LMB

Linear guide lock

With brake/position locking

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

Overview

When used with a system incorporating a linear guide, this lock unit can be used to lock a workpiece after moving it to a specified position, or to enable emergency stop for safety, etc.

Features

● Compact but powerful holding force.
● Very little backlash when locked.
● Unit available for holding when stopped, emergency stop or position locking.
● Unlocked by air supply. (Manual release possible)
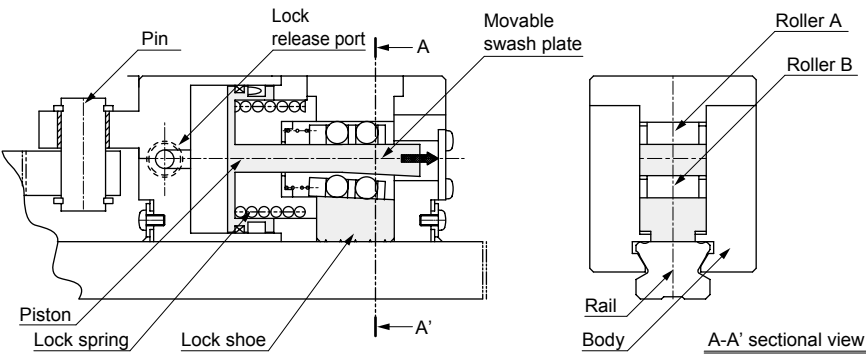● Dust-proofing is handled by a scraper provided as standard in front of and behind the lock unit.

CONTENTS

LMB Series

Operational principle

● When unlocked

Pin
Lock release port
A
Movable swash plate
Roller A
Roller B

Piston
Lock spring
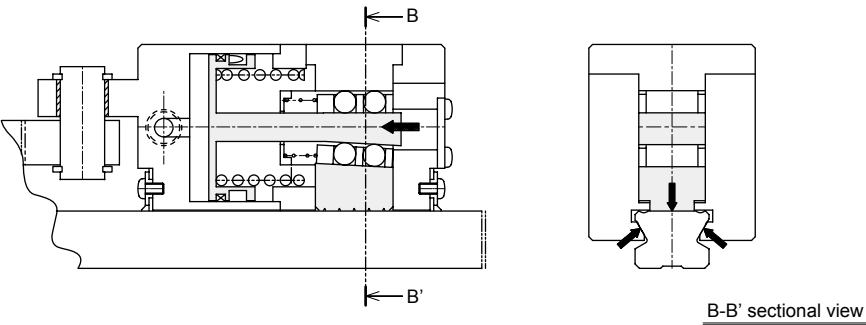Lock shoe
A'
Rail
Body
A-A' sectional view

When the lock release port is pressurized with air, the piston and the tapered movable swash plate connected to the piston move in the direction of the arrow, releasing the contact of roller B and the movable swash plate.
The pressurizing force of the lock shoe against the rail is eased, and the lock is released.
Note that the lock shoe may remain in contact with the rail.

● When locked

B

B'

B-B' sectional view

When air is discharged from the lock release port, the piston and the tapered movable swash plate connected to the piston are moved in the direction of the arrow by the spring lock. The amplifying effect of the taper is passed through roller B so that the lock shoe presses the rail with force.
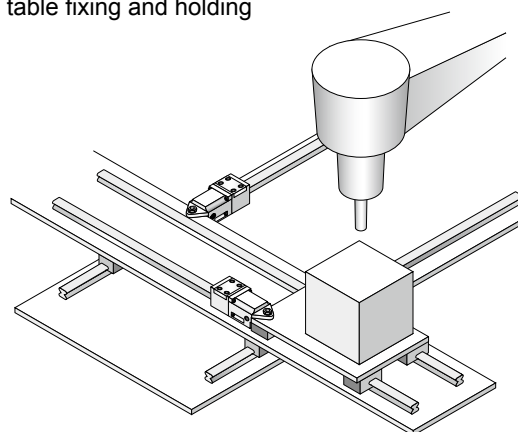Frictional force is generated on the rail by the three-directional pressurizing force as shown with the arrows in the B-B' sectional view, and the rail is held with force.
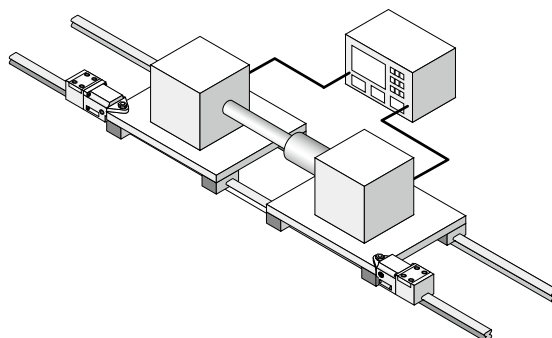
CKD

Applications

● Table fixing and position locking
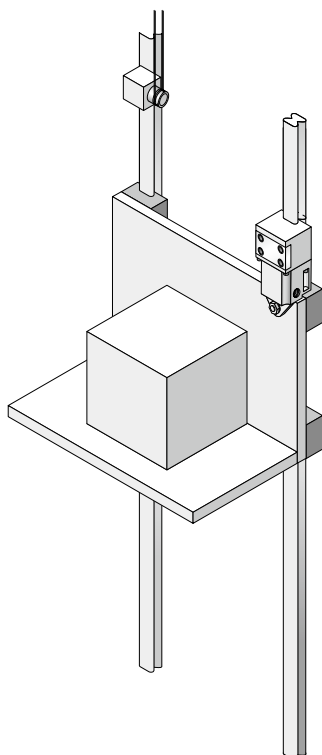
● X-Y table fixing and holding

● Table fixing and holding at the desired position

LCM
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STM
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STR2
UCA2
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Chuk
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SpdContr
Ending
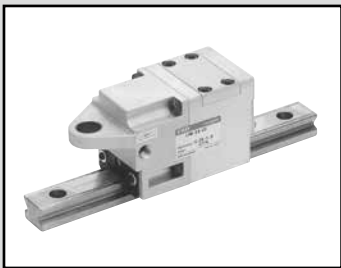
Linear guide lock

LMB Series

Specifications

Item	LMB-SR-15	LMB-SR-20	LMB-SR-25
Operating rails	SR-15/SSR-15	SR-20/SSR-20	SR-25/SSR-25
	THK	THK	THK
Working fluid	Compressed air		
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)		
Min. working pressure MPa	0.35 (≈51 psi, 3.5 bar)		
Proof pressure MPa	1.5 (≈220 psi, 15 bar)		
Ambient temperature °C	-5 (23°F) to 60°C (140°F) (no freezing)		
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)		
Port size	Rc1/8		
Holding force N (*1)	1175	1960	2450
Sliding resistance value N Ref value (*2)	5.8 or less	9.8 or less	15.6 or less
Weight g	600	1100	1900

*1: The holding force is the force that can retain the static load without vibration or impact when the lock is ON in absence of load.
*2: Resistance value (reference value) when the product slides horizontally on a rail with Alvania grease No. 2 (Showa Shell Sekiyu K.K.) applied.
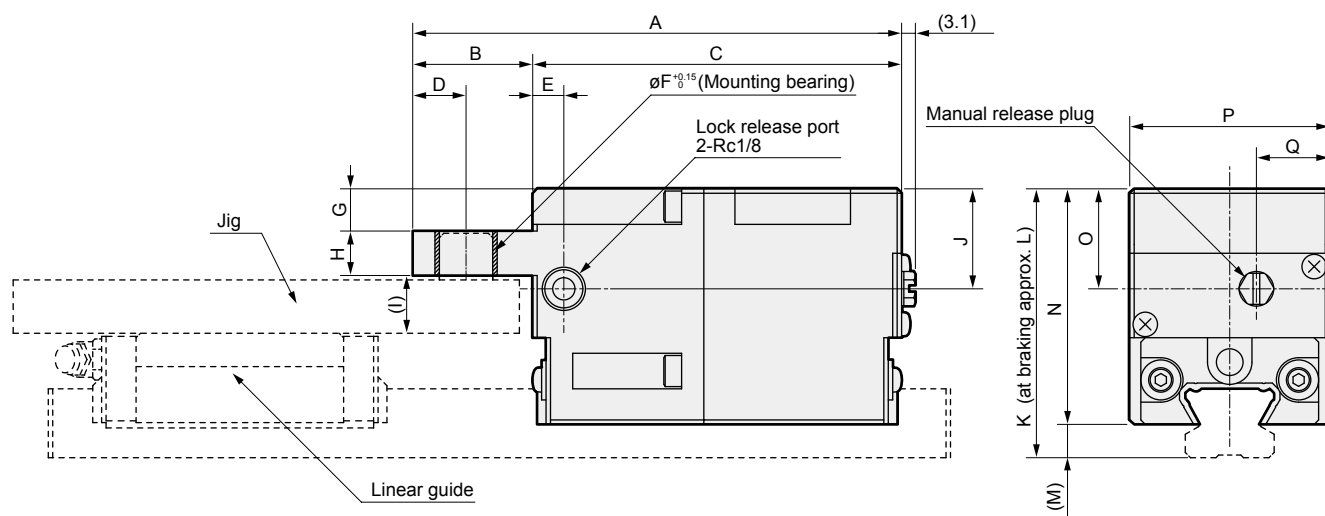
How to order

LMB-SR - (**15**)

Ⓐ Operating rail size

Code	Description
	Ⓐ **Operating rail size**
15	SR-15/SSR-15
20	SR-20/SSR-20
25	SR-25/SSR-25

Dimensions

Model No.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
LMB-SR-15	100	24	76	10	7	10	7	8	8	16.5	47	47.5	6.5	40.5	17.5	35	13
LMB-SR-20	110	27	83	12	7	12	9.5	10	13	22.5	60.5	61	7.5	53	22.5	45	16.5
LMB-SR-25	125	32	93	13.5	7	15	13	10	17	27.5	73	73.5	9	64	27.5	55	19.5

Note: The rail and slide table dimensions are not shown since they are manufactured by THK.

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LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
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FK
SpdContr
Ending

Pneumatic components

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: Linear guide lock LMB Series

Design/selection

⚠ CAUTION

■ Consult with CKD if impact load is applied. (It may slip due to the impact force.)
■ Do not apply lateral load moment to the lock unit.

■ Avoid use in very dusty areas, or where water or oil could come in contact. (It may cause the holding force to decrease.)
■ Do not place a workpiece directly onto the lock unit.

Mounting, installation and adjustment

⚠ CAUTION

■ How to unlock manually
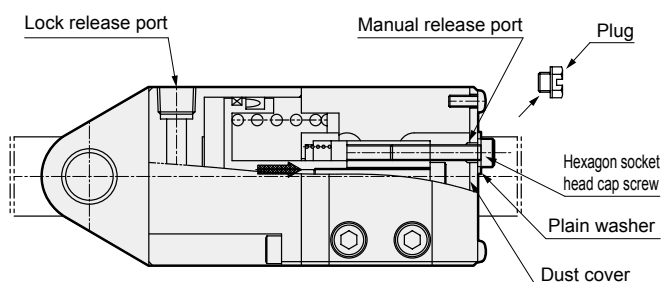
● Confirm that external force is not applied when there is no air at the lock release port, and then disconnect the plug.
● Insert the M3 x 18 (LMB-SR-15) and M4 x 22 (LMB-SR-20, 25) hexagon socket head cap screw into the hole from which the plug was removed until the threads are caught. When inserting the hexagon socket head cap screw, insert a plain washer, and make sure that the bolt seat does not contact the dust cover.
● Once the threads are caught, screw in the screw until it stops in order to release the lock into the free state.

*1: At shipment, the product is in the manual unlocking state. Store the hexagon socket head cap screws and flat washers so as not to lose them.
*2: Do not use hexagon socket head cap screws other than the sizes above. (It may damage the screws or disable unlocking.)
*3: If released manually while the seat of the hexagon socket head cap screw and dust cover are in contact, the dust cover may be scraped and dust generated. Also, insert a flat washer and manually unlock without contact so as not to render plug screw-in impossible.
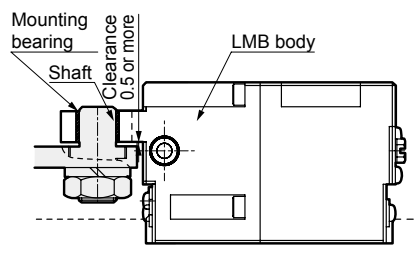
■ Mounting method
● Example of Y rod clevis mounting
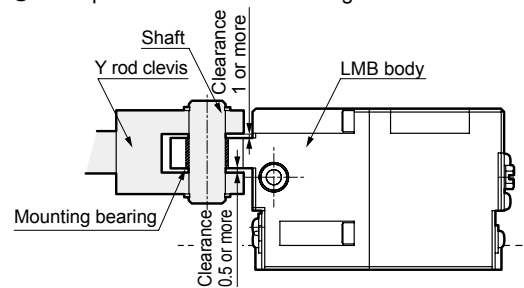
● Fixing from the top
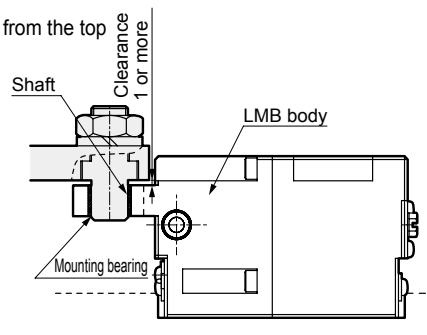
● Fixing from the bottom

Insert a shaft (pin) into the bearing for installation and connect with the slide table. At this time, provide clearance as shown in the figure above. (Due to the structure, the LMB body lowers during locking, so if the bearings are fixed without a clearance, the lock will not be applied.)

Use/maintenance

⚠ WARNING

■ Never disassemble the lock unit, as this is dangerous.