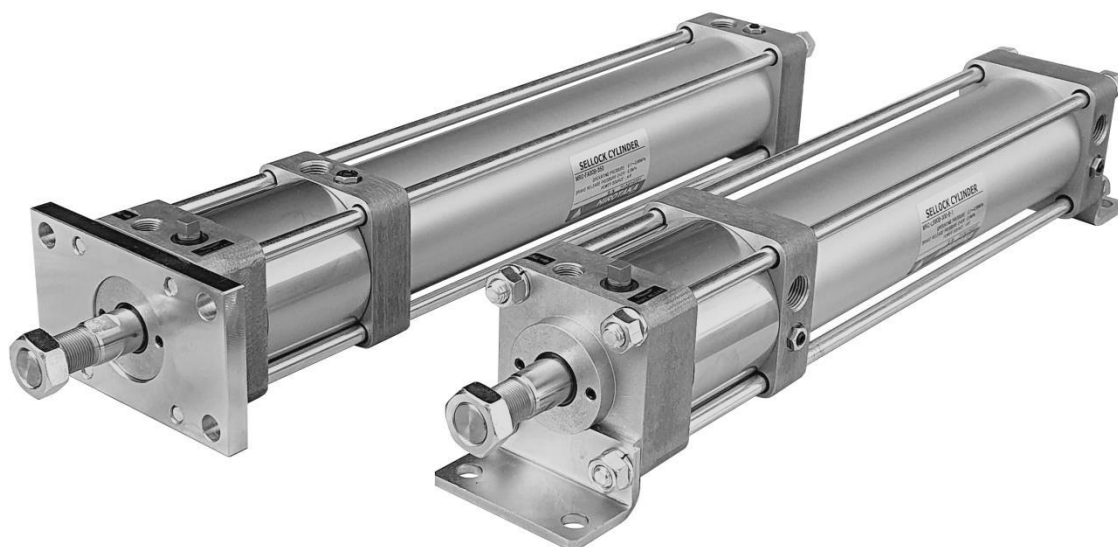




# MANUAL

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## SEL LOCK CYLINDER



**HIROTAKA MFG. CO.,LTD.**



## The notes for Using

Be sure to read this before handling



### CAUTION

#### 1. Piping

Before installing the piping, blow compressed air to prevent dirt from entering the piping. Also, refer to the catalog and instruction manual to ensure that it does not make any mistakes regarding ports, etc.

#### 2. Air Supply

Using the compression air with dry via filter.



### WARNING

#### 3. Mounting

Do not scratch or damage the piston rod, cylinder tube, etc by hitting them with other objects. Doing so may damage the gaskets, causing air leaks and causing the cylinder to malfunction. Also, when connecting the tip of the piston rod to a load, be sure to release the brake and at the same time do not supply air to the cylinder port. If the piston rod is rotated while the brake is held, the brake mechanism may be damaged. Also, do not supply air to the cylinder port to avoid dangers such as sudden movement.

#### 4. Adjustment

If it release the brake manually or individually while air pressure remains inside the cylinder, the piston rod may movement at high speed. When releasing the brake, make sure that there are no people around the load and that it is safe even if the load suddenly starts moving.

#### 5. Using

Avoid applying or adhering lubricants such as grease to the piston rod. This will cause a decrease in braking force, resulting in poor stopping accuracy. Also, do not supply oil to the brake release port. It is a non-lube type.

#### 6. Disassembly

When performing maintenance on the brake unit, there is a strong compressed spring inside the brake unit. When disassembling, be sure to secure the brake spring retainer before disassembling. Please be careful not to let the spring pop out all at once.

### Brake force durability

Braking force decreases due to wear of the brake metal. The brake is mechanically locked, so it will slip when stopping. This slip is related to brake metal wear. As a guideline for when the brake force will decrease, the cumulative distance of this amount of slip is approximately 50km. Calculate the amount of slip caused by one brake operation from the kinetic energy using the formula below.

$$S = \frac{10mU^2}{19.6 (F \pm m')}$$

S : Amount of slip (m)

m : Weight (N)

m' : Weight (N)

Piston rod horizontal : 0

Piston rod downward : +m'

Piston rod upward : -m'

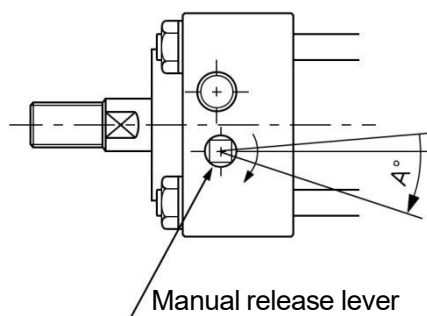
U : Piston speed (m/sec)

F : Brake grip force (N)

(1/2 of the brake holding force listed in the catalog)

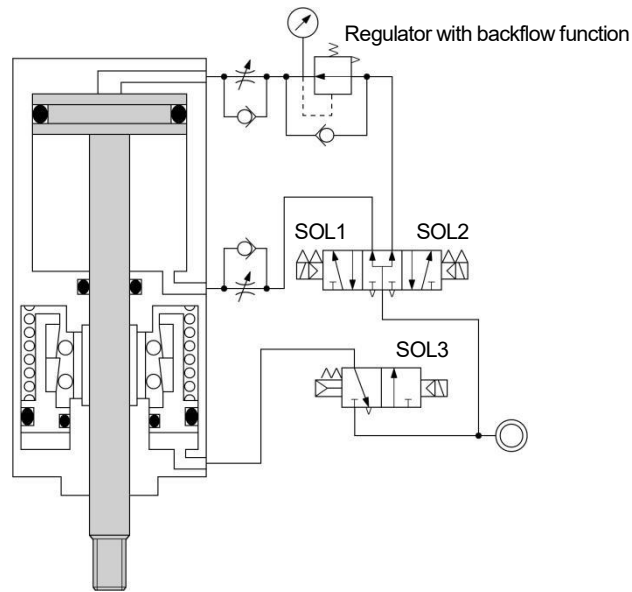
### Brake metal replacement period

The approximate time to replace the brake metal is when the angle at which the manual release lever rotates falls (Idle rotation until it contacts the brake piston inside the brake) below the value in the table.



Bore size	A
40	24
50	25
63	27
80	27
100	16
125	16

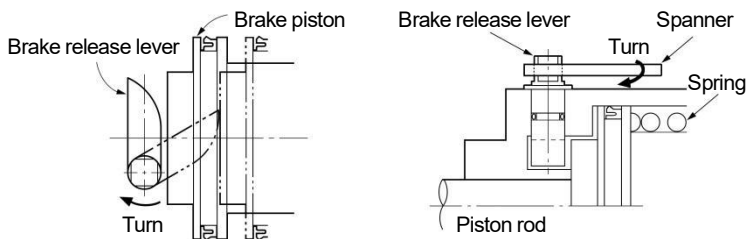
## Example for air circuit



Operating condition	SOL1	SOL2	SOL3
Intermediate stop	OFF	OFF	OFF
Forwarded	OFF	ON	ON
Backward	ON	OFF	ON

If the piston rod pops out when the brake is released, be sure to install a regulator in the position shown in the illustration to prevent it from popping out.

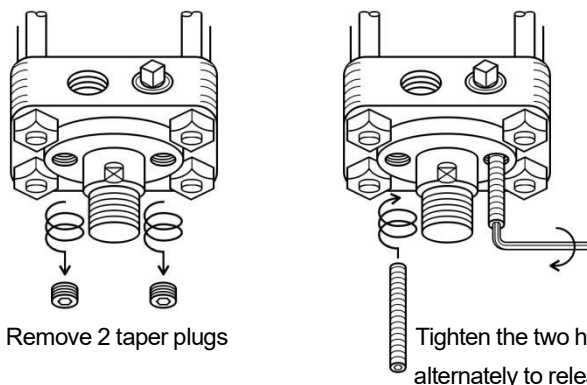
## Manual brake release method



If it put a wrench on the brake release lever and turn it clockwise, the brake piston will be pushed back and the lock will be released.

When the brake release lever in the unlock position returns to its original position, the brakes will be locked, so please keep the brake release lever in the unlock position while releasing the lock. When you let go, the brake release lever returns to its original position and the brakes are locked.

### Manual brake release method to keep the brake released (Do not supply brake release air)



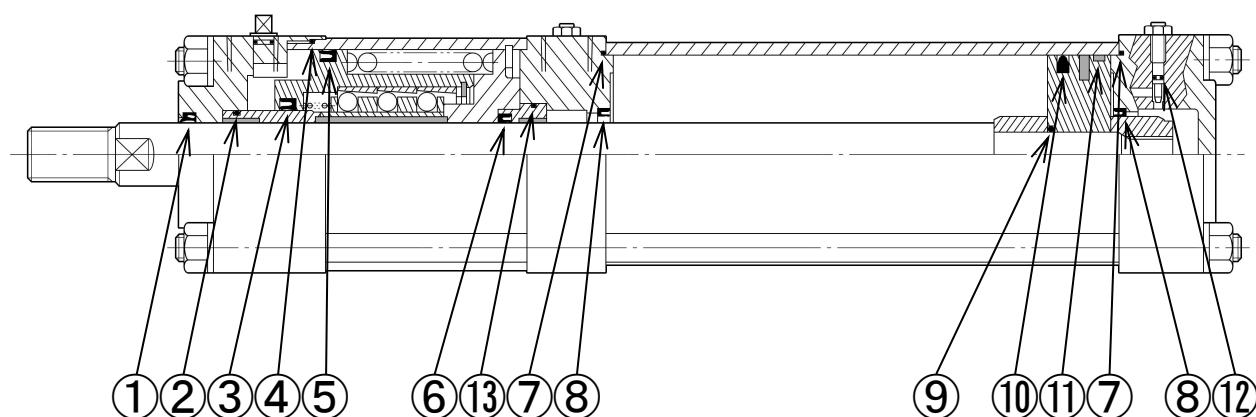
Remove 2 taper plugs

Tighten the two hexagon socket set screws alternately to release the brake.

Size of hexagon socket set screws

MRC - 40	M5 x 0.8 x 40L
50	"
63	M6 x 1.0 x 50L
80	"
100	"
125	M8 x 1.25 x 70L

## Packing for MRC series



No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Seal	Dust seal	O ring	Rod packing	O ring	Y packing	Rod packing	O ring	Cushion packing	O ring	Piston packing	Wear ring	O ring	O ring
φ40	SFR16	S25	PNY25	S53	PPD50	PNY16	S40	PCS20	P12	PPD40	SWB40	P3	S30
φ50	SFR20	S30	P30	S60	GLY50	PNY20	S50	PCS24	P14	PPD50	SWB50	P3	S35
φ63	SFR20	S30	P30	S71	GLY60	PNY20	S63	PCS24	P14	PPD63	SWB63	P3	S35
φ80	SFR25	S35	PNY35	S85	GLY75	PNY25	S80	PCS30	P18	PPD80	SWB80	P3	G45
φ100	SFR30	S40	PNY40	S105	PGY100	PNY30	S100	PCS35	P20	PPD100	SWB100	P3	G50
φ125	SFR35	S50	PNY50	S132	PGY125	PNY35	S125	PCS45	P25	PPD125	SWB125	P3	G55
Q'ty	1	1	1	1	1	1	2	2	1	1	1	2	1



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