 (*1)					
Proof pressure MPa		1.05					
Ambient temperature °C		-10 to 60 (no freezing)					
Port size	Main body side	M3	M5			Rc1/8	
	Main body back	-	M3			M5	Rc1/8
Stroke tolerance mm		+2.0 0 (*2)					
Working piston speedmm/s		50 to 500 (*3)					
Cushion		With rubber cushion					
Lubrication		Not required					
Allowable absorbed energyJ		Refer to the following table.					

*1: 0.2MPa when using the ø6 shock absorber stopper.
*2: Note that there will be a slight gap between the end plate and floating bush if no stopper is attached.
*3: Use the stroke adjusting stopper at 50 to 200mm/s.
*4: The stroke adjusting stopper for 0.3 MPa and over working pressure is the metal sealing type.

Stroke

Bore size (mm)	Standard stroke (mm)
ø6	10, 20, 30, 40, 50
ø8	10, 20, 30, 40, 50, 75
ø12	10, 20, 30, 40, 50, 75, 100
ø16	10, 20, 30, 40, 50, 75, 100, 125
ø20	10, 20, 30, 40, 50, 75, 100, 125, 150
ø25	10, 20, 30, 40, 50, 75, 100, 125, 150

*1: Products with strokes other than the above are not available.

LCR allowable absorbed energy (Eo)

Bore size	Standard (J)	With stroke adjusting stopper (J)	With shock absorber stopper (J)
ø6	0.025	0.0032	0.14
ø8	0.058	0.0032	0.25
ø12	0.112	0.014	0.25
ø16	0.176	0.043	0.65
ø20	0.314	0.055	1.3
ø25	0.314	0.14	1.3

For dimensions, refer to the LCR Series in "Pneumatic Cylinders II (CB-030SA)".

How to order

Without switch(built-in magnet for switch)

LCR - 8 - 40 - S506 DTN - HP1

With switch(built-in magnet for switch)

LCR - 12 - 40 - F2H* - R - S506 DTN - HP1

Model No.

A Tube
Bore size

B Stroke

D Switch quantity

F Option

C Switch model No.

⚠ Precautions for model No. selection

- *1: For the adjustable stroke range with a shock absorber stopper, refer to the stopper dimensions table in "Pneumatic Cylinders II (No. CB-030SA)".
- *2: For the port position, refer to the stopper dimensions in "Pneumatic Cylinders II (No. CB-030SA)".
- *3: The port positions of the standard without stopper are ① and ③ in the figure below.
- *4: Refer to stoppers "C*" and "W*" for combination of the stroke adjusting stopper and shock absorber type stopper.
- *5: Can be selected for the type with stopper only.
- *6: Refer to the selection table on page 30 for combinations of options.
- *7: A1**, A2**, A5** and A6** of ø6 to ø8 with 10 mm stroke or less and ø12 to ø25 with 20 mm stroke or less are made to order since they are not adjustable using the standard stopper.
- *8: When two switches are necessary for the type with S** or A** of ø6 to ø8 with 30 mm stroke or less, select the F □ H type switch.
- *9: Select when using rear piping.
- *10: Can be selected only when using stroke adjusting stopper (S) and one side mixed type (C).
- *11: When two switches are necessary or a switch is installed on the head side of W3 to 6 (both-sided combined stopper) of ø6 (all strokes), ø8 with 20 or 30 mm stroke, ø12 with 30 to 50 mm stroke or ø16 with 30 to 50 mm stroke, select the lead wire straight type.
- *12: Cannot be selected when choosing two-sided combined type (W).
- *13: The adjustable stroke range when choosing both-sided combined use (W) is ø6: 9 mm, ø8: 13.5 mm, ø12: 14.5 mm, ø16: 15 mm, ø20: 13 mm, ø25: 10 mm.
- *14: The stroke adjusting stopper for 0.3 MPa and over working pressure is the metal sealing type.

[Example of model No.]

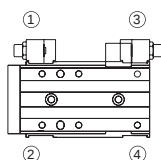
LCR-12-40-F2H-R-A1DT-HP1

Model: Linear slide cylinder Double acting/Single rod LCR

- A Bore size : ø12
- B Stroke : 40 mm
- C Switch model No. : Proximity/2-wire, Reed lead wire straight
- D Switch quantity : 1 (on rod side)
- E Stopper : Shock absorber stopper
Stopper position ①
- F Option : With side and bottom surface ports
Material, steel (nitriding)

E Stopper

● Stopper position



Code	Description
A Bore size	
6	ø6
8	ø8
12	ø12
16	ø16
20	ø20
25	ø25

		Bore size (ø)					
		6	8	12	16	20	25
10	10	●	●	●	●	●	●
20	20	●	●	●	●	●	●
30	30	●	●	●	●	●	●
40	40	●	●	●	●	●	●
50	50	●	●	●	●	●	●
75	75		●	●	●	●	●
100	100			●	●	●	●
125	125				●	●	●
150	150					●	●

C Switch model No.												
Straight lead wire	L-shaped lead wire	Contact	Voltage		Indicator lamp	Lead wire	Bore size					
			AC	DC			ø6	ø8	ø12	ø16	ø20	ø25
-	F2S*	Proximity		●	1-color LED	2-wire	●	●	●			
-	F3S*			●		3-wire						
F2H*	F2V*			●		2-wire						
F3H*	F3V*			●		3-wire						
F3PH*	F3PV*	Proximity		●	1-color LED (PNP output)(Made to order)	3-wire						
F2YH*	F2YV*			●	2-color	2-wire						
F3YH*	F3YV*			●	LED	3-wire						
T0H*	T0V*	Reed	●	●	1-color LED	2-wire						
T5H*	T5V*		●	●	No LED							
T2H*	T2V*			●	1-color							
T3H*	T3V*			●	LED							
T2HR3	T2VR3	Proximity		●	1-color LED Bending resistant lead wire	2-wire				●	●	●
T3PH*	T3PV*			●	1-color LED (PNP output)(Made to order)	3-wire						
T2WH*	T2WV*			●	2-color	2-wire						
T3WH*	T3WV*			●	LED	3-wire						

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

D Switch quantity	
R	1 on rod side
H	1 on head side
D	2

E Stopper	
Page 28 for details on the [Stopper].	

F Option	
Blank	Port on stopper: without port
D	Port on stopper: side and bottom ports *2, *5, *12
Blank	Stopper block material: Steel
T	Stopper block material: steel (nitriding) *5
Plug included	
Blank	No
N	With side piping port plug (not available for ø6, ø25) *9

SCP D3	Long service life cylinder	SCP D3	Linear Slide Hand	SCP D3	Compatible with rechargeable batteries
CMK2		CMK2		CMK2	
SCM		SCM		SCM	
SSD2		SSD2		SSD2	
MDC2		MDC2		MDC2	
MSD		MSD		MSD	
MSDG-L		MSDG-L		MSDG-L	
SMG		SMG		SMG	
LCR		LCR		LCR	
LCG		LCG		LCG	
STM		STM		STM	
STR2		STR2		STR2	
SCP D3		SCP D3		SCP D3	
CMK2		CMK2		CMK2	
SCM		SCM		SCM	
SCG		SCG		SCG	
SSD2		SSD2		SSD2	
SMG		SMG		SMG	
LCR		LCR		LCR	
STG		STG		STG	
STS		STS		STS	
STL		STL		STL	
LSH		LSH		LSH	
LSHL		LSHL		LSHL	
LSHM		LSHM		LSHM	
LST		LST		LST	
LSTM		LSTM		LSTM	
HMC		HMC		HMC	
CKW		CKW		CKW	
ABP2		ABP2		ABP2	
SCP D3		SCP D3		SCP D3	
CMK2		CMK2		CMK2	
SCM		SCM		SCM	
SSD2		SSD2		SSD2	
MSD		MSD		MSD	
MSDG-L		MSDG-L		MSDG-L	
SMG		SMG		SMG	
STG		STG		STG	
SCP D3		SCP D3		SCP D3	
CMK2		CMK2		CMK2	
SCM		SCM		SCM	
SSD2		SSD2		SSD2	
MSD		MSD		MSD	
MSDG-L		MSDG-L		MSDG-L	
SMG		SMG		SMG	
STG		STG		STG	

LCR-HP1 Series

[E Stopper]

Code	Description	Code	Description
E Stopper		C One side hybrid stopper mix (shock absorber stopper, stroke adjusting stopper)	
Blank	No option	C1**	A1+S3
S Stroke adjusting stopper		C2**	A2+S4
S1**	Stopper position ① (can be changed to ④)	C3**	A3+S1
S2**	Stopper position ② (can be changed to ③)	C4**	A4+S2
S3**	Stopper position ③ (can be changed to ②) *15	** part Adjustable stroke range ●Compatible with all. ▲Compatible with some. *10	
S4**	Stopper position ④ (can be changed to ①) *15		
S5**	Stopper position ①, ③		
S6**	Stopper position ②, ④		
A Shock absorber stopper			
A1	Stopper position ① (can be changed to ④)		
A2	Stopper position ② (can be changed to ③)		
A3	Stopper position ③ (can be changed to ②) *15		
A4	Stopper position ④ (can be changed to ①) *15		
A5	Stopper position ①, ③		
A6	Stopper position ②, ④		
W Two-sided combined double stopper(Shock absorber stopper, metal stopper)			
W1	A1 + metal stopper		
W2	A2 + metal stopper		
W3	A3 + metal stopper		
W4	A4 + metal stopper		
W5	A5 + metal stopper		
W6	A6 + metal stopper		

*15: When changing the stopper position from the head side to the rod side, the stopper must be purchased separately according to the stroke and adjustable stroke. Refer to "Precautions when purchasing discrete stopper" on page 32. A1, A2 and adjustable stroke of 15 mm and 25 mm may not be available depending on the stroke.

Stopper model No. selection method

1 Stopper combination table

Model No.-[①Stopper type] [②Stopper position][③] Example) LCR-8-40-[S] [5]06-HP1

		Adjustable stroke (one side)	Shock absorber(One side)	Two-sided combined double stopper	One side hybrid stopper mix
		Stopper model No. [①]			
		[S]	[A]	[W]	[C]
Stopper position model No. [②]	[1]				
	[2]				
	[3]				
	[4]				
	[5]				
	[6]				

▲shows the piping direction. When choosing two-sided combined type (W), the stopper bracket comes with piping on both sides. ▲The stopper bracket on the reverse side of (piping direction) is provided with a plug.

■: Shock absorber stopper
 ■: Stroke adjusting stopper (adjusting range 5 mm)
 ■: Metal adjusting stopper (adjusting range 15 mm)

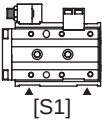
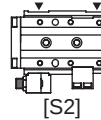
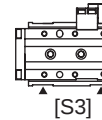
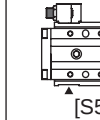
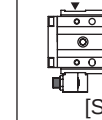
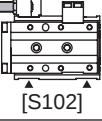
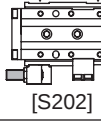
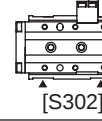
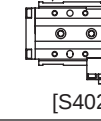
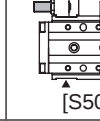
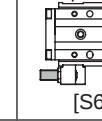
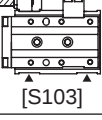
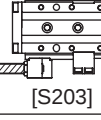
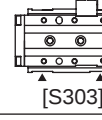
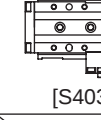
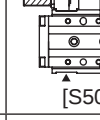
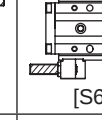
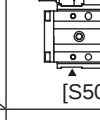
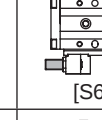
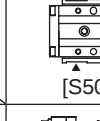
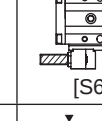
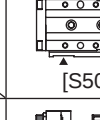
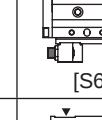
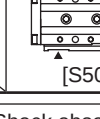
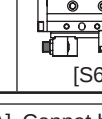
Stopper model No. selection method

2 Stopper combination table

Model No. -[① ②Stopper type][③Adjustable stroke range]

(Example) LCR-8-40-S5[06]-HP1
For stroke adjusting stopper -S

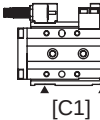
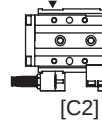
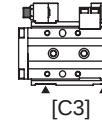
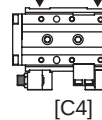
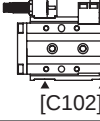
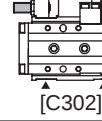
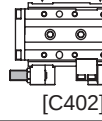
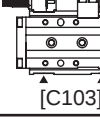
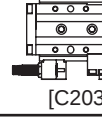
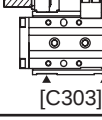
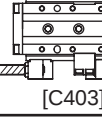
■: Stroke adjusting stopper (adjusting range 5 mm)
▨: Stroke adjusting stopper (adjusting range 15 mm)
▩: Stroke adjusting stopper (adjusting range 25 mm)

		Stopper adjusting range		Stopper model No. [① ②]					
		Protruding end	Return end	[S1]	[S2]	[S3]	[S4]	[S5]	[S6]
Adjustable stroke range model No. [③]	Blank	5 mm or None	5 mm or None	 [S1]	 [S2]	 [S3]	 [S4]	 [S5]	 [S6]
	[02]	15 mm or None	15 mm or None	 [S102]	 [S202]	 [S302]	 [S402]	 [S502]	 [S602]
	[03]	25 mm or None	25 mm or None	 [S103]	 [S203]	 [S303]	 [S403]	 [S503]	 [S603]
	[04]	15 mm	5 mm	Diagonal line				 [S504]	 [S604]
	[05]	25 mm	5 mm					 [S505]	 [S605]
	[06]	5 mm	15 mm					 [S506]	 [S606]
	[07]	5 mm	25 mm	Diagonal line				 [S507]	 [S607]

▲shows the piping direction. Shock absorber [A], Cannot be selected for two-sided combined type [W]N.

3 For one side hybrid stopper mix -C

■: Shock absorber stopper
▨: Stroke adjusting stopper (adjusting range 5 mm)
▩: Stroke adjusting stopper (adjusting range 15 mm)
▩: Stroke adjusting stopper (adjusting range 25 mm)

		Stopper adjusting range		Stopper model No. [① ②]			
		Protruding end	Return end	[C1]	[C2]	[C3]	[C4]
Adjustable stroke range Model No. [③]	Blank	5 mm or shock Absorber	5 mm or shock Absorber	 [C1]	 [C2]	 [C3]	 [C4]
	[02]	15 mm or shock Absorber	15 mm or shock Absorber	 [C102]	 [C202]	 [C302]	 [C402]
	[03]	25 mm or shock Absorber	25 mm or shock Absorber	 [C103]	 [C203]	 [C303]	 [C403]

▲shows the piping direction.
shock absorber adjustable stroke range is, Refer to "Pneumatic Cylinders II (No.CB-030SA)" Refer to the stopper dimensions table.

SCP03	Long service life cylinder
CMK2	
SCM	
SSD2	
MDC2	
MSD	
MSDG-L	
SMG	
LCR	
LCG	
STM	
STG	
STR2	
SCP03	Environment-resistant cylinder
CMK2	
SCM	
SCG	
SSD2	
SMG	
LCR	
STG	
STS	
STL	
LSH	Linear Slide Hand
LSHL	
LSHM	
LST	Low-profile long stroke hand
LSTM	
HMC	Wide Parallel Hand
CKW	Chuck
ABP2	Air Booster
SCP03	Compatible with rechargeable batteries
CMK2	
SCM	
SSD2	
MSD	
MSDG-L	
SMG	
STG	
STM	
LCG	
STR2	
LSH	
LSHL	
SCP03	Supports food mfg. processes
CMK2	
SCM	
SCG	
SSD2	
STG	

LCR-HP1 Series

Long service life cylinder	SCP03
	CMK2
	SCM
	SSD2
Environment-resistant cylinder	MDC2
	MSD
	MSDG-L
	SMG
Linear Slide Hand	LCR
	LCG
	STM
	STG
Low-profile long stroke hand	STR2
	SCP03
	CMK2
	SCM
Wide Parallel Hand	SCG
	SSD2
	SMG
	LCR
Chuck	STG
	STS
	STL
	LSH
Air Booster	LSHL
	LSHM
	LST
	LSTM
Compatible with rechargeable batteries	HMC
	CKW
	ABP2
	SCP03
Supports food mfg. processes	CMK2
	SCM
	SSD2
	MSD
	MSDG-L
	SMG
	STG
	STM
	LCR
	LCG
	STR2
	LSH
	LSHL
	SCP03
	CMK2
	SCM
	SCG
	SSD2
	STG
	STM

How to order switch

ø6 to ø12

SW - F2H

Switch model No.
(Page 27 Item ②)

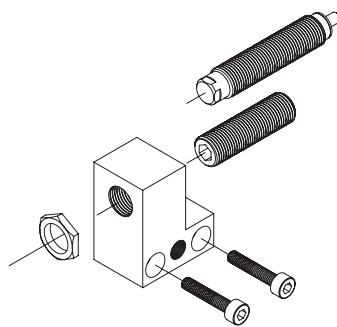
For ø16 to ø25

SW - T2H3

Switch model No.
(Page 27 Item ②)

How to order a stopper set

- Set of a stopper and stroke adjusting stopper or shock absorber stopper
- Use it when changing from the standard to the stroke adjusting stopper or shock absorber stopper.



LCR - 12 - S 2 D - S02

Bore size
(Page 27 Item ①)

A Stopper type	
S	Stroke adjusting stopper
A	Shock absorber stopper
B Stopper installation position *1	
1	For Stopper position ① or ④
2	For Stopper position ② or ③
C Port on the stopper	
Blank	Without port
D	With side and bottom ports
D Adjustable stroke *2, *3	
Blank	Adjustable stroke range 5 mm
S02	Adjustable stroke range 15 mm
S03	Adjustable stroke range 25 mm

*1: When installing in the stopper mounting position ① or ② (refer to page 27), the stroke causes changes in the adjustable stroke; see the following table.

*2: S03 is not available for ø6, ø8.

*3: Cannot be selected for the shock absorber stopper "A".

Note) Bottom port is plug-sealed. ø 20. When using the bottom port with 25, buy a plug kit (LCR-20-N 2 pieces/set) and seal the side surface ports before use.

Precautions when purchasing the stopper set

--: Not applicable

When the stopper set is installed in the mounting position ① or ② (refer to page 27), note that the adjustable stroke will be as shown on the right according to the stroke.

Model No. code	Option code		Discrete stroke adjusting stopper		
			Adjustable stroke (mm)		
	Bore size	Stroke	-5	-15	-25
LCR Series	ø6, ø8	10	S02	-	-
		20 or more	Blank	S02	-
	ø12 to ø25	10	S03	-	-
		20	S02	S03	-
		30 or more	Blank	S02	S03

- Stopper set weight

(Unit : g)

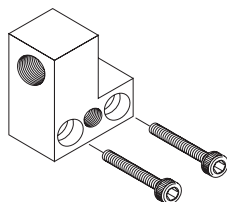
Stopper type	S1,S2			A1,A2
Port on the stopper	Blank, D			
Adjustable stroke	Blank	S02	S03	Blank
ø6	15	18	-	18
ø8	21	25	-	27
ø12	28	31	34	33
ø16	42	47	52	49
ø20	77	85	92	86
ø25	87	94	101	95

SCPD3	Long service life cylinder
CMK2	
SCM	
SSD2	
MDC2	
MSD	
MSDG-L	
SMG	
LCR	
LCG	
STM	
STG	
STR2	
SCPD3	Environment-resistant cylinder
CMK2	
SCM	
SCG	
SSD2	
SMG	
LCR	
STG	
STS	Linear Slide Hand
STL	
LSH	
LSHL	
LSHM	
LST	Low-profile long stroke hand
LSTM	
HMC	Wide Parallel Hand
CKW	Chuck
ABP2	Air Booster
SCPD3	Compatible with rechargeable batteries
CMK2	
SCM	
SSD2	
MSD	
MSDG-L	
SMG	
STG	
STM	
LCR	
LCG	
STR2	
LSH	
LSHL	
SCPD3	Supports food mfg. processes
CMK2	
SCM	
SCG	
SSD2	
STG	

How to order discrete stopper bracket

- Used when changing between □1 (□3) and □2 (□4) or when changing to the stopper with port.

□:SA



LCR - 12 - STB 1 D

Bore size
(Page 27 Item A)

A Stopper installation position

1	For stopper position ① or ④
2	For stopper position ② or ③

B Port on the stopper

Blank	Without port
D	With side and bottom ports

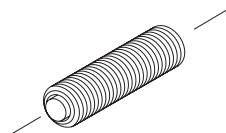
Note) Bottom port is plug-sealed. When using the bottom port with ø20 and ø25, purchase a plug kit (LCR-20-N 2 pieces/set) and seal the side surface ports before use.

- Stopper bracket weight (Unit : g)

Stopper installation position	1, 2
Port on the stopper	Blank, D
ø6	8
ø8	14
ø12	20
ø16	29
ø20	53
ø25	62

How to order discrete stroke adjusting stopper

- Hexagon socket set screw with urethane
- Use when changing the adjustable stroke range or when using a custom stroke.



LCR - 12 - S02

Bore size
(Page 27 Item A)

A Adjustable stroke range

S01	Single side 5 mm (standard)
S02	Single side 15 mm
S03	Single side 25 mm

● Select S01, S02 or S03 in .

Note: S03 is not available for ø6, ø8. Some models may not be available and adjustable stroke range may differ from the above depending on the Model No.

Precautions when purchasing discrete stopper

When a discrete stroke adjusting stopper or a discrete shock absorber stopper is installed in the ① or ② position (refer to page 27), the combination will be as shown on the right according to the stroke and adjustable stroke.

Model No. code	Option code		Discrete stroke adjusting stopper			Discrete shock absorber stopper
			Adjustable stroke (mm)			
	Bore size	Stroke	-5	-15	-25	
LCR Series -S1, S2, S5, S6 -A1, A2, A5, A6	ø6, ø8	10	S02	-	-	-
		20 or more	S01	S02	-	A01
	ø12 and up ø25	10	S03	-	-	-
		20	S02	S03	-	-
		30 or more	S01	S02	S03	A01

- : Not available

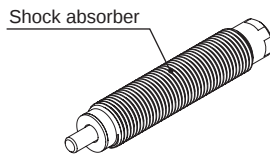
- Discrete stroke adjusting stopper weight

(Unit : g)

Adjustable stroke range	S01	S02	S03
ø6	6	9	-
ø8	7	10	-
ø12	7	11	14
ø16	11	16	22
ø20	22	30	37
ø25	23	30	37

How to order discrete shock absorber stopper

- Shock absorber set
- Use when changing from the stroke adjusting stopper to the shock absorber stopper



LCR - 12 - A01

Bore size
(Page 27 Item A)

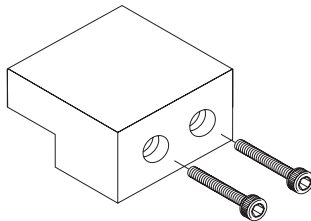
Note: Some models may not be available depending on the specifications. Refer to page 27. For the adjustable stroke range for a shock absorber stopper, refer to the stopper dimensions table in "Pneumatic Cylinders II (No. CB-030SA)".

Applicable shock absorber model No.

Model	Shock absorber model No.	Weight (g)
LCR-6-HP1	SKL-0804	9
LCR-8-HP1	SKL-0805	12
LCR-12-HP1	SKL-0805	12
LCR-16-HP1	SKL-1006	19
LCR-20-HP1	SKL-1208	31
LCR-25-HP1	SKL-1208	31

How to order discrete stopper block

- Use it when changing from the standard to the stroke adjusting stopper or shock absorber stopper.



LCR - 12 - SB1 T

Bore size
(Page 27 Item A)

A Stopper block	
SB1	ø6/ø8: For 30 stroke or less ø12 to ø25: For 50 stroke or less
SB2	ø6/ø8: For 40 stroke or more ø12 to ø25: For 75 stroke or more
B Material	
Blank	Stopper block material: Steel
T	Stopper block material: steel (nitriding)

● Discrete stopper block weight (Unit : g)

Block	SB1(T)	SB2(T)
ø6	11	21
ø8	14	24
ø12	23	37
ø16	38	72
ø20	60	99
ø25	112	206

Model No. of plug kit for side piping port

LCR - 12 - N (2/set)

Bore size
(Page 27 Item A)

● Weight of plug kit for side piping port

Bore size	Weight (g)
ø8	1
ø12	1
ø16	1
ø20	5

LCR repair parts list

Bore size (mm)	Kit No.	Part name
ø6	LCR-6K-HP1	Rod packing
ø8	LCR-8K-HP1	Metal gasket
ø12	LCR-12K-HP1	Cushion rubber R/H
ø16	LCR-16K-HP1	Piston packing
ø20	LCR-20K-HP1	Cover gasket
ø25	LCR-25K-HP1	Lube keeping structure