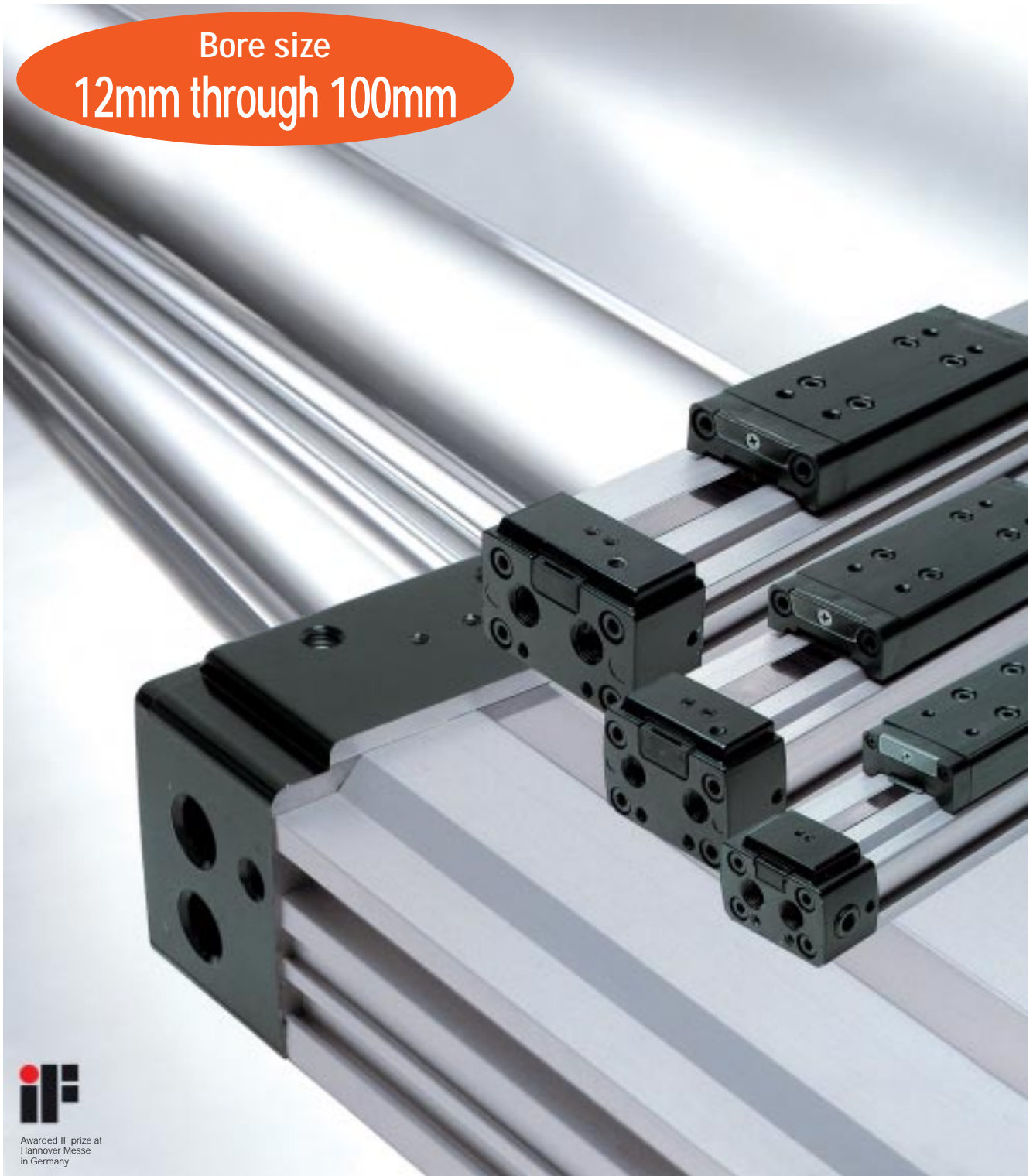




High Load Bearing Capacity, High Speed Operation

SUPER RODLESS CYLINDER SRL2 SERIES

Bore size
12mm through 100mm



Awarded IF prize at
Hannover Messe
in Germany

CKD Corporation

CC-830A

SUPER RODLESS

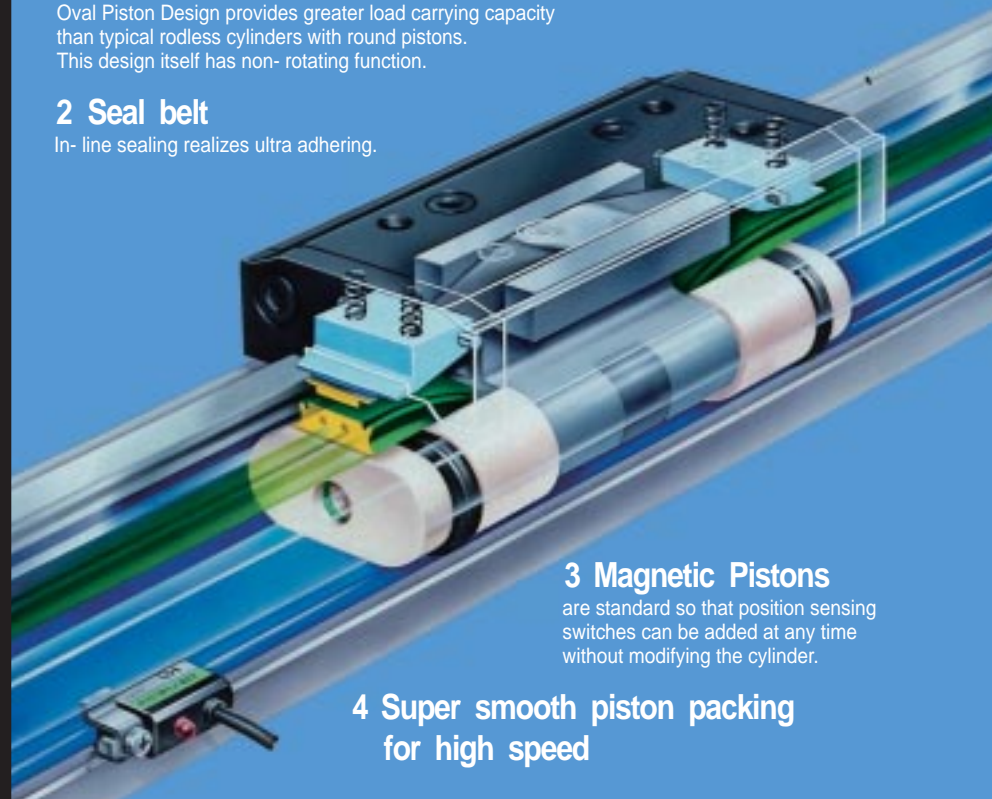
Bore size
12mm through 100mm

1 Oval Piston Design

Oval Piston Design provides greater load carrying capacity than typical rodless cylinders with round pistons. This design itself has non-rotating function.

2 Seal belt

In-line sealing realizes ultra adhering.



3 Magnetic Pistons

are standard so that position sensing switches can be added at any time without modifying the cylinder.

4 Super smooth piston packing for high speed



5 Common port

Two sets of port locations standard. One side port at each end and both ports in one end cap.



6 Guided work table

reduces the deflection caused by radial moment less than or equal half of standard work table.



7 Position Locking

available for full cylinder stroke



8 Low work table position

brought by oval piston design increases resistance to load.



9 Large variety of cylinder switches are available in reed or proximity type with 1, 3 and 5 meter wire length.

Bicolor proximity type with radial lead wire is available, also.



10 Large work table

with four strategically placed mounting holes ensures a high degree of stability and flexibility.



11 Adjustable stroke and shock absorber option available for full cylinder stroke

12 High speed operation, No lubrication required.



Safety Precautions

Always read before starting use

When designing and manufacturing a device using CKD products, the manufacturer is obligated to check that device safety mechanism, pneumatic control circuit, or water control circuit and the system operated by electrical control that controls the devices is secured.

It is important to select, use, handle, and maintain the product appropriately to ensure that the CKD product is used safely.

Observe warnings and precautions to ensure device safety.

Check that device safety is ensured, and manufacture a safe device.

WARNING

1 This product is designed and manufactured as a general industrial machine part. It must be handled by an operator having sufficient knowledge and experience in handling.

2 Use this product in accordance of specifications.

Contact CKD when using the product outside the unique specifications range, when using it outdoors, and when using it under the conditions or environment below. Do not attempt to modify or additionally machine the product.

① Use for special applications requiring safety including nuclear energy, railroad, aviation, ship, vehicle, medical equipment, equipment, or applications coming into contact with beverage or food, amusement equipment, emergency shutoff circuits, press machine, brake circuits, or for safeguard.

② Use for applications where life or assets could be adversely affected, and special safety measures are required.

3 Observe corporate standards and regulations, etc., related to the safety of device design and control, etc.

ISO 4414, JIS B 8370 (pneumatic system rules), JIS B 8368 (pneumatic cylinder), JPAS 005 (principles for pneumatic cylinder use and selection), High Pressure Gas Maintenance Laws, Occupational Safety and Sanitation Laws, and other safety regulations, corporate standards, and regulations.

4 Do not handle, pipe, or remove devices before confirming safety.

① Inspect and service the machine and devices after confirming safety of the entire system related to this product.


② Note that there may be hot or charged sections even after operation is stopped.


③ When inspecting or servicing the device, turn off the energy source (air supply or water supply), and turn off power to the facility. Discharge any compressed air from the system, and pay special attention to possible water leakage and leakage of electricity.


④ When starting or restarting a machine or device that incorporates pneumatic components, make sure that the system safety, such as pop-out prevention measures, is secured.

5 Observe warnings and cautions on the pages below to prevent accidents.

■ The safety cautions are ranked as "DANGER", "WARNING" and "CAUTION" in this section.

 **DANGER** : When a dangerous situation may occur if handling is mistaken leading to fatal or serious injuries, or when there is a high degree of emergency to a warning.
(DANGER)

 **WARNING** : When a dangerous situation may occur if handling is mistaken leading to fatal or serious injuries.
(WARNING)

 **CAUTION** : When a dangerous situation may occur if handling is mistaken leading to minor injuries or physical damage.
(CAUTION)

Note that some items described as "CAUTION" may lead to serious results depending on the situation. In any case, important information that must be observed is explained.



! WARNING

Design & Selection

1 Use within the product's specified specification range.

Products in this catalog are for use only in a compressed air system. Use with pressure or temperature exceeding the specification range may result in damage or operation faults. (Refer to specifications.) Contact CKD when using for fluids other than compressed air.

2 If cylinder pressure changes due to torsion at the machine's sliding section, etc., the piston rod could pop out.

This could cause bodily injury such as pinching a hand or a foot, or machine damage. Adjust so machine operation is smooth, and design so that bodily injury is avoided.

3 Install a protective cover if bodily injury could occur.

If the cylinder's drive section could cause bodily injury, install a protective cover. Provide a structure that prevents operators entering the cylinder's drive range or direct contact with hazardous sections.

4 Securely couple the cylinder's fixed and coupled sections so that they do not loosen.

When using the cylinder with a particularly high operation frequency or in a place with high vibration, couple sections securely.

5 Cases requiring a deceleration circuit or shock absorber

If the driven object's speed is fast or the weight is large, it may be difficult to absorb impact with the cylinder cushion alone. Take measures to ease impact by installing a deceleration circuit before the cushion or by using an external shock absorber. The machine's rigidity must also be considered.

6 Consider the possibility that circuit pressure may drop during power failure, etc.

When using a cylinder for the clamp mechanism, clamping force may drop and the workpiece deviate if circuit pressure drops during a power failure, etc. Integrate a safety device that prevents bodily injury or machine damage. When using for a suspension device or lift, take measures to prevent dropping.

7 Consider possibilities of faults in power.

For devices controlled with power sources such as pneumatics, hydraulics, or electricity, take measures to prevent bodily injury or machine damage if power fails.

8 Design circuit to prevent popping out.

If the piston is pressed to one side while air in the cylinder is exhausted from another side, such as when driving the cylinder with an exhaust center directional control valve, or when starting after exhausting residual pressure in the circuit, the driven object will pop out at a high speed. Design a circuit to prevent bodily injury such as pinching a hand or a foot, or machine damage.

9 Consider the state of operation at emergency stop.

If the safety device functions and stops the machine when an emergency stop or a system error, such as a power failure, occurs, design the system so that cylinder operation will not cause bodily injury and machine or device damage.

10 Consider the state of operation at restart after emergency stop or error stop.

Design the system so bodily injury or position deviation will not occur when restarting. If the cylinder must be reset to the start position, design a safe control unit.

11 Braking

When braking the cylinder's piston with a 3-position closed center directional control valve, air compression may make it difficult to stop accurately as when using low hydraulics. A zero air leak level is not guaranteed for the valve or cylinder, so it may not be possible to hold the stop position for long. Contact CKD when the stop position must be held for a long time.

12 Use clean dry compressed air.

Damage or operation faults could occur if compressed air contains chemicals, synthetic oil containing organic solvents, salt, or corrosive gas, etc.

13 Avoid installing this product where it will be exposed to rain, water, direct sunlight, or high humidity.

14 Do not use this product in a corrosive environment.

Use in such an environment could lead to damage or operation faults.

15 Install a cover, etc., when using in a dusty place or where the product could be exposed to water, oil, cutting oil, or coolant.

Use a type with a heavy duty scraper if there are high levels of dust.

Use a coolant proof type if fluid could splatter onto the product.

16 If ambient temperature is less than 5°C, moisture in the circuit could freeze and lead to operation faults, etc. Remove moisture to prevent freezing.

17 Durability differs with working conditions and model characteristics.



Pneumatic Components Safety Precautions

Always read before starting use

CAUTION

Design & Selection

1 Do not use in a range where the piston could collide with the stroke limit and break.

If a piston collides against the cover at the stroke limit and stops due to inertia, use within the range of allowable energy absorption.

2 Install a flow control valve on the cylinder.

Use each cylinder within the applicable piston speed range.

3 Provide intermediate support for a cylinder with long stroke.

If the cylinder has a long stroke, provide an intermediate support to prevent rod damage from rod sagging, tube deflection, vibration, or external loads.

4 Use within the maximum stroke for the corresponding installation.

Refer to Ending 68.

5 Install a "pressure switch" and "shut-off valve" on the device's compressed air inlet.

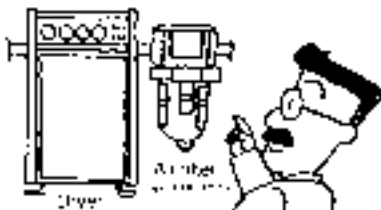
The pressure switch will disable operation until set pressure is reached. The shut-off valve will exhaust compressed air in the pneumatic pressure circuit, and will prevent accidents caused by operation of pneumatic components by residual pressure.



6 Indicate the maintenance conditions in the device's instruction manual.

The product's function can drop markedly with working status, working environment, and maintenance, and can prevent safety from being attained. With correct maintenance, the product functions can be used to the fullest.

7 Use dry compressed air that will not form drainage in the pipe.



Drainage will form if the temperature drops in the pneumatic piping or pneumatic components.
If the piping volume is larger than the cylinder volume, compressed air in the cylinder will not be completely exhausted when changing with the solenoid valve. This compressed air will condense, form water drops, and cause drainage.

Operation faults could occur if drainage enters the air flow path in pneumatic components or if it temporarily blocks passage.
Drainage could cause rust and lead to pneumatic components faults.
Drainage will remove lubricant, and cause lubrication faults.

8 Extra dry air is not suitable for pneumatic components. Use components compatible with ultra dry air.

Extra dry compressed air will shorten the life of pneumatic components.
Use the solenoid valve for a DC voltage drive.

9 Use clean compressed air that does not contain oxidized oil, tar, carbon, etc., from the air compressor.

If oxidized oil, tar, or carbon enter the air compressor and solidifies, resistance at the sliding section will increase, and could lead to operation faults.
If lubricant mixes in with oxidized oil, tar, carbon, etc., the sliding section of the air compressor could be worn.

10 Use compressed air that does not contain solid foreign matter

Foreign matter in compressed air could enter the air compressor and cause wear at the sliding section or hydraulic locking. Install a 5 μm or less air filter.
Regularly service and inspect the compressor.

11 Avoid operating multiple cylinders synchronously.

Operation faults could occur if synchronization is not established and the piston rod twists. If synchronous operation is required, prepare a separate rigid guide.

12 A small amount of oil could leak from a packing sliding section or gasket fixing section of the low hydraulic cylinder. Do not use this in a vacuum container or places vulnerable to oil.

13 Before installation, confirm that the clevis and trunnion can rotate freely without interfering when the cylinder moves along the full stroke.

14 If the load operational direction could change during operation, use a cylinder (clevis, trunnion) that can rotate at an angle. Install the bracket at the end of the rod so that it moves in the same direction as the cylinder.

15 This product has been lubricated, and can be used without oiling. If lubrication is required, supply Class 1 turbine oil (no additions) ISO-VG32. If stopped midway, operation faults could occur due to a loss in initial lubricant, so lubricate continuously. Determine whether a pneumatic device is to be used with oilless or lubricant specifications, and check that the selected method is continuously used.



WARNING

Installation & Adjustment

- 1** Check load and cylinder installation connection for looseness and other abnormalities before starting operation.
- 2** Do not use the device until proper operation is confirmed.
After installation, repair, or modification, connect compressed air or electric power and conduct appropriate functional and leakage inspection to confirm that installation is correct.
- 3** Confirm that there is no machine interference or abnormality in the working system.
- 4** Confirm that there is no abnormality in device operation, and gradually raise and set pressure.
- 5** If the exhaust side is started in the atmospheric state, the rod could pop out creating a hazard. Apply pressure to the cylinder chamber on the exhaust side before starting.
- 6** When adjusting speed with the flow control valve, gradually open the needle. If speed is adjusted in the opened state, the rod could pop out, creating a hazard.
- 7** Adjust the effect of the cushion in the adjustable air cushion, gradually open the cushion needle, and set to match the load.
After adjusting, tighten and fix the needle nut (hexagon nut). Use kinetic energy within the specified range.
The product could be damaged if the specified range is exceeded.
- 8** When driving the cylinder, do not enter or place hands within the cylinder drive range.
- 9** Securely couple cylinder fixed and coupled sections so they do not loosen.
When using a cylinder with a particularly high operation frequency or in a place with high vibration, couple sections securely.



Pneumatic Components

Safety Precautions

Always read before starting use

CAUTION

Installation & Adjustment

1 Do not remove the cylinder package or the dustproof port seal on the piping port until just before piping the product.

- If the dustproof port seal is removed from the piping port before piping work is started, foreign matter could enter the cylinder from the piping port and result in faults or faulty operation.

2 When connecting pipes, wrap sealing tape in the opposite direction from threads starting 2 pitches inside from the end of piping threads.

- If sealing tape protrudes from pipe threads, it could be cut when screwed in. This could cause the tape to enter the solenoid valve and lead to faults.



3 Check that the pipe connected to the cylinder will not dislocate due to vibration, loosening, or pulling.

- Cylinder speed cannot be controlled if pneumatic circuit exhaust piping is dislocated.
- When a chuck holder is used, the chuck may be released, creating a hazard.

4 Observe the following precautions when using nylon tubes or urethane tubes for piping material.

- Use flame resistant or metal pipes where spattering may occur.
- When using a standard push in joint on the spiral tube, fix the base of the tube with a hose band. The tube could rotate and holding force will drop if not fixed.

5 Use corrosion-resistant galvanized pipe, stainless steel pipe, nylon pipe, rubber pipe, etc., for piping material.

6 Always flush just before piping pneumatic component.

- Any foreign matter that has entered during piping must be removed so it does not enter the pneumatic component.



7 When supplying compressed air for the first time after connecting pipes, do not apply high pressure suddenly.

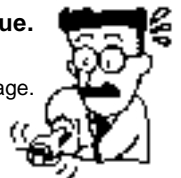
- Piping connection could be dislocated or the piping tube fly off, leading to accidents.
- Caution: If compressed air is supplied too slowly, sealing pressure may not be generated by the sealing mechanism in the solenoid valve. This can lead to air leaks.
- The cylinder may operate without warning.

8 When supplying compressed air for the first time after connecting pipes, confirm that no air is leaking from any pipe connections.

- Apply a leakage detection agent on pipe connections with a brush, and check for air leaks.

9 Tighten pipes with the appropriate torque.

- Pipes must be connected with the appropriate torque to prevent air leakages and screw damage.
- First tighten the screw by hand to prevent damage to screw threads, then use a tool.



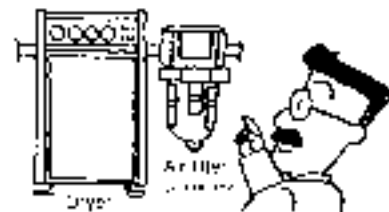
[Reference values] Refer to instruction manual

Thread size	Tightening torque (N·m)
M3	0.3 to 0.6
M5	1 to 1.5
Rc 1/8	3 to 5
Rc 1/4	6 to 8
Rc 3/8	13 to 15
Rc 1/2	16 to 18
Rc 3/4	19 to 40
Rc 1	41 to 70

10 Provide enough space around the cylinder for installation, removal, wiring and piping.

11 Install the air filter just before the circuit using the pneumatic component.

- Install an air dryer and filter to remove any moisture from piping. Install the filter near the directional control valve (primary side) to remove rust, foreign matter and drainage.



⚠ CAUTION

Installation & Adjustment

12 If the direction that the load moves in is not parallel to the piston rod shaft center, the piston rod and body (tube) could twist and cause the piston rod to pop out. Twisting could also cause burning or breakage. Check that the piston rod's shaft center and the load movement direction are the same.

13 To avoid damaging the screw on the end of the piston rod and bushing wear and burning, etc., connect the end of the piston rod and load with a floating joint (spherical bearing) so twisting does not occur at any position in the stroke.

14 Protect the load so that it does not drop or fall over when the cylinder is installed or removed.

15 Use suspension fittings if the cylinder weighs more than 15 kg.

16 Do not bump, scratch, or damage the cylinder tube or piston rod sliding section.

The bore size is manufactured with precise tolerance, and operation faults could occur with even the slightest deformation. Scratches and dents on the piston rod's sliding section will damage the packing and can result in air leakage.

17 Avoid seizing rotating sections.

Apply grease to rotating sections (pins, etc.) to prevent seizing.

18 Read the instruction manual carefully.

Read the instruction manual carefully and fully understand contents before starting use. Keep the instruction manual nearby for easy reference.

19 Refer to the instruction manual to prevent incorrect piping to ports, etc.

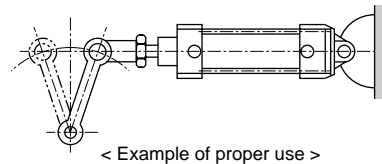
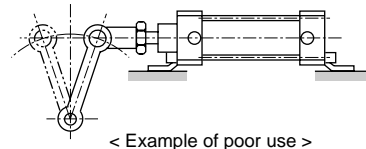
• Failure to observe this could lead to operation faults.

20 The effect of the air cushion has been adjusted at the factory before shipment.

• Adjust the cushion needle to adjust the effect of the cushion to match the load. The effect of the cushion will decrease when the needle is loosened (turned counterclockwise).

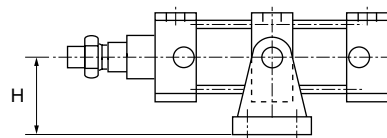
21 When using a cylinder with a long stroke, install support to prevent damage to the rod caused by rod sagging, tube deflection, vibration, or external weight.

22 The fixed type cylinder should not be coupled with a rotating arm. Use a cylinder installed as possible to rotate.



23 If clearance between the clevis or trunnion and mate bearing is large, bending will be applied on the pin or shaft. Do not increase this clearance too much. (Recommended maximum fitting H10/e8)

24 If height H from the bearing bracket installation to the bearing position is high in the following drawing, a large force will be generated at the bracket installation section because of cylinder force. This could damage bolts, etc.



25 When using the double rod cylinder and removing the load, fix the width across the flat section of the piston rod on the load side.

If the load side piston rod is not fixed, the coupling (screw-in section) of the piston rod could loosen.



Pneumatic Components

Safety Precautions

Always read before starting use

! WARNING

During use & Maintenance

1 Follow the instruction manual and carefully conduct maintenance and inspection.

Incorrect handling could result in equipment or device damage, or could result in operation faults.

2 Removal of equipment and supply/exhaust of compressed air

Before removing the device, take measures to prevent the driven object from dropping or running away, and shut off air and power. Exhaust all compressed air in the system before starting. Before restarting, confirm that measures are taken to prevent popping out, and restart carefully.



3 Disassemble the cylinder after removing it from the device.

4 Qualified personnel must conduct the disassembly and assembly work.

After disassembling and reassembling the product, conduct leakage and operation inspection before reassembling it on the device.

5 If personnel initiates smoking with fluorine-based grease from the cylinder (heat resistant, low speed, low friction, P7, etc.) on hands, toxic gases that could cause bodily injury will be generated.

6 Note that when disassembling a single acting cylinder, the spring could cause parts to pop out.

7 Frictional resistance increases and causes the piston speed to change when the cylinder has been stopped for a long time, such as when using first thing in the morning or afternoon. This may impair stoppage accuracy. Conduct break-in operation to obtain stable stoppage accuracy.

8 Use appropriate pliers (snap ring installation tool) to install and remove rod bushings.

9 Even when appropriate pliers (snap ring installation tool) are used, the snap ring could be dislocated from the end of pliers (snap ring installation tool) and cause bodily injury or damage to peripheral devices.

When installing the snap ring, check that it securely fits into the snap ring groove before supplying air.

! CAUTION

During use & Maintenance

1 Plan daily inspections and periodic inspections to ensure that maintenance is correctly controlled.

• If maintenance is not correctly controlled, the product's functions could drop markedly and lead to a shortened life, damage, malfunctions, faults, and accidents.

1) Control of supplied compressed air pressure

• Is the set pressure supplied? Does the pressure gauge indicate the set pressure during operation of the device?



2) Control of pneumatics filter

• Is the drain correctly discharged?
• Is the bowl or element dirty?

3) Control of compressed air leaks from piping connections

• Is the state of the connection, especially at movable sections, normal?

4) Control of solenoid valve's operation

• Are any operations delayed? Is exhaust normal?

5) Control of pneumatic actuator operation

• Is operation smooth? Is end stop normal? Is coupling with the load normal?

6) Control of lubricator

• Is the oil rate correctly adjusted?

7) Control of lubricant

• Is the regular lubricant supplied?

2 Do not use if air leakage increases or the device does not operate correctly.

• After installation, repair, or modification, connect compressed air and electricity, and conduct functional and leakage inspection to confirm that installation is correct.

3 If the product has been out of use for a long time, check that operation is correct before restarting.

4 Replace consumables that have reached their rated life during periodic inspection.

Do not use consumables stored for 5 or more years.

5 Store consumables in a dark cool place away from direct sunlight.

6 Take measures to prevent the load from dropping or falling over before removing the cylinder.

7 When conducting maintenance, such as replacing consumables, etc., conduct disassembly and assembly at a test bench, etc., in a clean atmosphere with no dust. Conduct a functional inspection to confirm that the device operates correctly.



Pneumatic Components

Safety Precautions

Always read before starting use

Cylinder switch

! WARNING

Design & Selection

- 1 Application, load current, voltage, temperature, impact, environment, etc., exceeding the specifications will result in damage or operation faults. Use the device as instructed in specifications.**
- 2 Do not use this product in flammable environments. The cylinder switch is not explosion proof, and such use could result in explosions or damage.**

! CAUTION

Design & Selection

- 1 Check the proximity of cylinders.**
When installing more than 1 cylinder with switches in parallel, keep enough distance between cylinder tubes according to the cylinder specifications. Magnetic interference of these cylinders may occur and cause the switch to malfunction.

- 2 Check the magnetic environment**

- If surroundings contain a strong magnetic field or large current (large magnet, spot welding machine, etc.), use a strong magnetic field proof switch. (HO, HOY, T2YD) When installing the cylinder with switch nearby in parallel, or if a magnetic object is very close to the cylinder, mutual interference may occur and adversely affect detection accuracy.

- 3 Check the cylinder switch ON time at mid-stroke.**

- When setting the cylinder switch at mid-stroke and driving a load when the piston changes, if the speed is too fast, the cylinder switch will function but operation time will be too short and the load may not respond correctly.

The maximum detectable piston speed is:

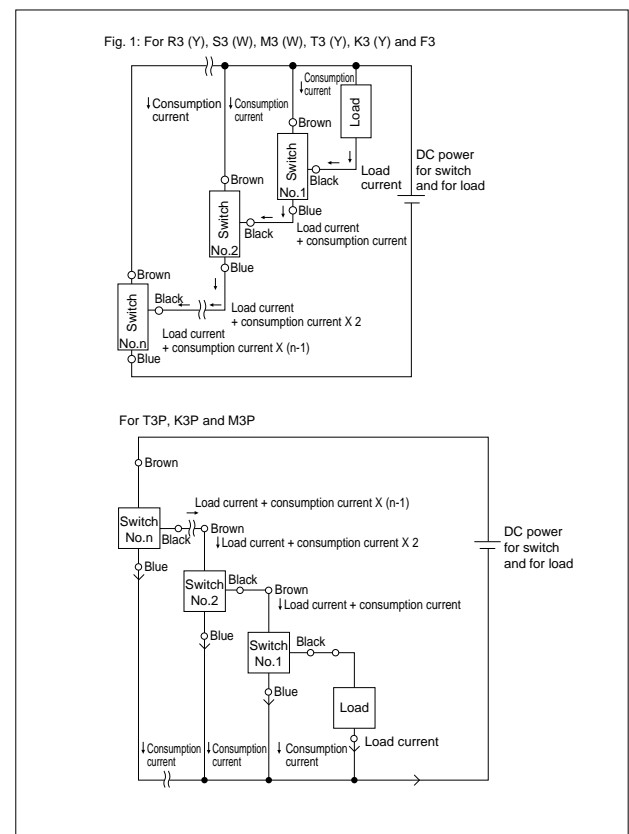
$$V(\text{mm/s}) = \frac{\text{Cylinder switch operation range (mm)}}{\text{Load operation time (s)}}$$

- If the piston speed is too fast, use an off delay output cylinder switch (T2JH/V) (models are limited).

- 4 Check internal voltage drops caused by serial connections.**

- When connecting several 2-wire type switches in serial, the switch voltage drop is the total voltage drop of all connected switches. The voltage applied to the load is the voltage obtained by subtracting the voltage drop at switches from the power voltage. Check load specifications and determine the number of switches to be connected.
- When connecting several 3-wire serial proximity switches, the switch's voltage drop is the total voltage drop of all connected switches, as with the 2-wire switch. The current that flows to the switch is the total of the connected switch's current consumption and load current, as shown at upper right. Check load specifications and determine the number of switches to be connected so that the maximum switch load current is not exceeded.

- The light turn ON only when all switches are ON.



- 5 Check the leakage current caused by parallel connections**

- When connecting several 2-wire switches in parallel, note that leakage current increases in proportion to the number of connected units. Check load specifications and determine the number of switches to be connected. Note that switch light could dim or may not turn ON.
- With the 2-wire proximity switch, when 1 switch is changing from ON to OFF status, voltage at both ends of the switch connected in parallel drops to the internal voltage drop value at switch ON and is less than the load voltage range and other switches will not turn ON. Check input specifications of the programmable controller, which is the connection load, before starting use.
- The 3-wire proximity switch has an extremely small leakage current (10 μA or less), so there is no problem in use under normal conditions.



Pneumatic Components

Safety Precautions

Always read before starting use

Refer to Intro 3 for general details on the cylinder, and to Intro 8 for details on the cylinder switch.

Rodless cylinder SRL2 Series

CAUTION

Design & Selection

1 Take care when designing the braking control circuit.

With a slit rodless cylinder such as the SRL2, some air leaks due to the structure, so braking cannot be controlled with the all ports closed 3-position valve, and it may not be possible to hold the table stop position. Use a double-sided pressurized control circuit having a PAB connection 3-position valve.

If air pressure drops once and is then pressurized again deenergized, the table may move and the origin deviate.

2 Basic circuit diagram

- For horizontal load

If piping is as shown in Fig. 1, equal pressure is applied on both sides of the piston when stopped, and the table does not pop out when restarting.

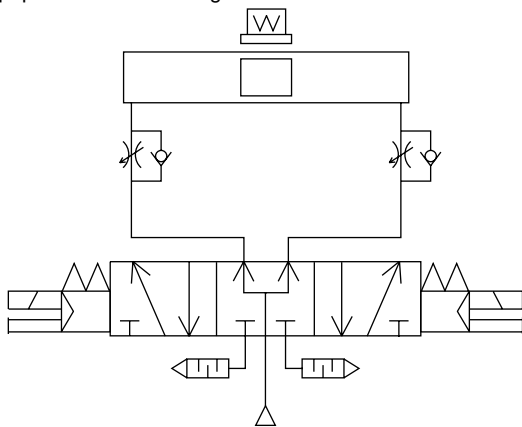


Fig. 1

- For vertical load

If a vertical load is moved as shown in Fig. 2, the table moves in the direction of the load. Install a regulator with a check valve to reduce thrust in the load direction and balance the load.

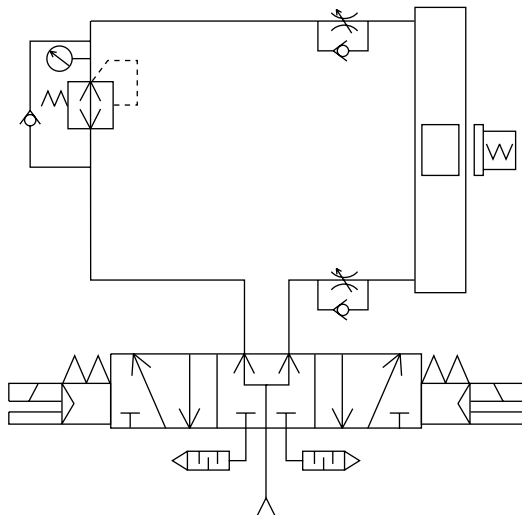


Fig. 2

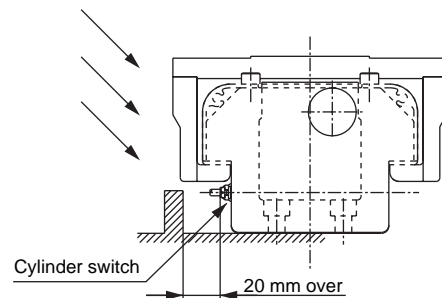
- 3 The cylinder cannot be used where welding spatter, etc., may contact it. Use a full cowling rodless cylinder (SRL2-J).

4 Precautions for full cowling (SRL2-J)

When installing a wall to keep dirt or coolant away from the device, be sure the wall is nonmagnetic (aluminum, brass, etc.).

For a magnetic material (steel plate, etc.), separate the wall at least 20 mm from the switch edge.

(Same clearance for all diameters)



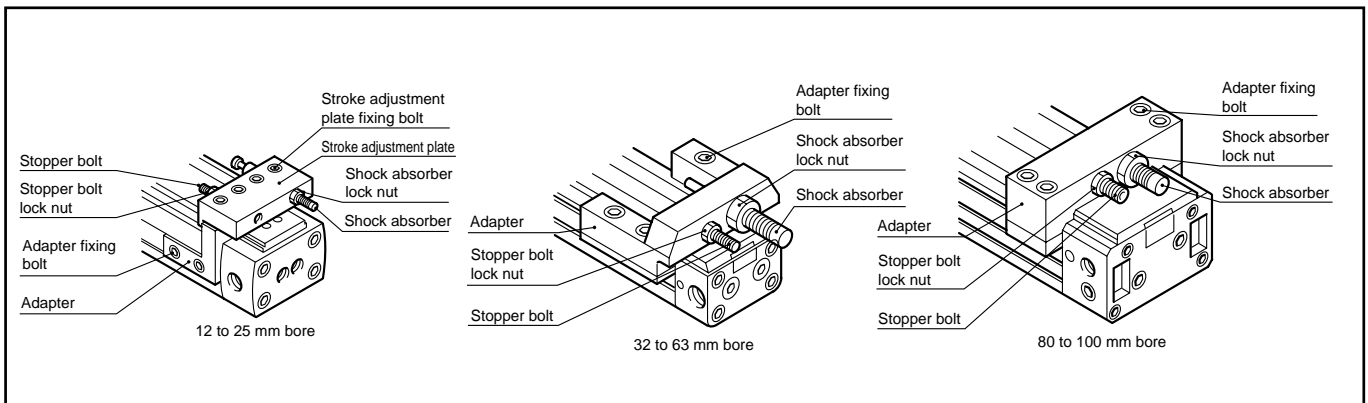
- 5 With a slit-rodless cylinder, such as the SRL2, air leaks but does not affect speed control.

⚠ WARNING

Installation & Adjustment

1 Adjusting the stroke adjustment unit

1. SRL2 Series



(1) Moving the stroke adjustment unit

The stroke adjustment unit is moved by loosening the adapter fixing bolt (adapter fixing bolt and stroke adjustment plate fixing bolt for 12 to 25 mm bore).

(2) Fixing the stroke adjustment unit

After moving the stroke adjustment unit to the required position, tighten and fix the adapter fixing bolt (adapter fixing bolt and stroke adjustment plate fixing bolt for 12 to 25 mm bore) using values in Table 8. If tightened at a lower value, the stroke adjustment unit may deviate.

Table 8 Tightening torque for adapter fixing bolt and stroke adjustment plate fixing bolt

Tightening torque	Adapter fixing bolt (N-cm)	Stroke adjustment plate fixing bolt (N-cm)
SRL2-12/16	100 to 120	50 to 70
SRL2-20	250 to 270	
SRL2-25	520 to 560	250 to 270
SRL2-32	2200 to 2400	-
SRL2-40	4400 to 4800	-
SRL2-50/63	7700 to 8300	-
SRL2-80/100	10000 to 11000	-

(3) Adjusting the stroke with a stopper bolt

With 12 to 20 mm bore, clearance between the table and stroke adjustment plate is small, and fingers may be pinched during adjustment. The stroke must basically be adjusted by moving the stroke adjustment unit.

Loosen the stopper bolt lock nut, turn the stopper bolt, and adjust the stroke.

After adjusting the stroke, tighten and fix the stopper bolt lock nut using values in Table 9.

(4) Adjusting the shock absorber

Shock absorber absorbed energy is adjusted by changing the working stroke of the shock absorber.

Adjust the shock absorber working stroke by loosening the shock absorber lock nut and turning the shock absorber. After adjustment, tighten and fix the shock absorber lock nut using values in Table 9.

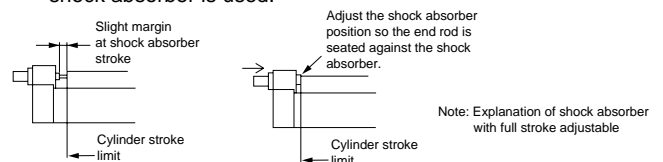
Table 9 Tightening torque for stopper bolt lock nut and shock absorber lock nut

Tightening torque	Stopper bolt lock nut (N-cm)	Shock absorber lock nut (N-cm)
Model		
SRL2-12/16	110 to 120	130 to 180
SRL2-20	250 to 270	290 to 390
SRL2-25	880 to 950	450 to 600
SRL2-32	2200 to 2400	750 to 1000
SRL2-40	4400 to 4800	2200 to 3000
SRL2-50	7700 to 8300	5500 to 7000
SRL2-63	20000 to 21600	5500 to 7000
SRL2-80/100	21500 to 23500	10000 to 13000

(5) Precautions for use

The shock absorber absorbs rated energy with the rated stroke. When the product is shipped, the shock absorber is installed with a slight margin to the stroke at the cylinder stroke limit.

Absorbed energy is smaller than allowable energy absorption for the individual shock absorber (refer to Table 10), so if rated absorbed energy is required, adjust so the full stroke for the shock absorber is used.



Allowable energy absorption differs with collision speed, so if collision speed is 2000 mm/s, check that one-third of the maximum energy absorption in Table 11 is not exceeded. If collision speed is 1000 mm/s, check that one-half of the maximum energy absorption is not exceeded.

Table 10 Full stroke adjustable shock absorber specifications (defaults)

Type	Absorbed energy (J)	Effective stroke (mm)
SRL2-12/16	2.4	5.5
SRL2-20	5.7	7
SRL2-25	10	9
SRL2-32	18	13
SRL2-40	50	16.5
SRL2-50/63	86	21
SRL2-80/100	143	25



Pneumatic Components

Safety Precautions

Always read before starting use

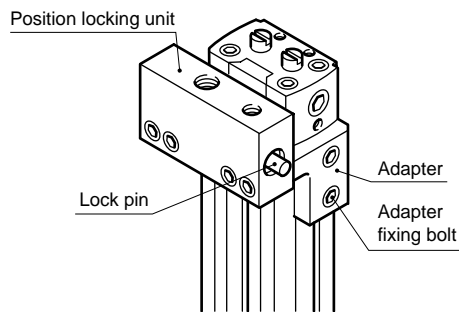
Refer to Intro 3 for general details on the cylinder, and to Intro 10 for details on the cylinder switch.

Rodless cylinder SRL2 Series

WARNING

Installation & Adjustment

2. SRL2-Q Series (with position locking)

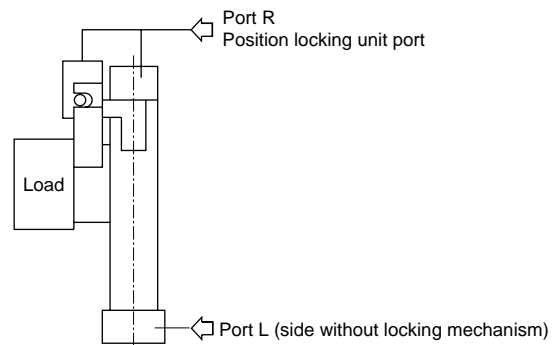


- The positioning locking unit is moved by loosening the adapter fixing bolt. Use the type with a shock absorber (A, A1, A2). If the stroke is finely adjusted with the shock absorber, the position locking unit deviates and the position cannot be completely locked. Finely adjust stroke with the adapter fixing bolt.
- After moving to the required position, tighten and fix the adapter fixing bolt using the values below. The position locking unit may deviate if the bolt is not tightened to these values.

Model	Tightening torque for adapter fixing bolt (N-cm)
SRL2-Q-12/16	100 to 120
SRL2-Q-20	250 to 280
SRL2-Q-25	520 to 560
SRL2-Q-32	2200 to 2400
SRL2-Q-40	4400 to 4800
SRL2-Q-50/63	7700 to 8300
SRL2-Q-80/100	10000 to 11000

2 Precautions for cylinder with position locking (SRL2-Q) (Piping)

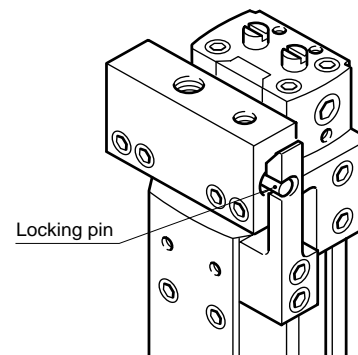
- Piping to the position locking unit is required.



- Branch piping to the rodless cylinder R side using a tee union, etc., and pipe to the position locking unit with similar piping.

(Manual release)

- Release the position locking pin with a rod-shaped object. Supply pressure to port L to check that load is not applied to the locking mechanism before releasing the lock. If both ports R and L are exhausted and pressure is supplied to port R while the piston is locked, the lock is released and the table may suddenly move, creating a hazard.



(Valve)

- If the cylinder is held while pressure is applied on the locking mechanism, the locking pin may dislocate and create a very hazard. Do not use a 3-position closed center or PAB connection valve.
- If back pressure is applied while locked, the lock may be released. Use a discrete valve, or use an individual exhaust manifold.
- If dropping speed is increased with a quick exhaust valve, the cylinder may move faster than the locking pin and prevent proper release. Use a separate valve for controlling the position locking section, etc., to provide correct timing.

CAUTION

Installation & Adjustment

1 Avoid electric welding after installing the rodless cylinder.

If the current flows into the cylinder and generates sparks between the dust-proof belt and cylinder tube, the dust-proof belt may be damaged.

2 If a unit with excessive inertia, etc., is moved, the cylinder may be damaged or faulty operation occur. Use only within the allowable range.

3 Do not apply strong impact or excessive moment to the table.

4 When connecting to a load with external guide mechanism, align the center carefully.

- The longer the stroke, the greater the shaft center may deviate. Carefully consider connection (floating) so deviation is absorbed.

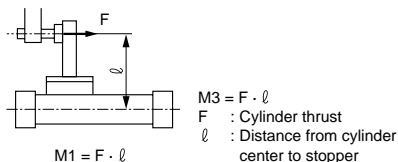
5 Check that moment, including inertia generated when moving or stopping the load, does not exceed the allowable load, or damage may result.

(Overhang is large)

- If overhang is large and the cylinder is stopped at both ends with the piston, the bending moment functions due to load inertia even within internal cushion energy absorption. If kinetic energy is large and an external cushion, etc., is used, try contact with the workpiece center of gravity when possible.

(Using an external stopper)

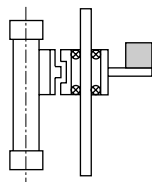
- When selecting an external stopper, consider the bending moment generated by cylinder thrust.
- Moment that functions when stopping with external stopper



(Using an external guide)

- When an external guide is installed, if the center is not aligned, movement is not smooth and resistance caused by twisting functions as moment. Configure connection so misalignment is absorbed.

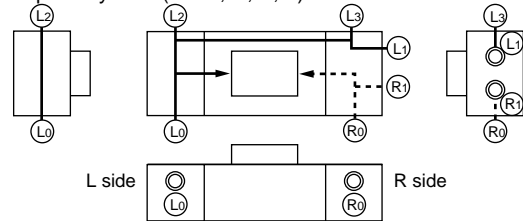
- Example of using guide



6 Piping port direction and operating direction

Tube bore of 12 to 20 mm

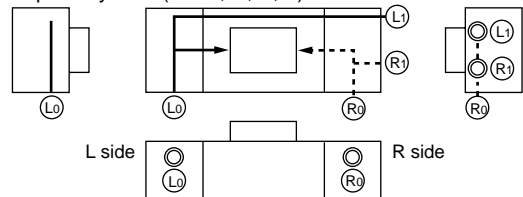
- For option symbol (blank, R, B, T)



(R) indicates the R side pressure port, and (L) indicates the L side pressure port. Before shipping, all plugs other than 1 each at (R) and (L) are sealed with plugs. Pipes are connected to other ports by removing plugs. Option symbols (D, S) cannot be manufactured.

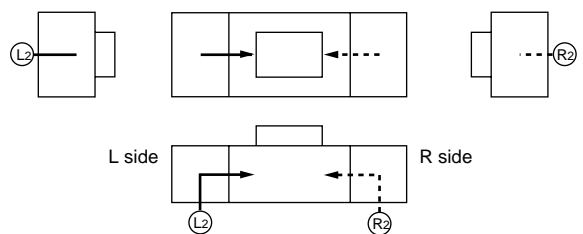
Tube bore of 25 to 63 mm

- For option symbol (blank, R, B, T)



(R) indicates the R side pressure port, and (L) indicates the L side pressure port. Before shipping, all plugs other than 1 each at (R) and (L) are sealed with plugs. Note that pipes cannot be connected to the bottom. Select options (D, S) if such connection is necessary.

- For option symbols (D, S) (bottom piping)



(R) indicates the R side pressure port, and (L) indicates the L side pressure port. There are no ports other than (R2) or (L2), so pipes cannot be connected.



Pneumatic Components

Safety Precautions

Always read before starting use

Refer to Intro 3 for general details on the cylinder, and to Intro 10 for details on the cylinder switch.

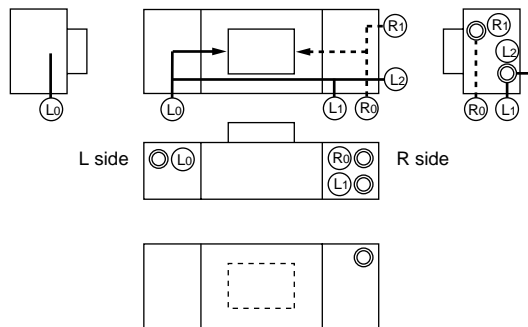
Rodless cylinder SRL2 Series

CAUTION

Installation & Adjustment

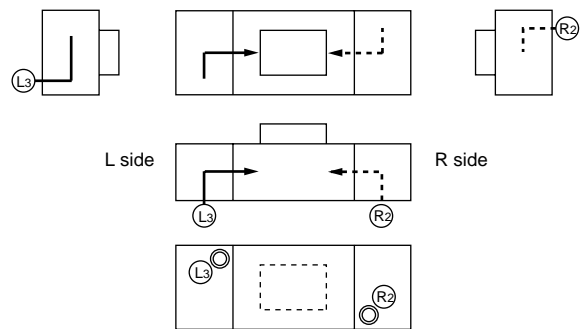
Tube bore of 80 to 100 mm

- For option symbol (blank, R, B, T)



(R) indicates the R side pressure port, and (L) indicates the L side pressure port. Before shipping, all plugs other than 1 each at (R) and (L) are sealed with plugs. Pipes are connected to other ports by removing plugs.

- For option symbols (D, S) (bottom piping)



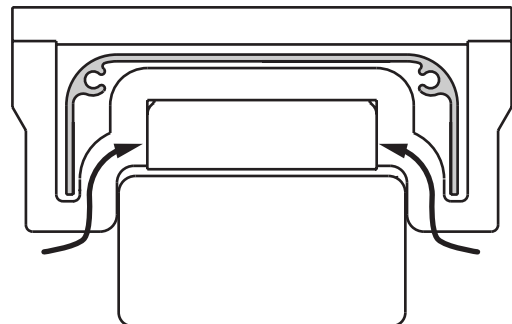
There are no ports other than (R2) or (L2), so pipes cannot be connected.

CAUTION

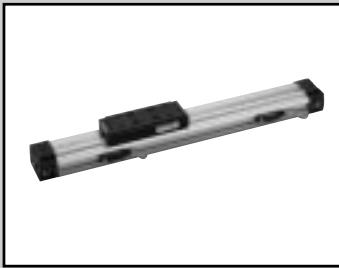
During use & maintenance

1 Precautions for full cowling (SRL2-J)

- Suspended particles such as fiber, feathers, or powder may pass through the table adapter passage under the cover and adhere to the cylinder, leading to operation faults.
- If coolant (oil) or cutting chips scatter with force, or if they scatter from an inclined direction, provide another cover on the cylinder and sides, etc.
- Clearance of 2 to 3 mm exists between the movable part (table adapter) and cover. If dirt scatters, it may enter clearance.
- Avoid installing the SRL2-J in reverse. Dirt may accumulate or operation be inhibited by accumulated fluid.
- Regularly remove all dirt from the top and inside of the cover. Failure to do so may lead to operation faults.
- This product provides clearance under the cover for passing the table adapter through. Note that dirt may enter the cover.



<The drawing shows the entry passage.>

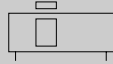


Rodless cylinder, double acting

SRL2 Series

- Bore size: 12, 16, 20, 25, 32 mm bore
40, 50, 63, 80, 100 mm bore

JIS symbol



CAD DATA AVAILABLE.

Specifications

Descriptions	SRL2									
Bore size mm	12 dia.	16 dia.	20 dia.	25 dia.	32 dia.	40 dia.	50 dia.	63 dia.	80 dia.	100 dia.
Actuation	Double acting									
Working fluid	Compressed air									
Max. working pressure MPa	0.7									
Min. working pressure (Note 2) MPa	0.2			0.1			0.05			
Withstanding pressure MPa	1.05									
Ambient temperature °C	5 to 60									
Port size	M5		Rc1/8		Rc1/4		Rc3/8		Rc1/2	
Stroke length tolerance mm	$+2.0_0$ (to 1000)			$+2.5_0$ (to 3000)			$+3.0_0$ (to 5000)			
Working piston speed mm/s	50 to 2000 (standard port piping) (Note 1)									
Cushion	Air cushion									
Lubrication	Not required (turbine oil Class 1 ISOVG32 should be used. Continue to lubricate once lubricated.)									

Note 1 : Working piston speed, when using with common port piping, may vary depending on stroke length. Consult with CKD.

Note 2 : For low pressure specifications "LP" (12 to 20 mm bore), 0.1MPa.

Allowable energy absorption

Bore size (mm)	Cushioned		No cushion	With shock absorber (initial set value)	
	Allowable energy absorption (J)	Cushion stroke length (mm)	Allowable energy absorption (J)	Absorbed energy (J)	Effective stroke length (mm)
12 dia.	0.03	14.5	0.003	2.4	5.5
16 dia.	0.22	19.2	0.007	2.4	5.5
20 dia.	0.59	22.2	0.010	5.7	7
25 dia.	1.40	20.9	0.015	10	9
32 dia.	2.57	23.5	0.030	18	13
40 dia.	4.27	23.9	0.050	50	16.5
50 dia.	9.13	24.9	0.072	86	21
63 dia.	17.4	29.6	0.138	86	21
80 dia.	40	45.8	0.393	143	25
100 dia.	67	45.8	0.622	143	25

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
12 dia.			
16 dia.			
20 dia.			
25 dia.	200, 300		
32 dia.	400, 500	5000	
40 dia.	600, 700		
50 dia.	800, 900		
63 dia.	1000		
80 dia.			
100 dia.			

The value may vary depending on switch model No. and installation quantity. (Refer to the below table about details.)

• Custom stroke length is available per 1 mm increment.

M type switch installation quantity and minimum stroke length (mm)

Switch quantity	1		2		3		4		5		6		7		8		9	
Switch model No.	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H
Bore size (mm)																		
12 dia.	10	10	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
16 dia.	10	10	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
20 dia.	10	10	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
25 dia.	10	10	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
32 dia.	10	10	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
40 dia.	10	10	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
50 dia.	15	15	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
63 dia.	15	15	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
80 dia.	25		50		100		150		200		250		300		350		400	
100 dia.	25		50		100		150		200		250		300		350		400	

T type switch installation quantity and minimum stroke length (mm)

Switch quantity	1		2		3		4		5		6		7		8		9	
Switch model No.	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H
Bore size (mm)																		
12 dia.	5	5	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
16 dia.	5	5	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
20 dia.	5	5	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
25 dia.	10	10	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
32 dia.	10	10	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
40 dia.	10	10	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
50 dia.	10	10	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
63 dia.	10	10	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
80 dia.	15	15	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
100 dia.	15	15	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400

Switch specifications

- One color/bi-color indicator

Descriptions	Proximity 2 wire		Proximity 3 wire	
	M2V, M2H	M2WV (2 color indicator)	M3V, M3H	M3WV (2 color indicator)
Applications	Programmable controller		Programmable controller, relay, IC circuit, small solenoid valve	
Power voltage	-		DC4.5 to 28V	DC10 to 28V
Load voltage	DC10 to 30V		DC30V or less	DC30V or less
Load current	5 to 30mA		200mA or less	150mA or less
Light	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)

Descriptions	Reed 2 wire			
	M0V, M0H		M5V, M5H	
Applications	Programmable controller, relay		Programmable controller, relay, IC circuit (without indicator light), serial connection	
Power voltage	-		-	
Load voltage	DC12/24V	AC110V	DC5/12/24V	AC110V or less
Load current	5 to 50mA	7 to 20mA	50mA or less	20mA or less
Light	LED (ON lighting)		Without indicator light	

Note 1: For MO * switch, if load current range is within 7 to 20mA, this switch can be used with AC24V and AC48V.

- With preventive maintenance output

Descriptions	Proximity 3 wire		Proximity 4 wire	
	T2YF H/V	T3YF H/V	T2YM H/V	T3YM H/V
Applications	Programmable controller		Programmable controller, relay	
Light	Installation position adjustment	Red/green LED (ON lighting)		
	Preventive maintenance output	Yellow LED (ON lighting)		
Output	Power voltage	-	DC10 to 28V	-
	Load voltage	DC10 to 30V	DC30V	DC10 to 30V
	Load current	DC5 to 20mA	DC50mA or less	DC5 to 20mA
	Internal voltage drop	4V or less	0.5V or less	4V or less
	Current consumption	-	10mA or less	-
	Leakage current	1mA or less	10 micron A or less	1.2mA or less
Preventive maintenance output	Load voltage	DC30V or less		
	Load current	DC20mA or less	DC50mA or less	DC5 to 20mA
	Internal voltage drop	0.5V or less		4V or less
	Leakage current	10 micron A or less		
	Signal holding (Ton)	-	-	0.4 ±0.2sec after installation position adjustment red LED turned on.
	Signal release (Toff)	-	-	0.7 ±0.2sec after installation position adjustment red LED turned on.

- Strong magnetic field

Descriptions	Proximity switch	
	T2YD	
Applications	Programmable controller	
Light	Red/green LED (ON lighting)	
Load voltage	DC24V ±10%	
Load current	5 to 20mA	
Internal voltage drop	6V or less	
Leakage current	1.0mA or less	

Cylinder mass

Unit: kg

Bore size (mm)	Mass when stroke length 0mm			Mass per switch (including bracket.)	Additional mass per St = 100mm
	Basic type (00)	Foot type (LB) (LB1)			
12 dia.	0.24	0.25	0.26	0.02	0.10
16 dia.	0.32	0.33	0.35		0.13
20 dia.	0.52	0.54	0.58		0.18
25 dia.	1.0	1.1	1.1		0.30
32 dia.	1.5	1.6	1.7		0.39
40 dia.	2.4	2.5	-		0.56
50 dia.	3.6	3.7	-		0.78
63 dia.	6.2	6.5	-		1.17
80 dia.	18.4	19.0	-		2.32
100 dia.	26.2	27.2	-		3.38

How to order

Without switch

SRL2 - 00 - 12 B - 200 - B

With switch

SRL2 - 00 - 12 B - 200 - MOH - R - B

A Mounting style
Note 1

B Bore size

C Cushion

D Stroke length

E Switch model No.
Note 2

F Switch quantity

G Option
Note 3, Note 4
Note 5, Note 6
Note 7

⚠ Cautions for model No. selection

Note 1: When 12, 16, 20, 25, 32 bore size and option symbol "R" and "T", mounting style "00" or "LB1" is provided. (For option symbol "R" and "T", mounting style "LB" is not available because cannot be piped.)

Note 2: Available other than listed **E** switch model No. (custom order)

Note 3: For L * and N *, * mark shows set quantity. When 2 sets are necessary, indicate as "L2" (for LB), or "N2" (for LB1). Two/set

Note 4: Please refer to dimensions on Page 9 to 14 about ports, and cushion needle position indicating symbols.

Note 5: For standard type of 12 to 25 mm, adjustable full-stroke bracket cannot be installed later. "A3" means the option that a mounting plate nut is installed to install an adjustable full-stroke bracket later.

Note 6: For "H", nominal designation of screw thread of 12, 16 dia. is "M4", while nominal designation of screw thread of 20 dia. is "M5".

Note 7: Refer to "optional combination table" on the following page about optional combination.

Note 8: Copper and PTFE free specifications are provided as standard.

<Example of model number>

SRL2-00-12B-200-M0H-R-B

Model: Rodless cylinder

- A** Mounting style : Basic type
- B** Bore size : 12 mm
- C** Cushion : Both sides cushion
- D** Stroke length : 200 mm
- E** Switch model No : Reed switch M0H, lead wire length 1m
- F** Switch quantity : One on rod side
- G** Option : Port position F, cushion needle position B

Symbol	Descriptions											
A Mounting style												
00	Basic type											
LB	Axial foot type											
LB1	Axial foot type											
B Bore size (mm)												
12	12 dia.											
16	16 dia.											
20	20 dia.											
25	25 dia.											
32	32 dia.											
40	40 dia.											
50	50 dia.											
63	63 dia.											
80	80 dia.											
100	100 dia.											
C Cushion												
B	Both sides cushion											
R	R side cushion											
L	L side cushion											
N	No cushion											
D Stroke length (mm)												
200, 300, 400, 500, 600, 700, 800, 900, 1000												
E Switch model No.												
Axial lead wire	Radial lead wire	Contact	Display	Lead wire								
M0H *	M0V *	Reed	1 color indicator	2 wire								
M5H *	M5V *											
M2H *	M2V *	Proximity	1 color indicator	2 wire								
-	M2WV *											
M3H *	M3V *		2 color indicator	3 wire								
-	M3WV *											
T2YFH *	T2YFV *		With preventive maintenance output	4 wire								
T3YFH *	T3YFV *											
T2YMH *	T2YMV *	Strong magnetic field proof switch	3 wire									
T3YMH *	T3YMV *											
T2YD *	-		2 wire									
T2YDT *	-											
* Lead wire length												
Blank	1m (standard)											
3	3m (option)											
5	5m (option)											
F Switch quantity												
R	One on R side											
L	One on L side											
D	Two											
T	Three											
4	4 (When more than 4 pieces, indicate switch quantity.)											
G Option												
	Bore size (mm)		12	16	20	25	32	40	50	63	80	100
A	Adjustable full-stroke both ends with shock absorbers		●	●	●	●	●	●	●	●	●	●
A1	Adjustable full-stroke R end only, with shock absorber		●	●	●	●	●	●	●	●	●	●
A2	Adjustable full-stroke L end only, with shock absorber		●	●	●	●	●	●	●	●	●	●
A3	Adjustable full-stroke bracket later installation		●	●	●	●						
Y	Floating joint		●	●	●	●	●	●	●	●	●	●
Y1	Thin floating joint		●	●	●	●	●	●	●	●	●	●
L *	Intermediate support bracket (for 00, LB)		●	●	●	●	●	●	●	●	●	●
N *	With intermediate support bracket (LB1)		●	●	●	●	●	●	●	●	●	●
C	C mount bracket		●	●	●	●	●	●	●	●	●	●
H	Select larger size of table set screw		●	●	●	●	●	●	●	●	●	●
U	Height adjustment plate		●	●	●	●	●	●	●	●	●	●
LP	Low pressure specifications		●	●	●	●	●	●	●	●	●	●
Blank		F	F (standard)		●	●	●	●	●	●	●	●
R	Port position	R	F (common port)		●	●	●	●	●	●	●	●
B		F	B		●	●	●	●	●	●	●	●
T	R	R	B (common port)		●	●	●	●	●	●	●	●
D		D	F		●	●	●	●	●	●	●	●
S	D	D	D		●	●	●	●	●	●	●	●
X		F	F (common port)		●	●	●	●	●	●	●	●

Optional combination table

● : Combination available ■ : Combination not available

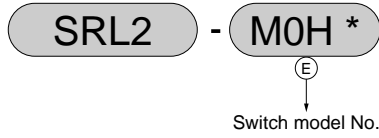
		Option																			
		Adjustable full-stroke both ends with shock absorbers	Adjustable full-stroke R end only, with shock absorber	Adjustable full-stroke L end only, with shock absorber	Adjustable full-stroke bracket later installation	Floating joint	Thin type floating joint	Intermediate support bracket (for 00, LB)	Intermediate support bracket (LB1)	C mount bracket	Select larger size of table set screw	Height adjustment plate	Low pressure specifications	Port position F, cushion needle position F (standard)	Port position R, cushion needle position F (common port)	Port position F, cushion needle position B	Port position R, cushion needle position B (common port)	Port position D, cushion needle position F	Port position D, cushion needle position D	Port position F, cushion needle position F (common port)	
Option	Symbol	A	A1	A2	A3	Y	Y1	L*	N*	C	H	U	LP	Blank	R	B	T	D	S	X	
A		●				●	●	●	●		●	●	●	●	●	●	●	●	●	●	●
A1			●			●	●	●	●		●	●	●	●	●	●	●	●	●	●	●
A2				●		●	●	●	●		●	●	●	●	●	●	●	●	●	●	●
A3					●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●
Y						●		●	●				●	●	●	●	●	●	●	●	●
Y1							●	●					●	●	●	●	●	●	●	●	●
L*											●	●	●	●	●	●	●	●	●	●	●
N*											●	●	●	●	●	●	●	●	●	●	●
C												●	●	●	●	●	●	●	●	●	●
H													●	●	●	●	●	●	●	●	●
U														●	●	●	●	●	●	●	●
LP															●	●	●	●	●	●	●
Blank																					
R																					
B																					
T																					
D																					
S																					
X																					

Note 1: Some combination is impossible depending on bore size. Confirm the conditions of options of "how to order" ⑥ on the previous page.
 Note 2: When port position D, LB1 is not available. (25, 32 mm bore)

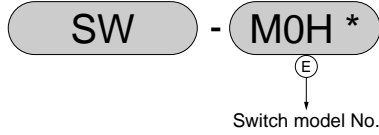
How to order switch

(Please refer to Page Ending 9 to 11 about components.)

- Switch main body + mounting bracket (Note 1)



- Switch only

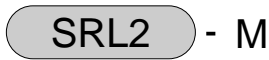


* Lead wire length	
Blank	1m (standard)
3	3m (option)
5	5m (option)

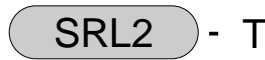
* mark indicates lead wire length.

- Mounting bracket (Note 2)

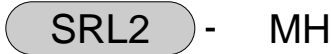
- M type switch



- T type switch



- Lead wire holder (Note 3)

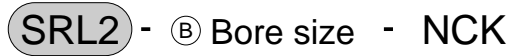


Note 1. Switch main body + mounting bracket set doesn't include any lead wire holder. When a lead wire holder is necessary, place an order separately.

Note 2. M type switch bracket is different from T type switch.

Note 3. Lead wire holder is 10 pieces/set.

- How to order discrete shock absorber



(One shock absorber, one shock absorber fixing hex. nut)

(Note) Shock absorber fixing hex. nut for SRL2- 40 is a custom part.

Applicable shock absorber model No.

Model	Shock absorber model No.
SRL2-12	NCK-0.3-C
SRL2-16	NCK-0.3-C
SRL2-20	NCK-0.7-C
SRL2-25	NCK-1.2
SRL2-32	NCK-2.6
SRL2-40	NCK-7
SRL2-50	NCK-12
SRL2-63	NCK-12
SRL2-80	NCK-20
SRL2-100	NCK-20

- How to order discrete C mount bracket (for 12 to 63 mm bore)



(C mount bracket, 4 mounting bolts)

- How to order floating joint set



(Mount, mount base, pin, plain washer, pan head machine screw 4 mounting bolts with spring washer)

- How to order discrete intermediate support bracket

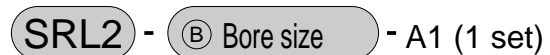
LB



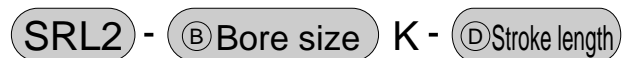
LB1



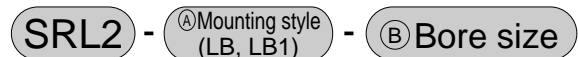
- How to order adjustable full-stroke kit



- How to order repair parts



- How to order mounting bracket



(Two brackets, 4 mounting bolts)

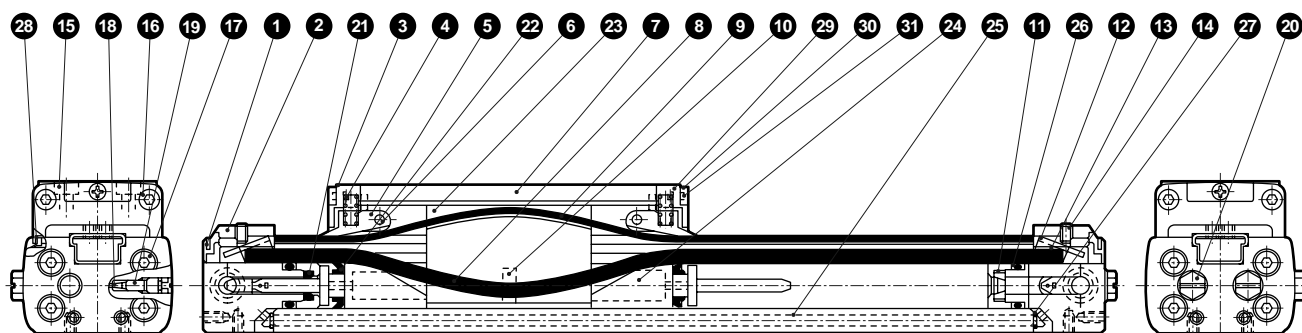
- How to order height adjustment plate set



(Plate, 4 mounting bolts)

Internal structure and parts list

• 12 to 40 mm bore



Parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Belt cover	Polyamide		17	Hexagon socket head cap screw	Steel	Blackening
2	Cover (L)	Aluminum alloy	Seizure painting	18	Needle gasket	Nitrile rubber	
3	Table cover	Acetar resin		19	Cushion needle	Steel	Galvanizing
4	Spring	Steel	Blackening	20	Plug	Brass or steel	
5	Belt tension	Acetar resin		21	Cushion packing seal	Urethane rubber	
6	Parallel pin	Steel		22	Piston packing seal	Nitrile rubber	
7	Table	Aluminum alloy	Black alumite	23	Yoke	Aluminum alloy	Alumite
8	Seal belt	Urethane rubber		24	Piston	Acetar resin	
9	Dust-proof belt	Stainless steel + nitrile rubber		25	Cylinder tube	Aluminum alloy	Alumite
10	Magnet	Special alloy		26	Cylinder gasket	Nitrile rubber	
11	Cushion adaptor	Acetar resin		27	Common port, O ring	Nitrile rubber	
12	Cover (R)	Aluminum alloy	Seizure painting	28	Dust wiper	Acetar resin	
13	Belt spacer	Steel	Galvanizing	29	2-side adhesive tape		
14	Hexagon socket head set screw	Steel	Blackening	30	Plate	Stainless steel (12 to 20 dia.) Steel (25 to 40 dia.)	
15	Hexagon socket head cap screw	Steel	Blackening				
16	Hexagon socket head cap screw	Steel	Blackening				
				31	Cross headed tapping screw	Stainless steel	

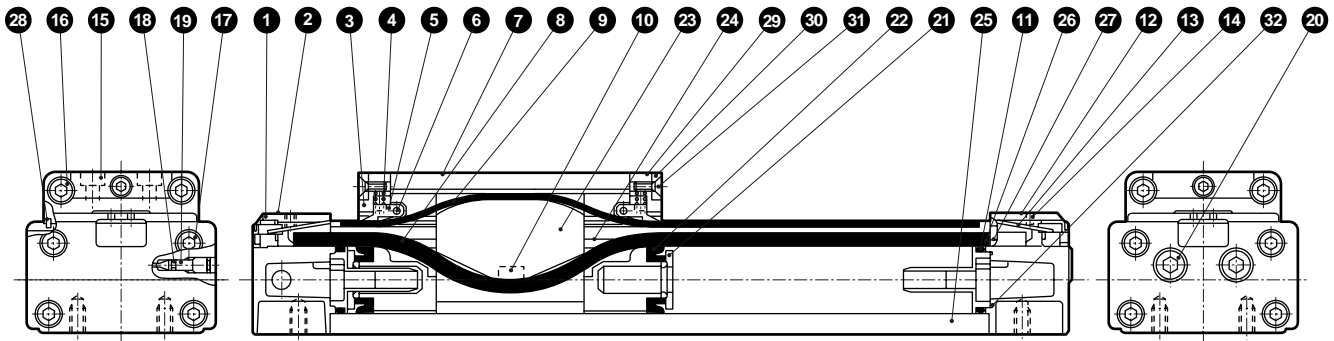
Repair parts list

Bore size (mm)	Kit number	Repair parts number
12 dia.	SRL2-12K- *	
16 dia.	SRL2-16K- *	
20 dia.	SRL2-20K- *	8 9 21 22
25 dia.	SRL2-25K- *	26 27 28
32 dia.	SRL2-32K- *	
40 dia.	SRL2-40K- *	

Note: When placing an order, indicate kit number.
Indicate stroke length at *.

Internal structure and parts list

• Equivalent to 50 to 63 mm



Parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Belt cover	Polyamide		17	Hexagon socket head cap screw	Steel	Blackening
2	Cover (L)	Aluminum alloy	Seizure painting	18	Needle gasket	Nitrile rubber	
3	Table cover	Acetar resin		19	Cushion needle	Steel	Galvanizing
4	Spring	Steel	Blackening	20	Plug	Steel	
5	Belt tension	Acetar resin		21	Cushion packing seal	Urethane rubber	
6	Parallel pin	Steel		22	Piston packing seal	Nitrile rubber	
7	Table	Aluminum alloy	Black alumite	23	Yoke	Aluminum alloy	Alumite
8	Seal belt	Urethane rubber		24	Piston	Acetar resin	
9	Dust-proof belt	Stainless steel + nitrile rubber		25	Cylinder tube	Aluminum alloy	Alumite
10	Magnet	Special alloy		26	Cylinder gasket	Nitrile rubber	
11	Cushion ring	Acetar resin		27	Common port, O ring	Nitrile rubber	
12	Cover (R)	Aluminum alloy	Seizure painting	28	Dust wiper	Acetar resin	
13	Belt spacer	Steel	Galvanizing	29	2-side adhesive tape		
14	Hexagon socket head set screw	Steel	Blackening	30	Plate	Steel	Galvanizing
15	Hexagon socket head cap screw	Steel	Blackening	31	Cross headed tapping screw	Stainless steel	
16	Hexagon socket head cap screw	Steel	Blackening	32	Cushion ring gasket	Nitrile rubber	

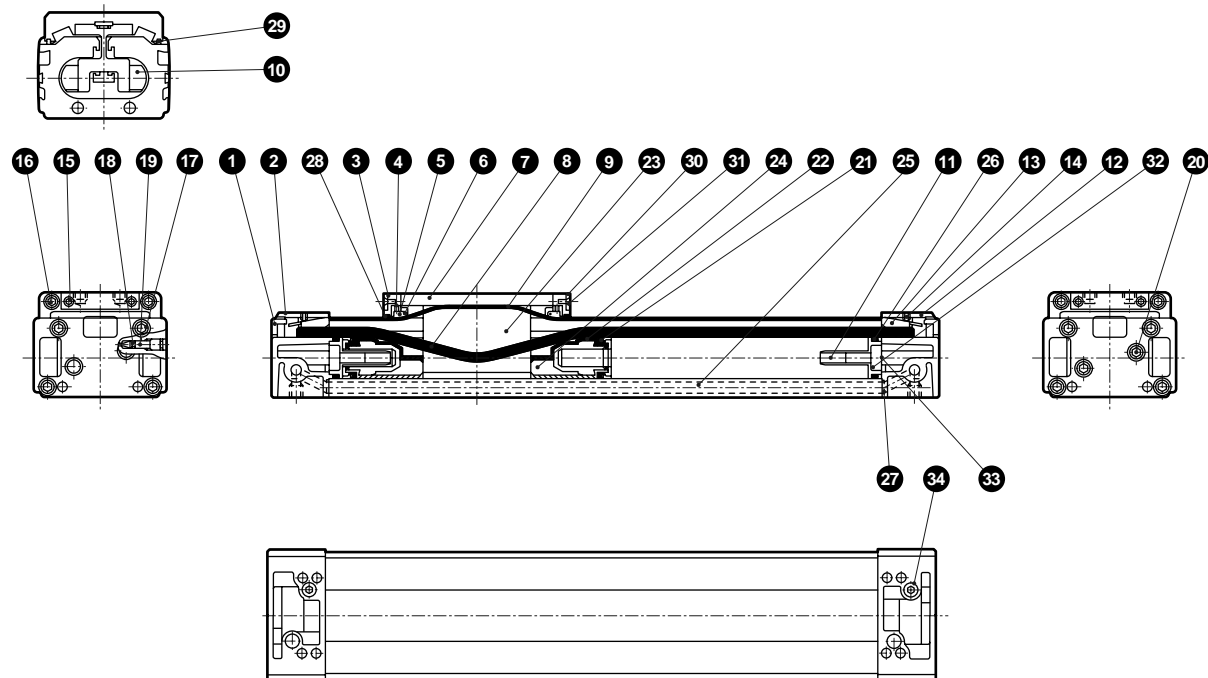
Repair parts list

Bore size (mm)	Kit number	Repair parts number
50 dia.	SRL2-50K-*	8 9 21 22
63 dia.	SRL2-63K-*	26 27 28 32

Note: When placing an order, indicate the kit number, and indicate stroke length at *.

Internal structure and parts list

• 80 to 100 mm bore



Parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Belt cover	Polyamide		18	Needle gasket	Nitrile rubber	
2	Cover (L)	Aluminum alloy	Seizure painting	19	Cushion needle	Steel	Galvanizing
3	Table cover	Acetar resin		20	Plug	Steel	
4	Spring	Steel	Blackening	21	Cushion packing seal	Urethane rubber	
5	Belt tension	Acetar resin		22	Piston packing seal	Nitrile rubber	
6	Parallel pin	Steel		23	Yoke	Aluminum alloy	Alumite
7	Table	Aluminum alloy	Black alumite	24	Piston	Acetar resin	
8	Seal belt	Urethane rubber		25	Cylinder tube	Aluminum alloy	Alumite
9	Dust-proof belt	Stainless steel + nitrile rubber		26	Cylinder gasket	Nitrile rubber	
10	Magnet	Special alloy		27	Common port, O ring	Nitrile rubber	
11	Cushion ring	Acetar resin		28	Felt (1)	Wool	
12	Cover (R)	Aluminum alloy	Seizure painting	29	Felt (2)	Wool	
13	Belt spacer	Steel	Galvanizing	30	Plate	Steel	Galvanizing
14	Hexagon socket head set screw	Steel	Blackening	31	Cross headed tapping screw	Stainless steel	
15	Hexagon socket head cap screw	Steel	Blackening	32	Cushion ring gasket (1)	Nitrile rubber	
16	Hexagon socket head cap screw	Steel	Blackening	33	Cushion ring gasket (2)	Nitrile rubber	
17	Hexagon socket head cap screw	Steel	Blackening	34	Plug	Steel	


Repair parts list

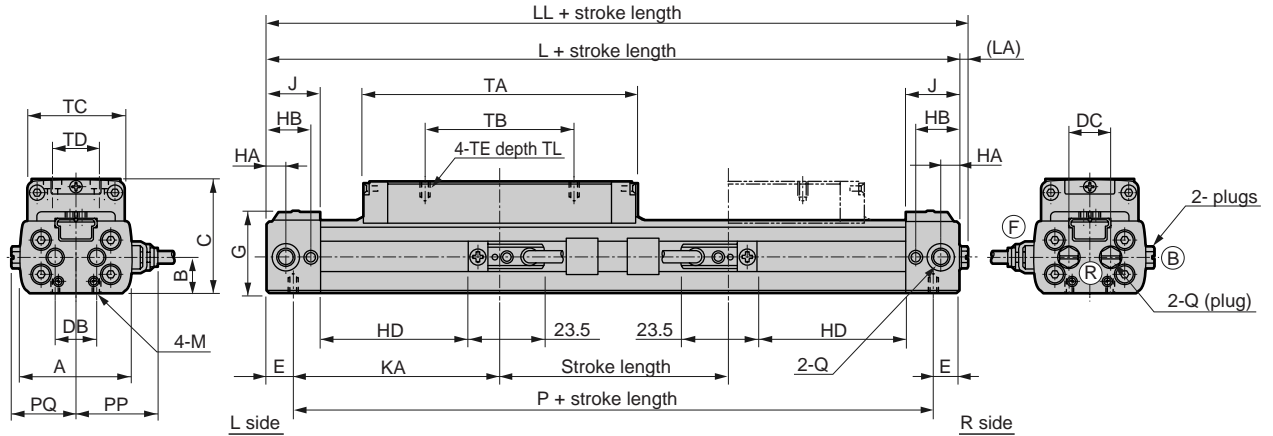
Bore size (mm)	Kit number	Repair parts number
80 dia.	SRL2-80K-*	8 9 21
100 dia.	SRL2-100K-*	22 26

Bore size (mm)	Kit number	Repair parts number
80 dia.	SRL2-80K-*	27 28 29
100 dia.	SRL2-100K-*	32 33

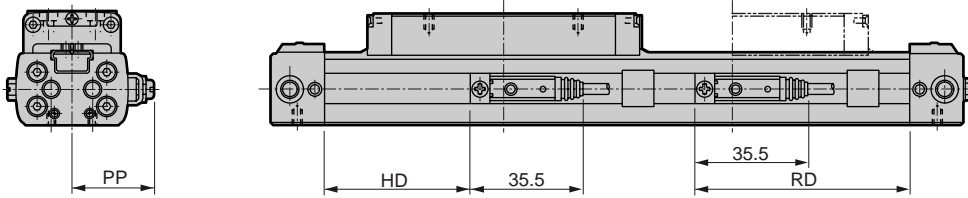
Note: When placing an order, indicate the kit number, and indicate stroke length at *.

Dimensions (12 to 20 mm bore)

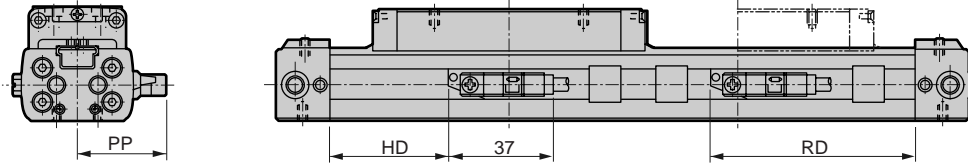
- SRL2- ** - ** - *** - M * V * with cylinder switch (radial lead wire)  (File name: Page Ending 12)



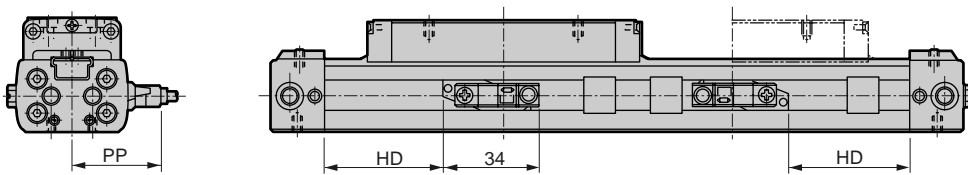
- SRL2- ** - ** - *** - M * H * with cylinder switch (axial lead wire)



- SRL2- ** - ** - *** - T * Y * H with cylinder switch (T * YF, T * YM, T * YD)



- SRL2- ** - ** - *** - T * Y * V with cylinder switch (T * YF, T * YM)




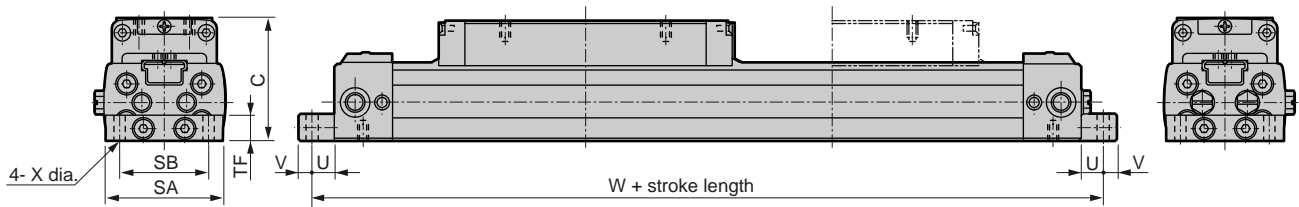
RD: Max. sensitive position HD: Max. sensitive position


Symbol	A	B	C	DB	DC	E	G	HA	HB	J	KA	L	LL	LA	M	P	PQ	Q	TA	TB	TC	TD	TE
Bore size (mm)																							
12 dia.	33	10.5	33	10	11	8.5	24	6	14	17.5	59.5	136	139	3	M3 depth 5	119	19	M5	81	42	29	13	M3 depth 5
16 dia.	37	12	37	14	12	8.5	27	6	14	17.5	66	149	152	3	M3 depth 5	132	21	M5	88	48	32	15	M3 depth 5
20 dia.	44	14	42	16	16	10.5	31	8.5	18.5	22	74	169	171.5	2.5	M4 depth 6.5	148	24.5	Rc1/8	100	60	38	18	M4 depth 6

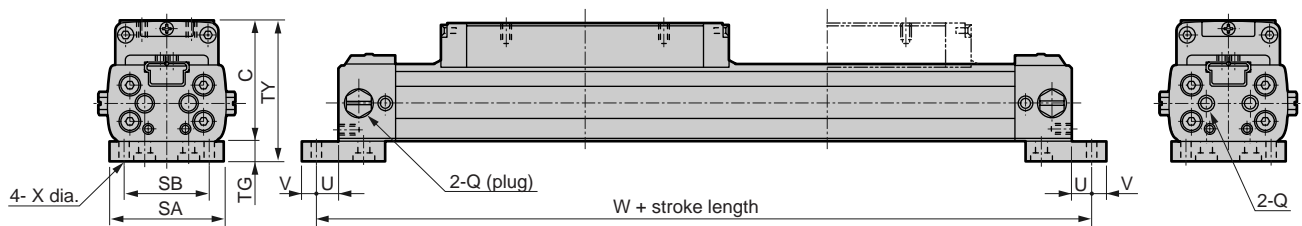
Symbol	With switch								With foot bracket (LB)								With foot bracket (LB1)							
	HD		RD		PP		PP		SA	SB	TF	U	V	W	X	SA	SB	TG	TY	U	V	W	X	
	M type	T type	M type	T type	M * V	M * H	T * V	T * H																
12 dia.	40.5	36	60.5	65	24.5	26	31	28	32	24	8	6	4	148	3.4	32	24	6	39	6	4	148	3.4	
16 dia.	47	42	67	72	26.5	28	33	30	35	26	8	6	4	161	3.4	35	26	6	43	6	4	161	3.4	
20 dia.	52.5	48	72.5	77	29.5	31	36	33	43	33	10	6	6	181	4.5	43	33	8	50	6	6	181	4.5	

Dimensions (12 to 20 mm bore)


- SRL2-LB- ** - *** with foot bracket  (File name: Page Ending 12)

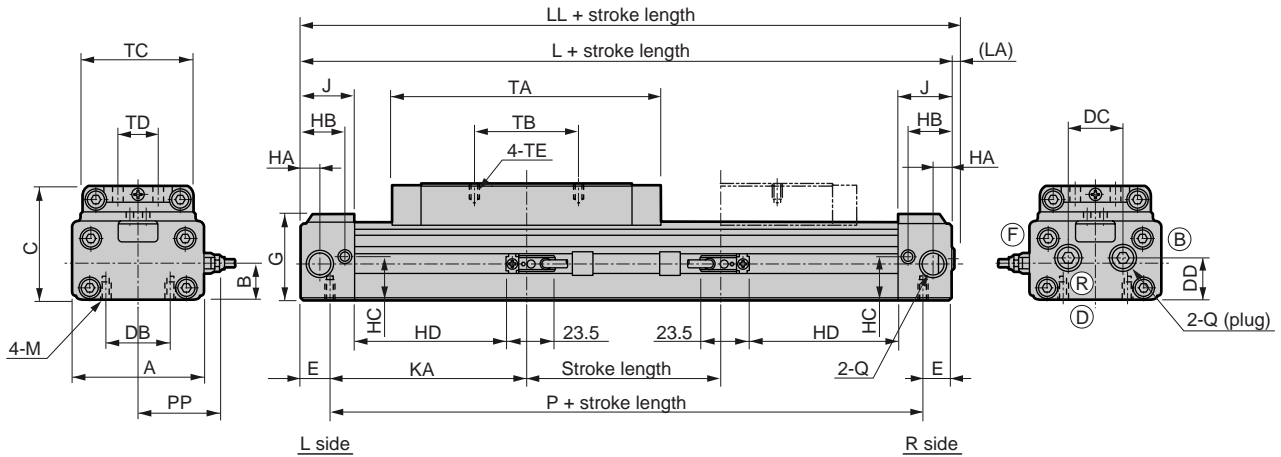


- SRL2-LB1- ** - *** with foot bracket  (File name: Page Ending 12)

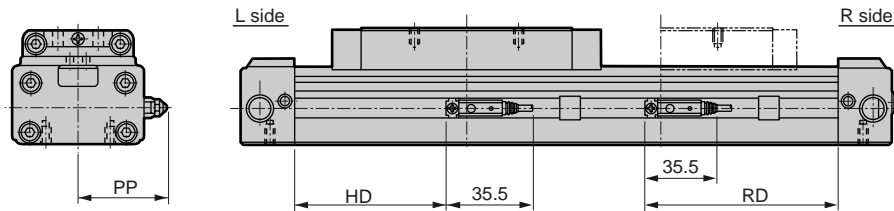


Dimensions (25 to 63 mm bore)

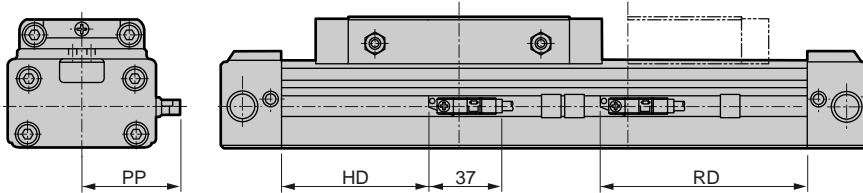
- SRL2- ** - ** - *** - M * V * with cylinder switch (radial lead wire)  (File name: Page Ending 12)



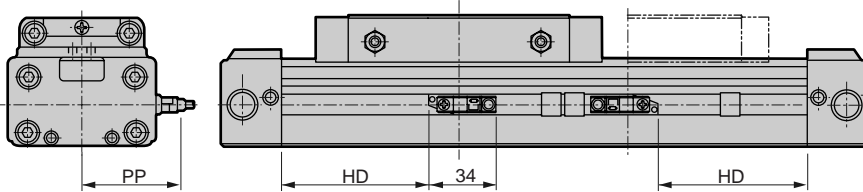
- SRL2- ** - ** - *** - M * H * with cylinder switch (axial lead wire)



- SRL2- ** - ** - *** - T * Y * H with cylinder switch (T * YF, T * YM, T * YD)



- SRL2- ** - ** - *** - T * Y * V with cylinder switch (T * YF, T * YM)




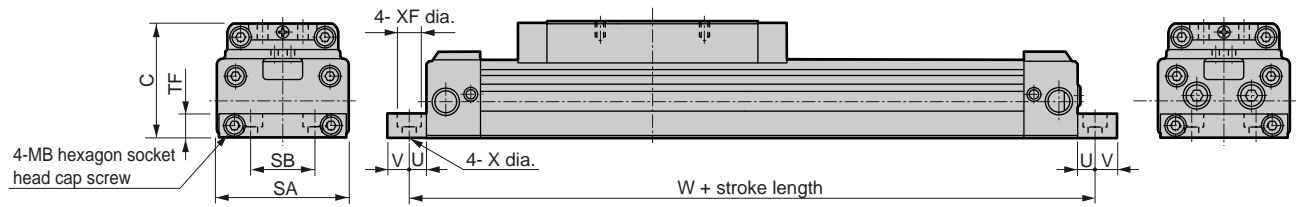
RD: Max. sensitive position HD: Max. sensitive position


Symbol	A	B	C	DB	DC	DD	E	G	HA	HB	HC	J	KA	L	LL	LA	M	P	Q	TA	TB	TC	TD	TE
25 dia.	53	17	53	20	26	19	14	40.5	7.5	20	18.9	24	81	190	192	2	M6 depth 9	162	Rc1/8	122	70	48	20	M5 depth 6
32 dia.	66	18.5	57	32	27	21	15	43.5	10	23.5	21.5	28	98	226	228.5	2.5	M6 depth 9	196	Rc1/4	134	80	56	20	M6 depth 7.5
40 dia.	80	22	67	36	35	28	17	51.5	13	26	27	31	105	244	246.5	2.5	M8 depth 12	210	Rc1/4	148	90	68	30	M6 depth 9
50 dia.	96	28	82	45	35	35	23	61	15	33	35.3	39	106	258	260.5	2.5	M8 depth 12	212	Rc3/8	152	100	80	30	M8 depth 10.5
63 dia.	118	35	95	50	39	42	19	74	15	32	43	39	129	296	298.5	2.5	M10 depth 15	258	Rc3/8	168	110	102	40	M8 depth 11.5

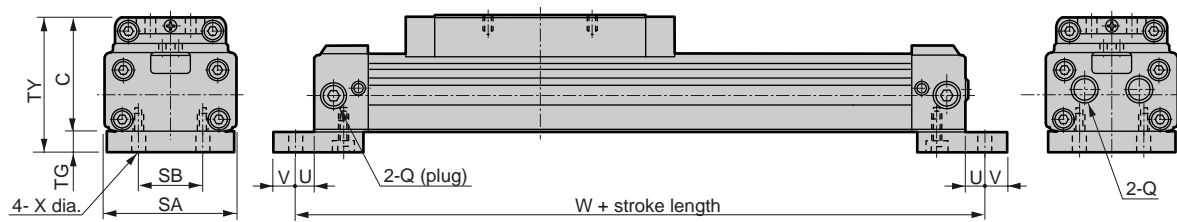
Symbol	With switch								With foot bracket (LB)								With foot bracket (LB1)								
	HD		RD		PP		PP		SA	SB	TF	U	V	W	X	XF	MB	SA	SB	TG	TY	U	V	W	X
Bore size (mm)	M type	T type	M type	T type	M * V	M * H	T * V	T * H																	
25 dia.	60	56	82	86	34.5	36	41	38	52	20	12	9	11	208	7	-	M5 X 50	50	20	10	63	9	11	208	7
32 dia.	74	70	98	100	41.5	43	48	45	64	32	12	9	11	244	7	-	M5 X 50	64	32	10	67	9	11	244	7
40 dia.	80	78	102	106	48.5	50	55	52	80	36	15	11	9	266	9	14 spot face depth 8.6	M6 X 55	-	-	-	-	-	-	-	-
50 dia.	79	75	101	105	56.5	58	68	60	94	45	20	11	9	280	9	14 spot face depth 8.6	M8 X 65	-	-	-	-	-	-	-	-
63 dia.	98	94	120	124	67.5	69	74	71	116	50	25	13	12	322	11	17.5 spot face depth 10.8	M8 X 70	-	-	-	-	-	-	-	-

Dimensions (25 to 63 mm bore)


- SRL2-LB- ** - *** with foot bracket  (File name: Page Ending 12)

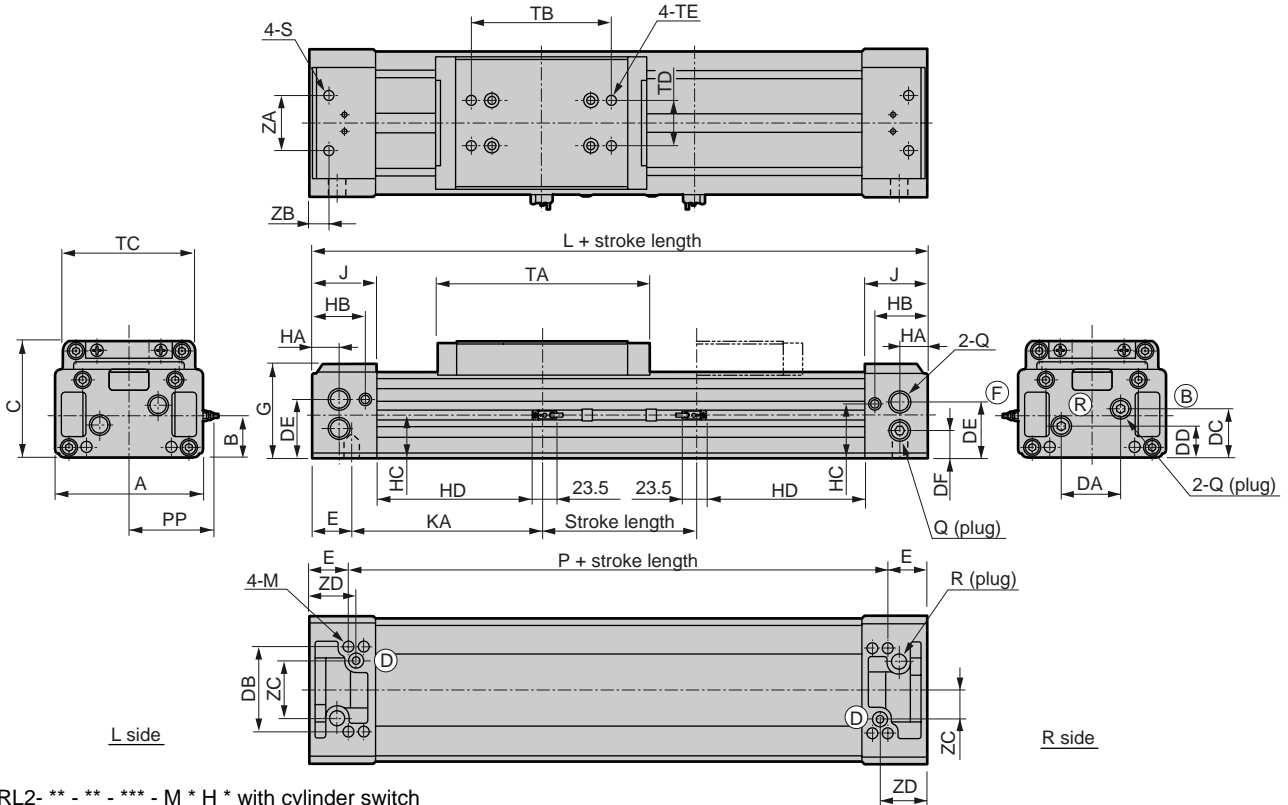


- SRL2-LB1- ** - *** with foot bracket  (File name: Page Ending 12)

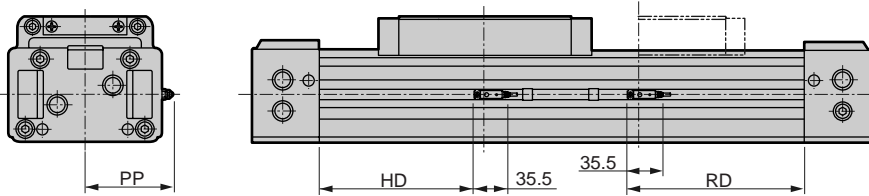


Dimensions (80 to 100 mm bore)

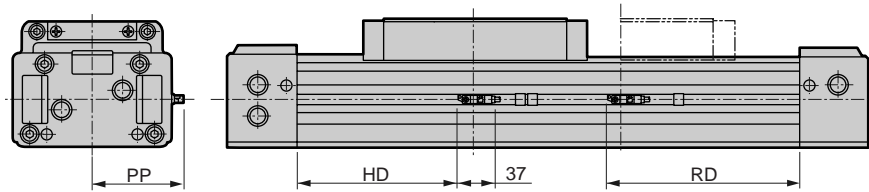
- SRL2- ** - ** - *** - M * V * with cylinder switch (radial lead wire)  (File name: Page Ending 12)
Tap for eye bolt



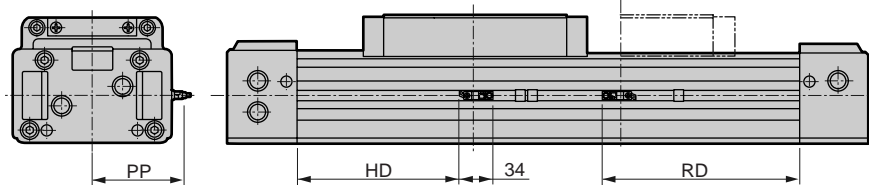
- SRL2- ** - ** - *** - M * H * with cylinder switch (axial lead wire)



- SRL2- ** - ** - *** - T * Y * H with cylinder switch (T * YF, T * YM, T * YD)



- SRL2- ** - ** - *** - T * Y * V with cylinder switch (T * YF, T * YM)




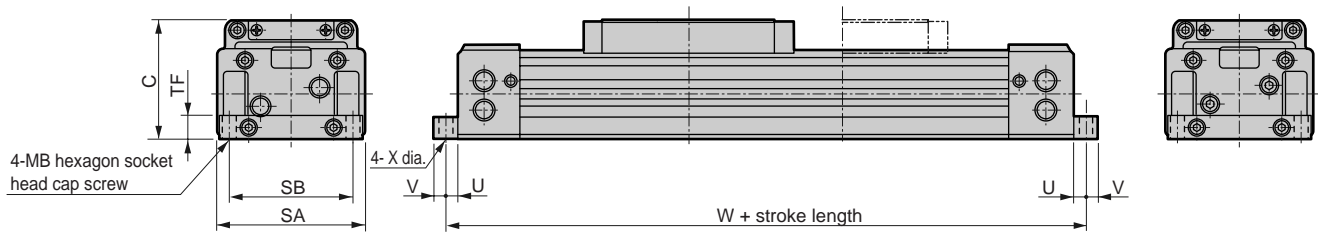
RD: Max. sensitive position
HD: Max. sensitive position

Symbol	A	B	C	DA	DB	DC	DD	DE	DF	E	G	HA	HB	HC	J	KA	L	M	P	Q	R	S
Bore size (mm)																						
80 dia.	162	49	130	64	93	58	38	65	33	42	106	30	59	64.5	70	208	500	M12 depth 18	416	Rc ¹ / ₂	Rc ³ / ₈	M12 depth 23
100 dia.	198	61.5	150	73	108	71.5	47.5	81.5	41.5	43	125	30	69	76.5	80	222	530	M12 depth 18	444	Rc ¹ / ₂	Rc ¹ / ₂	M12 depth 23

Symbol	Bore size (mm)	TA	TB	TC	TD	TE	ZA	ZB	ZC	ZD	With switch								Foot bracket							
											HD		RD		PP		PP		SA	SB	TF	U	V	W	X	MB
											M type	T type	M type	T type	M * V	M * H	T * V	T * H								
80 dia.		228	150	146	50	M12 depth 15	60	21	64	50	170	165	190	195	87.5	89	94	91	162	134	25	13	12	526	14	M12 X 35
100 dia.		238	160	170	60	M12 depth 15	60	21	73	55	175	170	195	200	105.5	107	112	109	198	160	30	15	15	560	14	M12 X 40

Dimensions (80 to 100 mm bore)

- SRL2-LB- ** - *** with foot bracket  (File name: Page Ending 12)





Rodless cylinder, resin guide type

SRL2-G Series

- Bore size: 12, 16, 20, 25, 32 mm bore
40, 50, 63, 80, 100 mm bore

JIS symbol



Specifications

Descriptions		SRL2-G									
Bore size	mm	12 dia.	16 dia.	20 dia.	25 dia.	32 dia.	40 dia.	50 dia.	63 dia.	80 dia.	100 dia.
Actuation		Double acting									
Working fluid		Compressed air									
Max. working pressure	MPa	0.7									
Min. working pressure (Note 2)	MPa	0.25			0.15			0.1			
Withstanding pressure	MPa	1.05									
Ambient temperature	°C	5 to 60									
Port size		M5	Rc1/8		Rc1/4		Rc3/8		Rc1/2		
Stroke length tolerance	mm	$+2.0_0$ (to 1000)			$+2.5_0$ (to 3000)			$+3.0_0$ (to 5000)			
Working piston speed	mm/s	50 to 2000 (standard port piping) (Note 1)									
Cushion		Air cushion									
Lubrication		Not required (when lubrication, use turbine oil Class 1 ISO VG32. Continue to lubricate once lubricated).									

Note 1: Working piston speed, when using with common port piping, may vary depending on stroke length. Consult with CKD.

Note 2: For low pressure specifications "LP" (12 to 20mm), 0.15MPa.

Allowable energy absorption

Bore size (mm)	Cushioned		No cushion	With shock absorber (initial set value)	
	Allowable energy absorption (J)	Cushion stroke length (mm)	Allowable energy absorption (J)	Absorbed energy (J)	Effective stroke length (mm)
12 dia.	0.03	14.5	0.003	2.4	5.5
16 dia.	0.22	19.2	0.007	2.4	5.5
20 dia.	0.59	22.2	0.010	5.7	7
25 dia.	1.40	20.9	0.015	10	9
32 dia.	2.57	23.5	0.030	18	13
40 dia.	4.27	23.9	0.050	50	16.5
50 dia.	9.13	24.9	0.072	86	21
63 dia.	17.4	29.6	0.138	86	21
80 dia.	40	45.8	0.393	143	25
100 dia.	67	45.8	0.622	143	25

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
12 dia.	200, 300 400, 500 600, 700 800, 900 1000	5000	The value may vary depending on switch model No. and installation quantity. (Refer to the below table about details.)
16 dia.			
20 dia.			
25 dia.			
32 dia.			
40 dia.			
50 dia.			
63 dia.			
80 dia.			
100 dia.			

• Custom stroke length is available per 1 mm increment.

M type switch installation quantity and minimum stroke length (mm)

Switch quantity	1		2		3		4		5		6		7		8		9	
Switch model No.	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H
Bore size (mm)																		
12 dia.	10	10	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
16 dia.	10	10	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
20 dia.	10	10	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
25 dia.	10	10	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
32 dia.	10	10	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
40 dia.	10	10	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
50 dia.	15	15	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
63 dia.	15	15	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
80 dia.	25		50		100		150		200		250		300		350		400	
100 dia.	25		50		100		150		200		250		300		350		400	

T type switch installation quantity and minimum stroke length (mm)

Switch quantity	1		2		3		4		5		6		7		8		9	
Switch model No.	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H
Bore size (mm)																		
12 dia.	5	5	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
16 dia.	5	5	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
20 dia.	5	5	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
25 dia.	10	10	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
32 dia.	10	10	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
40 dia.	10	10	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
50 dia.	10	10	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
63 dia.	10	10	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
80 dia.	15	15	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
100 dia.	15	15	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400

Switch specifications

- One color/bi-color indicator

Descriptions	Proximity 2 wire		Proximity 3 wire	
	M2V, M2H	M2WV (2 color indicator)	M3V, M3H	M3WV (2 color indicator)
Applications	Programmable controller		Programmable controller, relay, IC circuit, small solenoid valve	
Power voltage	-		DC4.5 to 28V	DC10 to 28V
Load voltage	DC10 to 30V		DC30V or less	DC30V or less
Load current	5 to 30mA		200mA or less	150mA or less
Light	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)
Descriptions	Reed 2 wire			
	M0V, M0H		M5V, M5H	
Applications	Programmable controller, relay		Programmable controller, relay, IC circuit (without indicator light), serial connection	
Power voltage	-		-	
Load voltage	DC12/24V	AC110V	DC5/12/24V	AC110V or less
Load current	5 to 50mA	7 to 20mA	50mA or less	20mA or less
Light	LED (ON lighting)		Without indicator light	

Note 1: For MO * switch, if load current range is within 7 to 20mA, this switch can be used with AC24V and AC48V.

- With preventive maintenance output

Descriptions	Proximity 3 wire		Proximity 4 wire	
	T2YF H/V	T3YF H/V	T2YM H/V	T3YM H/V
Applications	Programmable controller	Programmable controller, relay	Programmable controller	Programmable controller, relay
Light	Installation position adjustment	Red/green LED (ON lighting)		
	Preventive maintenance output	Yellow LED (ON lighting)		
Output	Power voltage	-	DC10 to 28V	-
	Load voltage	DC10 to 30V	DC30V	DC10 to 30V
	Load current	DC5 to 20mA	DC50mA or less	DC5 to 20mA
	Internal voltage drop	4V or less	0.5V or less	4V or less
	Current consumption	-	10mA or less	-
	Leakage current	1mA or less	10 micron A or less	1.2mA or less
Preventive maintenance output	Load voltage	DC30V or less		
	Load current	DC20mA or less	DC50mA or less	DC5 to 20mA
	Internal voltage drop	0.5V or less		4V or less
	Leakage current	10 micron A or less		
	Signal holding (Ton)	-	-	0.4 ±0.2sec after installation position adjustment red LED turned on.
Signal release (Toff)	-	-	0.7 ±0.2sec after installation position adjustment red LED turned on.	

- Strong magnetic field

Descriptions	Proximity 2 wire	
	T2YD	
Applications	Programmable controller	
Light	Red/green LED (ON lighting)	
Load voltage	DC24V ±10%	
Load current	5 to 20mA	
Internal voltage drop	6V or less	
Leakage current	1.0mA or less	

Cylinder mass

Unit: kg

Bore size (mm)	Mass when stroke length 0mm			Mass per switch (including bracket.)	Additional mass per St = 100mm
	Basic type (00)	Foot type			
		(LB)	(LB1)		
12 dia.	0.24	0.25	0.26	0.02	0.10
16 dia.	0.32	0.33	0.35		0.13
20 dia.	0.52	0.54	0.58		0.18
25 dia.	1.0	1.1	1.1		0.30
32 dia.	1.5	1.6	1.7		0.39
40 dia.	2.4	2.5	-		0.56
50 dia.	3.6	3.7	-		0.78
63 dia.	6.2	6.5	-		1.17
80 dia.	18.8	19.4	-		2.32
100 dia.	26.6	27.6	-		3.38

How to order

Without switch

SRL2-G - 00 - 12 B - 200 - B

With switch

SRL2-G - 00 - 12 B - 200 - MOH - R - B

A Mounting style
Note 1

B Bore size

C Cushion

D Stroke length

E Switch model No.
Note 2

F Switch quantity

G Option
Note 3, Note 4
Note 5, Note 6
Note 7

⚠ Cautions for how to order

Note 1: When 12, 16, 20, 25, 32 bore size and option symbol "R" and "T", mounting style "00" or "LB1" is provided. (For option symbol "R" and "T", mounting style "LB" is not available because cannot be piped.)

Note 2: Available other than listed **E** switch model No. (custom order)

Note 3: For L * and N *, * mark shows set quantity. When 2 sets are necessary, indicate as "L2" (for LB), or "N2" (for LB1). Two/set

Note 4: Refer to dimensions on Page 23 to 28 about ports, and cushion needle position indicating symbols.

Note 5: For standard type of 12 to 25 mm, adjustable full-stroke bracket cannot be installed later. "A3" means the option that a mounting plate nut is installed to install an adjustable full-stroke bracket later.

Note 6: For "H", nominal designation of screw thread of 12, 16 dia. is "M4", while nominal designation of screw thread of 20 dia. is "M5".

Note 7: Refer to "optional combination table" on the following page about optional combination.

Note 8: Copper and PTFE free specifications are provided as standard.

<Example of model number>

SRL2-G-00-12B-200-M0H-R-B

Model: Rodless cylinder guided

- A** Mounting style : Basic type
- B** Bore size : 12 mm
- C** Cushion : Both sides cushion
- D** Stroke length : 200 mm
- E** Switch model No : Reed switch M0H, lead wire length 1m
- F** Switch quantity : One on rod side
- G** Option : Port position F, cushion needle position B

Symbol	Descriptions
A Mounting style	
00	Basic type
LB	Axial foot type
LB1	Axial foot type

B Bore size (mm)	
12	12 dia.
16	16 dia.
20	20 dia.
25	25 dia.
32	32 dia.
40	40 dia.
50	50 dia.
63	63 dia.
80	80 dia.
100	100 dia.

C Cushion	
B	Both sides cushion
R	R side cushion
L	L side cushion
N	No cushion

D Stroke length (mm)	
200, 300, 400, 500, 600, 700, 800, 900, 1000	

E Switch model No.				
Axial lead wire	Radial lead wire	Contact	Display	Lead wire
M0H *	M0V *	Reed	1 color indicator	2 wire
M5H *	M5V *			
M2H *	M2V *	Proximity	1 color indicator	2 wire
-	M2WV *			
M3H *	M3V *		2 color indicator	3 wire
-	M3WV *			
T2YFH *	T2YFV *	With preventive maintenance output	3 wire	3 wire
T3YFH *	T3YFV *			
T2YMH *	T2YMV *		4 wire	4 wire
T3YMH *	T3YMV *			
T2YD *	-	Strong magnetic field proof switch	2 wire	
T2YDT *	-			

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

F Switch quantity	
R	One on R side
L	One on L side
D	Two
T	Three
4	4 (When more than 4 pieces, indicate switch quantity.)

G Option													
Bore size (mm)		12	16	20	25	32	40	50	63	80	100		
A	Adjustable full-stroke both ends shock absorbers	●	●	●	●	●	●	●	●	●	●	●	●
A1	Adjustable full-stroke R end only, with shock absorber	●	●	●	●	●	●	●	●	●	●	●	●
A2	Adjustable full-stroke L end only, with shock absorber	●	●	●	●	●	●	●	●	●	●	●	●
A3	Adjustable full-stroke bracket later installation	●	●	●	●	●	●	●	●	●	●	●	●
L *	Intermediate support bracket (for 00, LB)	●	●	●	●	●	●	●	●	●	●	●	●
N *	With intermediate support bracket (LB1)	●	●	●	●	●	●	●	●	●	●	●	●
H	Select larger size of table set screw	●	●	●	●	●	●	●	●	●	●	●	●
U	Height adjustment plate	●	●	●	●	●	●	●	●	●	●	●	●
LP	Low pressure specifications	●	●	●	●	●	●	●	●	●	●	●	●
Blank	F	●	●	●	●	●	●	●	●	●	●	●	●
R	Port position	F (standard)	●	●	●	●	●	●	●	●	●	●	●
		F (common port)	●	●	●	●	●	●	●	●	●	●	●
	Cushion needle position	B	●	●	●	●	●	●	●	●	●	●	●
		B (common port)	●	●	●	●	●	●	●	●	●	●	●
D	Port position	F	●	●	●	●	●	●	●	●	●	●	●
		D	●	●	●	●	●	●	●	●	●	●	●
	Cushion needle position	D	●	●	●	●	●	●	●	●	●	●	●
		F (common port)	●	●	●	●	●	●	●	●	●	●	●
S	Port position	D	●	●	●	●	●	●	●	●	●	●	●
		F	●	●	●	●	●	●	●	●	●	●	●
X	Port position	D	●	●	●	●	●	●	●	●	●	●	●
		F	●	●	●	●	●	●	●	●	●	●	●

Optional combination table

● : Combination available ■ : Combination not available

		Option															
		Adjustable full-stroke both ends with shock absorbers	Adjustable full-stroke R end only, with shock absorber	Adjustable full-stroke L end only, with shock absorber	Adjustable full-stroke bracket later installation	Intermediate support bracket (for 00, LB)	Intermediate support bracket (LB1)	C mount bracket	Select larger size of table set screw	Height adjustment plate	Low pressure specifications	Port position R, cushion needle position F (common port)	Port position F, cushion needle position B	Port position R, cushion needle position B (common port)	Port position D, cushion needle position F	Port position D, cushion needle position D	Port position F, cushion needle position F (common port)
Symbol		A	A1	A2	A3	L *	N *	H	U	LP	Blank	R	B	T	D	S	X
Option	A	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	A1	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	A2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	A3	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	L *	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	N *	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	H	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	U	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	LP	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Blank	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	R	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	B	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	T	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	D	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	S	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	X	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

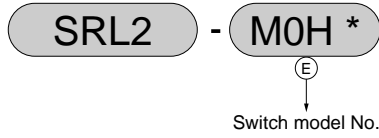
Note 1: Some combination is impossible depending on bore size. Confirm the conditions of options of "how to order" ⑥ on the previous page.

Note 2: When port position D, LB1 is not available. (25, 32 mm bore)

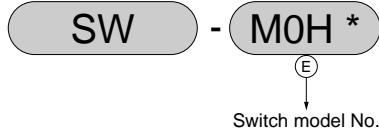
How to order switch

(Please refer to Page Ending 9 to 11 about components.)

- Switch main body + mounting bracket (Note 1)



- Switch only

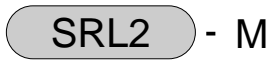


* Lead wire length	
Blank	1m (standard)
3	3m (option)
5	5m (option)

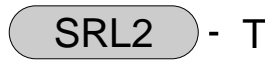
* mark indicates lead wire length.

- Mounting bracket (Note 2)

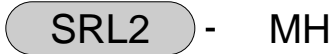
- M type switch



- T type switch



- Lead wire holder (Note 3)



Note 1. Switch main body + mounting bracket set doesn't include any lead wire holder. When a lead wire holder is necessary, place an order separately.

Note 2. M type switch bracket is different from T type switch.

Note 3. Lead wire holder is 10 pieces/set.

- How to order discrete shock absorber



(One shock absorber, one shock absorber fixing hex. nut)

(Note) Shock absorber fixing hex. nut for SRL2- 40 is a custom part.

Applicable shock absorber model No.

Model	Shock absorber model No.
SRL2-12	NCK-0.3-C
SRL2-16	NCK-0.3-C
SRL2-20	NCK-0.7-C
SRL2-25	NCK-1.2
SRL2-32	NCK-2.6
SRL2-40	NCK-7
SRL2-50	NCK-12
SRL2-63	NCK-12
SRL2-80	NCK-20
SRL2-100	NCK-20

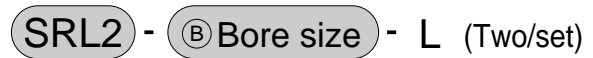
- How to order discrete C mount bracket (for 12 to 63 mm bore)



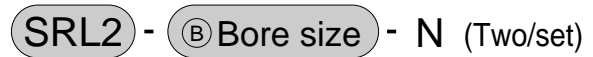
(C mount bracket, 4 mounting bolts)

- How to order discrete intermediate support bracket

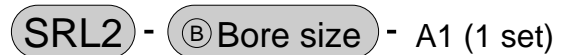
LB



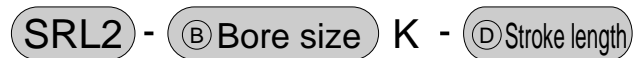
LB1



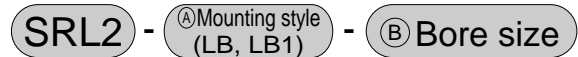
- How to order adjustable full-stroke kit



- How to order repair parts



- How to order mounting bracket



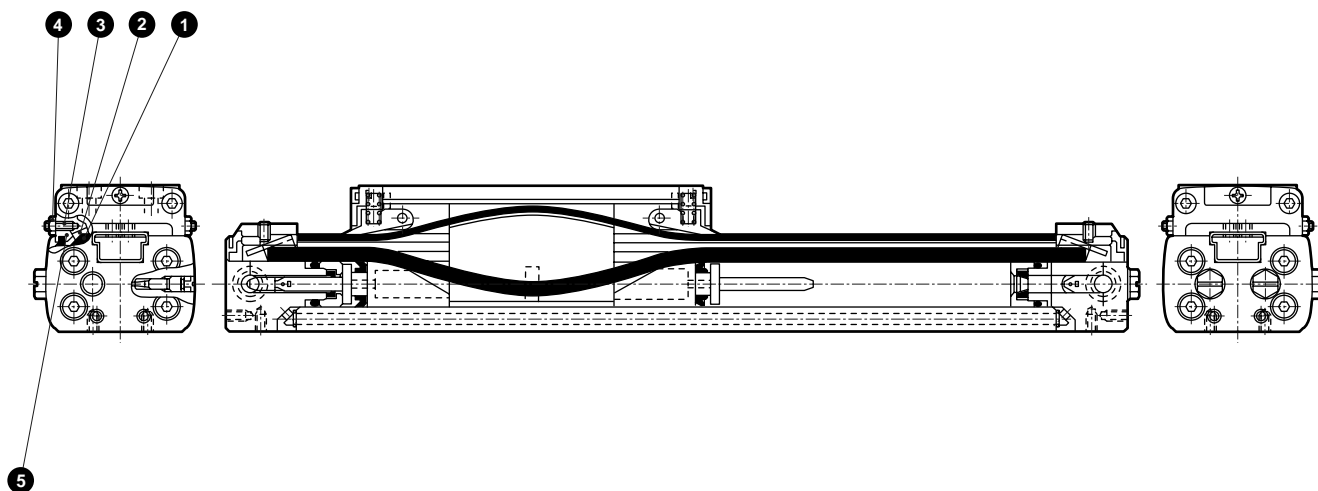
(Two brackets, 4 mounting bolts)

- How to order height adjustment plate set



(Plate, 4 mounting bolts)

Internal structure and parts list (12 to 40 mm bore)



Parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Slider	Acetar resin		4	Nut	Steel	Blackening
2	Slider plate	Steel	Galvanizing	5	Dust wiper	Acetar resin	
3	Adjust screw	Steel	Blackening				

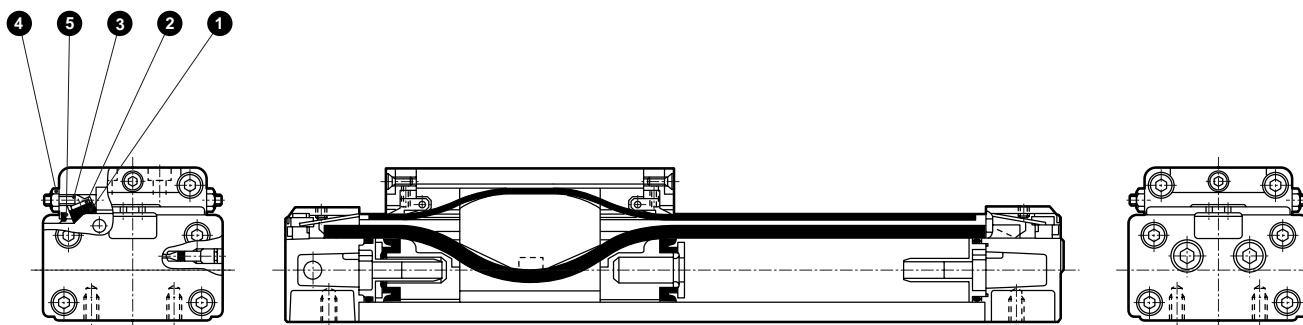
Repair parts list

Bore size (mm)	Kit number	Repair parts number
12 dia.	SRL2-G-12K-*	
16 dia.	SRL2-G-16K-*	
20 dia.	SRL2-G-20K-*	1 5 8 9 21 22 26
25 dia.	SRL2-G-25K-*	
32 dia.	SRL2-G-32K-*	
40 dia.	SRL2-G-40K-*	

Note 1: When placing an order, indicate kit number, and indicate stroke length at *.

Note 2: For part number of 1 5 8 9 21 22 26, refer to Page 6.

Internal structure and parts list (50 to 63 mm bore)



Parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Slider	Acetar resin		4	Nut	Steel	Blackening
2	Slider plate	Steel	Galvanizing	5	Dust wiper	Acetar resin	
3	Adjust screw	Steel	Blackening				

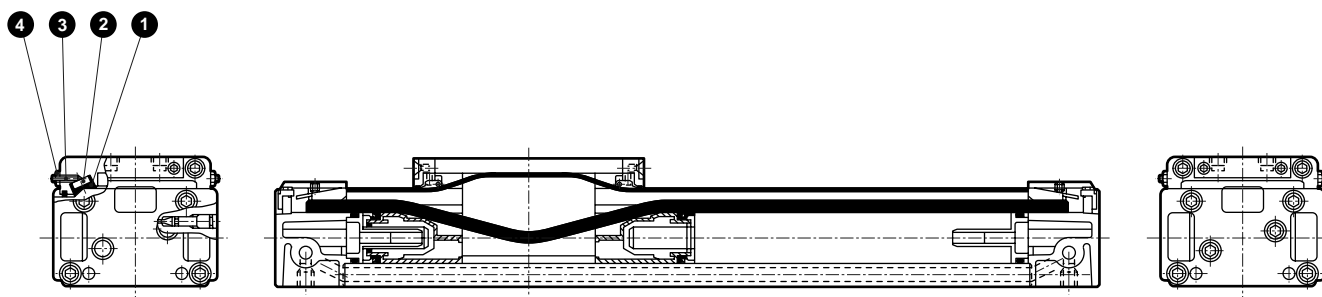
Repair parts list

Bore size (mm)	Kit number	Repair parts number
50 dia.	SRL2-G-50K-*	1 5 8 9 21 22 26
63 dia.	SRL2-G-63K-*	

Note 1: When placing an order, indicate kit number, and indicate stroke length at *.

Note 2: For part number of 8 9 21 22 26, refer to Page 7.

Internal structure and parts list (80, 100 mm bore)



Parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Slider	Acetar resin		3	Adjust screw	Steel	Blackening
2	Slider plate	Steel	Galvanizing	4	Nut	Steel	Blackening

Repair parts list

Bore size (mm)	Kit number	Repair parts number
80 dia.	SRL2-G-80K-*	1 2 3 8
100 dia.	SRL2-G-100K-*	9 21 22 26

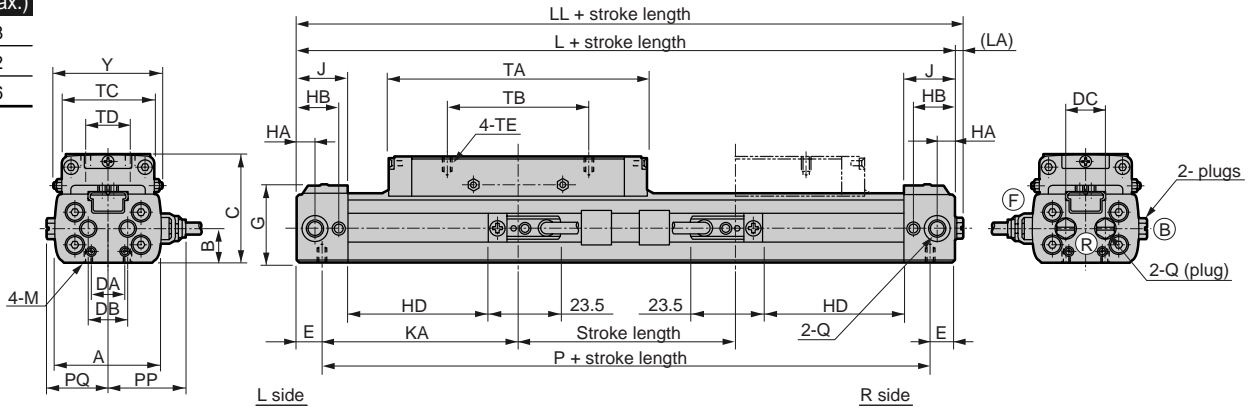
Note 1: When placing an order, indicate kit number, and indicate stroke length at *.

Note 2: For part number of **3 9 21 22 26**, refer to Page 8.

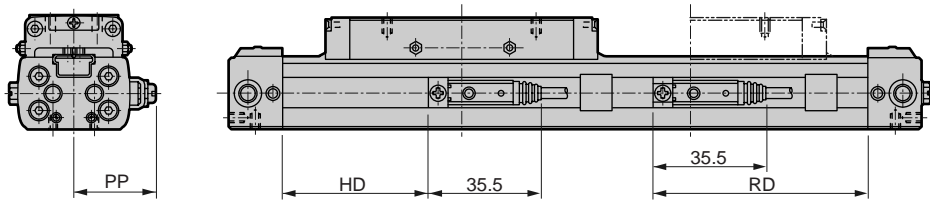
Dimensions (12 to 20 mm bore)

- SRL2-G- ** - ** - *** - M * V * with cylinder switch (radial lead wire)

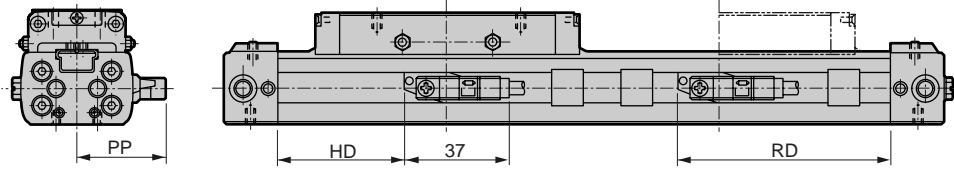
	Y (max.)
12 dia.	38
16 dia.	42
20 dia.	46



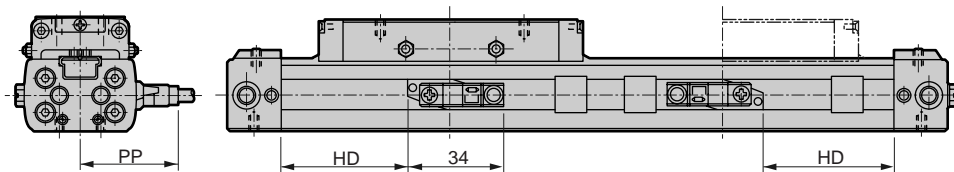
- SRL2-G- ** - ** - *** - M * H * with cylinder switch (axial lead wire)



- SRL2-G- ** - ** - *** - T * Y * H with cylinder switch (T * YF, T * YM, T * YD)



- SRL2-G- ** - ** - *** - T * Y * V with cylinder switch (T * YF, T * YM)



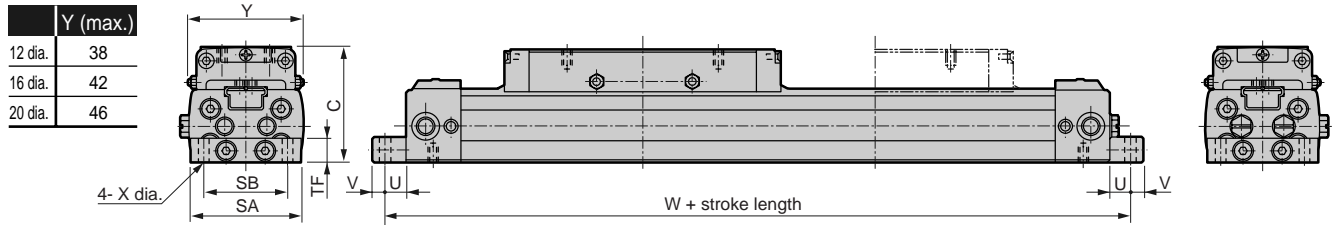
RD: Max. sensitive position HD: Max. sensitive position

Symbol	A	B	C	DA	DB	DC	E	G	HA	HB	J	KA	L	LL	LA	M	P	PQ	Q	TA	TB	TC	TD	TE	Y
12 dia.	33	10.5	33	8	10	11	8.5	24	6	14	17.5	59.5	136	139	3	M3 depth 5	119	19	M5	81	42	29	13	M3 depth 5	37
16 dia.	37	12	37	12	14	12	8.5	27	6	14	17.5	66	149	152	3	M3 depth 5	132	21	M5	88	48	32	15	M3 depth 5	40
20 dia.	44	14	42	12	16	16	10.5	31	8.5	18.5	22	74	169	171.5	2.5	M4 depth 6.5	148	24.5	Rc1/8	100	60	38	18	M4 depth 6	46

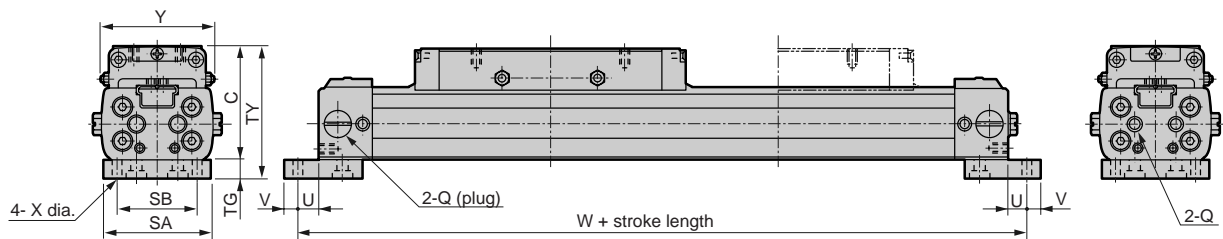
Symbol	With switch								With foot bracket (LB)								With foot bracket (LB1)							
	HD		RD		PP		PP		SA	SB	TF	U	V	W	X	MB	SA	SB	TG	TY	U	V	W	X
Bore size (mm)	M type	T type	M type	T type	M * V	M * H	T * V	T * H																
12 dia.	40.5	36	60.5	65	24.5	26	31	28	32	24	8	6	4	148	3.4	M3 X 10	32	24	6	39	6	4	148	3.4
16 dia.	47	42	67	72	26.5	28	33	30	35	26	8	6	4	161	3.4	M3 X 10	35	26	6	43	6	4	161	3.4
20 dia.	52.5	48	72.5	77	29.5	31	36	33	43	33	10	6	6	181	4.5	M4 X 12	43	33	8	50	6	6	181	4.5

Dimensions (12 to 20 mm bore)

- SRL2-G-LB- ** - *** with foot bracket



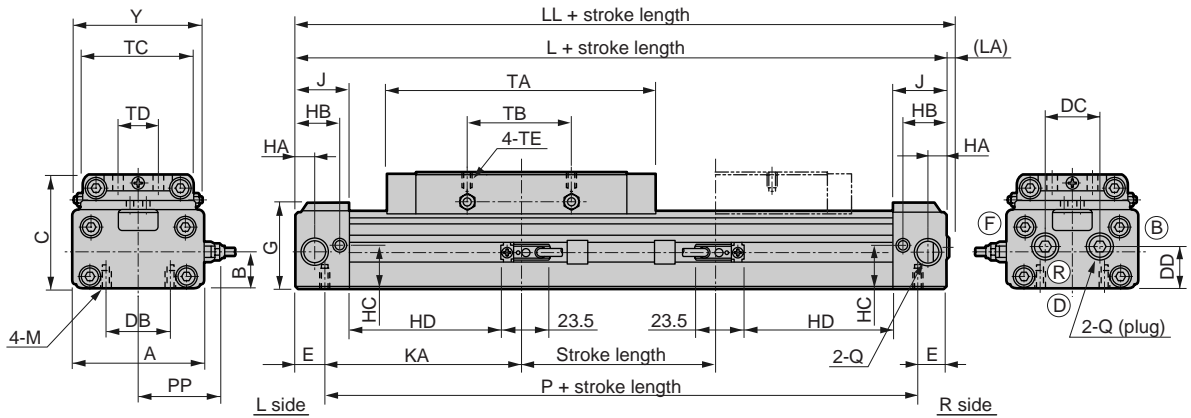
- SRL2-G-LB1- ** - *** with foot bracket



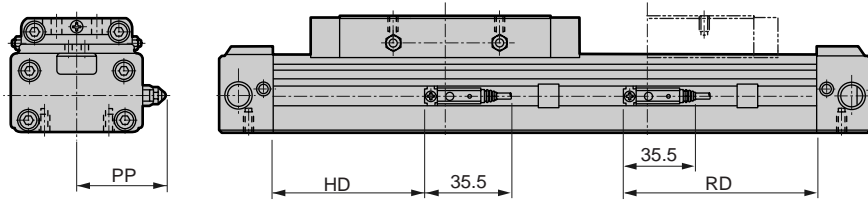
Dimensions (25 to 63 mm bore)

- SRL2-G- ** - ** - *** - M * V * with cylinder switch (radial lead wire)

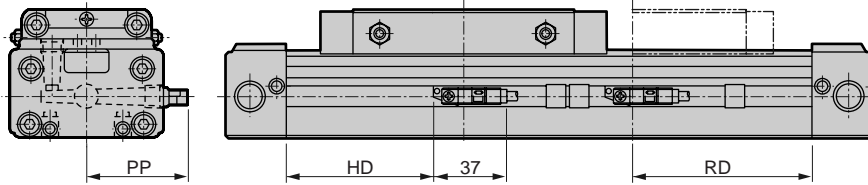
	Y (max.)
25 dia.	64
32 dia.	72
40 dia.	84
50 dia.	98
63 dia.	130



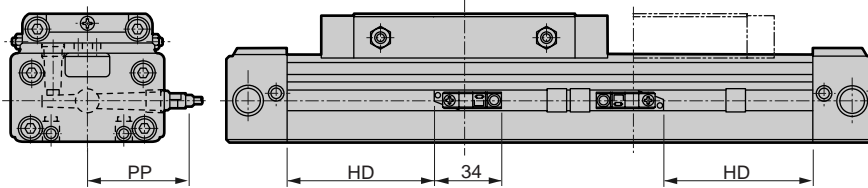
- SRL2-G- ** - ** - *** - M * H * with cylinder switch (axial lead wire)



- SRL2-G- ** - ** - *** - T * Y * H with cylinder switch (T * YF, T * YM, T * YD)



- SRL2-G- ** - ** - *** - T * Y * V with cylinder switch (T * YF, T * YM)



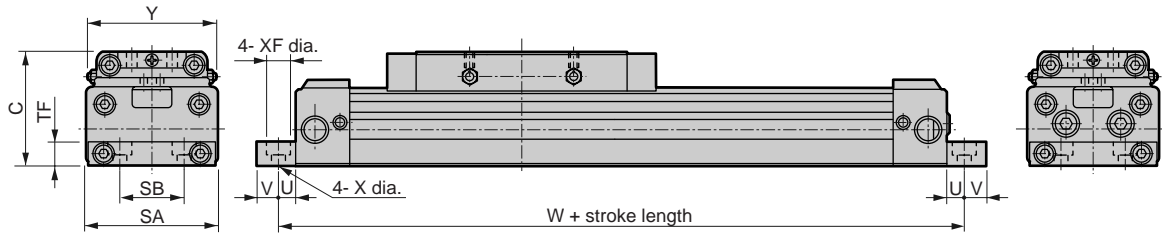
RD: Max. sensitive position HD: Max. sensitive position

Symbol	A	B	C	DB	DC	DD	E	G	HA	HB	HC	J	KA	L	LL	LA	M	P	Q	TA	TB	TC	TD	TE	Y
25 dia.	53	17	53	20	26	19	14	40.5	7.5	20	18.9	24	81	190	192	2	M6 depth 9	162	Rc1/8	122	70	48	20	M5 depth 6	61
32 dia.	66	18.5	57	32	27	21	15	43.5	10	23.5	21.5	28	98	226	228.5	2.5	M6 depth 9	196	Rc1/4	134	80	56	20	M6 depth 7.5	69
40 dia.	80	22	67	36	35	28	17	51.5	13	26	27	31	105	244	246.5	2.5	M8 depth 12	210	Rc1/4	148	90	68	30	M6 depth 9	81
50 dia.	96	28	82	45	35	35	23	61	15	33	35.3	39	106	258	260.5	2.5	M8 depth 12	212	Rc3/8	152	100	80	30	M8 depth 10.5	95
63 dia.	118	35	95	50	39	42	19	74	15	32	43	39	129	296	298.5	2.5	M10 depth 15	258	Rc3/8	168	110	102	40	M8 depth 11.5	117

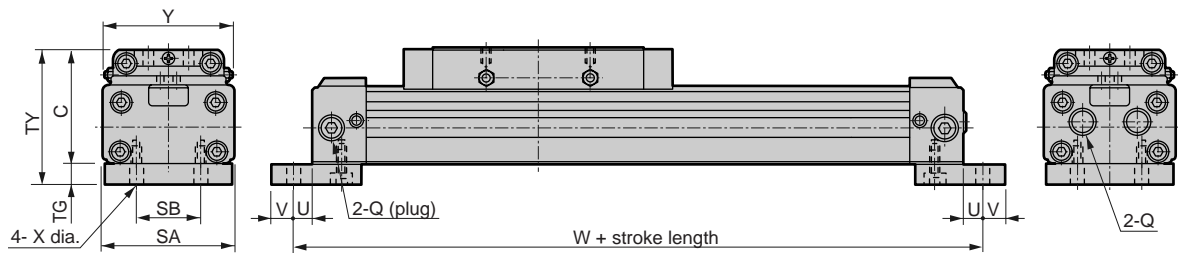
Symbol	With switch								With foot bracket (LB)								With foot bracket (LB1)								
	HD		RD		PP		PP		SA	SB	TF	U	V	W	X	XF	MB	SA	SB	TG	TY	U	V	W	X
	M type	T type	M type	T type	M * V	M * H	T * V	T * H																	
25 dia.	60	56	82	86	34.5	36	41	38	52	20	12	9	11	208	7	-	M5 X 50	50	20	10	63	9	11	208	7
32 dia.	74	70	98	100	41.5	43	48	45	64	32	12	9	11	244	7	-	M5 X 50	64	32	10	67	9	11	244	7
40 dia.	80	78	102	106	48.5	50	55	52	80	36	15	11	9	266	9	14 spot face depth 8.6	M6 X 55	-	-	-	-	-	-	-	-
50 dia.	79	75	101	105	56.5	58	68	60	94	45	20	11	9	280	9	17.5 spot face depth 10.8	M8 X 65	-	-	-	-	-	-	-	-
63 dia.	98	94	120	124	67.5	69	74	71	116	50	25	13	12	322	11	14 spot face depth 8.6	M8 X 70	-	-	-	-	-	-	-	-

Dimensions (25 to 63 mm bore)

- SRL2-G-LB- ** - *** with foot bracket (25 to 63 mm bore)

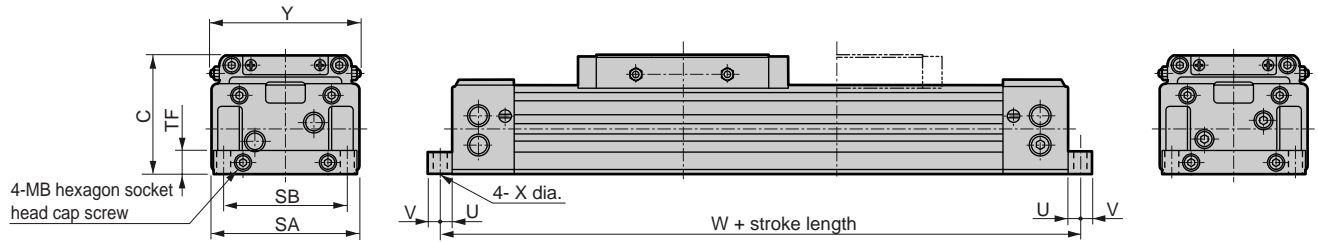


- SRL2-G-LB1- ** - *** with foot bracket (25, 32 mm bore)



Dimensions (80 to 100 mm bore)

- SRL2-G-LB- ** - *** with foot bracket

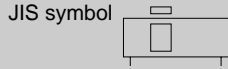




Rodless cylinder, double acting/position locking function

SRL2-Q Series

- Bore size: 12, 16, 20, 25, 32 mm bore
40, 50, 63, 80, 100 mm bore



Specifications

Descriptions		SRL2-Q									
Bore size	mm	12 dia.	16 dia.	20 dia.	25 dia.	32 dia.	40 dia.	50 dia.	63 dia.	80 dia.	100 dia.
Actuation		Double acting									
Working fluid		Compressed air									
Max. working pressure	MPa	0.7									
Min. working pressure (Note 2)	MPa	0.2			0.15				0.1		
Withstanding pressure	MPa	1.05									
Ambient temperature	°C	5 to 60									
Port size	Cylinder section	M5	Rc ¹ /8		Rc ¹ /4		Rc ³ /8		Rc ¹ /2		
	Position locking part	M5	Rc ¹ /8								
Stroke length tolerance	mm	^{+2.0} / ₀ (to 1000)			^{+2.5} / ₀ (to 3000)				^{+3.0} / ₀ (to 5000)		
Working piston speed	mm/s	50 to 2000 (standard port piping) (Note 1)									
Cushion		Air cushion									
Lubrication		Not required (turbine oil Class 1 ISOVG32 should be used. Continue to lubricate once lubricated.)									
Position locking mechanism		Installation on cover R side									
Holding force	N	Max. thrust X 0.7									

- Note 1. (1) When operating with 500 to 2000mm/s speed, rush speed for position locking mechanism should be 500mm/s or less. For common port pipe, working piston speed varies depending on stroke length. Consult with CKD.
 (2) For deceleration method, install an external shock absorber or a deceleration circuit etc.
 (3) Apply grease to sliding section of lock lever periodically.
- Note 2. For low pressure specifications "LP" (12 to 20mm), 0.1MPa

Allowable energy absorption

Bore size (mm)	Cushioned		No cushion	With shock absorber (initial set value)	
	Allowable energy absorption (J)	Cushion stroke length (mm)	Allowable energy absorption (J)	Absorbed energy (J)	Effective stroke length (mm)
12 dia.	0.03	14.5	0.003	2.4	5.5
16 dia.	0.22	19.2	0.007	2.4	5.5
20 dia.	0.59	22.2	0.010	5.7	7
25 dia.	1.40	20.9	0.015	10	9
32 dia.	2.57	23.5	0.030	18	13
40 dia.	4.27	23.9	0.050	50	16.5
50 dia.	9.13	24.9	0.072	86	21
63 dia.	17.4	29.6	0.138	86	21
80 dia.	40	45.8	0.393	143	25
100 dia.	67	45.8	0.622	143	25

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
12 dia.			The value may vary depending on switch model No. and installation quantity. (Refer to the below table about details.)
16 dia.			
20 dia.	200, 300	5000	
25 dia.	400, 500		
32 dia.	600, 700		
40 dia.	800, 900		
50 dia.	1000		
63 dia.			
80 dia.			
100 dia.			

M type switch installation quantity and minimum stroke length (mm)

• Custom stroke length is available per 1 mm increment.

Switch quantity	1		2		3		4		5		6		7		8		9	
Switch model No.	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H
Bore size (mm)																		
12 dia.	10	10	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
16 dia.	10	10	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
20 dia.	10	10	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
25 dia.	10	10	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
32 dia.	10	10	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
40 dia.	10	10	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
50 dia.	15	15	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
63 dia.	15	15	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
80 dia.	25		50		100		150		200		250		300		350		400	
100 dia.	25		50		100		150		200		250		300		350		400	

T type switch installation quantity and minimum stroke length (mm)

Switch quantity	1		2		3		4		5		6		7		8		9	
Switch model No.	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H
Bore size (mm)																		
12 dia.	5	5	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
16 dia.	5	5	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
20 dia.	5	5	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
25 dia.	10	10	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
32 dia.	10	10	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
40 dia.	10	10	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
50 dia.	10	10	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
63 dia.	10	10	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
80 dia.	15	15	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
100 dia.	15	15	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400

Switch specifications

Descriptions	Proximity 2 wire		Proximity 3 wire	
	M2V, M2H	M2WV (2 color indicator)	M3V, M3H	M3WV (2 color indicator)
Applications	Programmable controller		Programmable controller, relay, IC circuit, small valve	
Power voltage	-		DC4.5 to 28V	DC10 to 28V
Load voltage	DC10 to 30V		DC30V or less	DC30V or less
Load current	5 to 30mA		200mA or less	150mA or less
Light	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)
Descriptions	Reed 2 wire			
	M0V, M0H		M5V, M5H	
Applications	Programmable controller, relay		Programmable controller, relay, IC circuit (without indicator light), serial connection	
Power voltage	-		-	
Load voltage	DC12/24V	AC110V	DC5/12/24V	AC110V or less
Load current	5 to 50mA	7 to 20mA	50mA or less	20mA or less
Light	LED (ON lighting)		Without indicator light	

Note 1: For MO * switch, if load current range is within 7 to 20mA, this switch can be used with AC24V and AC48V.

- With preventive maintenance output

Descriptions	Proximity 3 wire		Proximity 4 wire	
	T2YF H/V	T3YF H/V	T2YM H/V	T3YM H/V
Applications	Programmable controller	Programmable controller, relay	Programmable controller	Programmable controller, relay
Light	Installation position adjustment	Red/green LED (ON lighting)		
	Preventive maintenance output	Yellow LED (ON lighting)		
Output	Power voltage	-	DC10 to 28V	-
	Load voltage	DC10 to 30V	DC30V	DC10 to 30V
	Load current	DC5 to 20mA	DC50mA or less	DC5 to 20mA
	Internal voltage drop	4V or less	0.5V or less	4V or less
	Current consumption	-	10mA or less	-
	Leakage current	1mA or less	10 micron A or less	1.2mA or less
Preventive maintenance output	Load voltage	DC30V or less		
	Load current	DC20mA or less	DC50mA or less	DC5 to 20mA
	Internal voltage drop	0.5V or less		4V or less
	Leakage current	10 micron A or less		
	Signal holding (Ton)	-	-	0.4 ±0.2sec after installation position adjustment red LED turned on.
Signal release (Toff)	-	-	0.7 ±0.2sec after installation position adjustment red LED turned on.	

- Strong magnetic field

Descriptions	Proximity 2 wire	
	T2YD	
Applications	Programmable controller	
Light	Red/green LED (ON lighting)	
Load voltage	DC24V ±10%	
Load current	5 to 20mA	
Internal voltage drop	6V or less	
Leakage current	1.0mA or less	

Cylinder mass

Unit: kg

Bore size (mm)	Mass when stroke length 0mm			Mass per switch (including bracket.)	Additional mass per St = 100mm
	Basic type (00)	Foot type (LB) (LB1)			
12 dia.	0.38	0.25	0.26	0.02	0.10
16 dia.	0.47	0.33	0.35		0.13
20 dia.	0.74	0.54	0.58		0.18
25 dia.	1.5	1.6	1.1		0.30
32 dia.	2.4	2.5	1.7		0.39
40 dia.	3.6	3.7	-		0.56
50 dia.	6.1	6.2	-		0.78
63 dia.	8.9	9.2	-		1.17
80 dia.	22.4	23.0	-		2.32
100 dia.	30.5	31.5	-		3.38

How to order

Without switch

SRL2-Q - 00 - 12 B - 200 - B

With switch

SRL2-Q - 00 - 12 B - 200 - MOH - R - B

A Mounting style
Note 1

B Bore size

C Cushion

D Stroke length

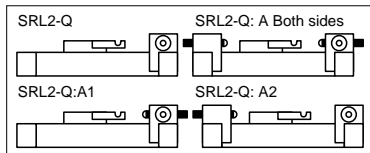
E Switch model No.
Note 2

⚠ Cautions for model No. selection

Note 1: When 12, 16, 20, 25, 32 bore size and option symbol "R" and "T", mounting style "00" or "LB1" is provided. (For option symbol "R" and "T", mounting style "LB" is not available because cannot be piped.)

Note 2: Available other than listed **E** switch model No. (custom order)

Note 3: Adjustable full-stroke bracket on the side of R is a standard part of position locking. When A1 is indicated, a shock absorber is only added to R side. When A is indicated, position locking, adjustable full-stroke, and a shock absorber are provided to R side.



Note 4: For L * and N *, * mark shows set quantity. When 2 sets are necessary, indicate as "L2" (for LB), "or "N2" (for LB1).

Two/set

Note 5: Please refer to dimensions on Page 9 to 14 about ports, and cushion needle position indicating symbols.

Note 6: For standard type of 12 to 25 mm, adjustable full-stroke bracket cannot be installed later. "A3" means the option that a mounting plate nut is installed to install an adjustable full-stroke bracket later.

Note 7: For "H", nominal designation of screw thread of 12, 16 dia. is "M4", while nominal designation of screw thread of 20 dia. is "M5".

Note 8: Refer to "optional combination table" on the following page about optional combination.

Note 9: Copper and PTFE free specifications are provided as standard.

F Switch quantity

G Option
Note3, Note4
Note5, Note6
Note7, Note8

<Example of model number>

SRL2-Q-00-12B-200-M0H-R-B

Model: Rodless cylinder with position locking function

- A** Mounting style : Basic type
- B** Bore size : 12 mm
- C** Cushion : Both sides cushion
- D** Stroke length : 200 mm
- E** Switch model No : Reed switch M0H, lead wire length 1m
- F** Switch quantity : One on rod side
- G** Option : Port position F, cushion needle position B

Symbol	Descriptions
A Mounting style	
00	Basic type
LB	Axial foot type
LB1	Axial foot type

B Bore size (mm)	
12	12 dia.
16	16 dia.
20	20 dia.
25	25 dia.
32	32 dia.
40	40 dia.
50	50 dia.
63	63 dia.
80	80 dia.
100	100 dia.

C Cushion	
B	Both sides cushion
R	R side cushion
L	L side cushion
N	No cushion

D Stroke length (mm)	
200, 300, 400, 500, 600, 700, 800, 900, 1000	

E Switch model No.					
Axial lead wire	Radial lead wire	Contact	Display	Lead wire	
M0H *	M0V *	Reed	1 color indicator	2 wire	
M5H *	M5V *				
M2H *	M2V *	Proximity	1 color indicator	2 wire	
-	M2WV *				2 color indicator
M3H *	M3V *		1 color indicator	2 color indicator	3 wire
-	M3WV *				
T2YFH *	T2YFV *	With preventive maintenance output		3 wire	
T3YFH *	T3YFV *			4 wire	
T2YMH *	T2YMV *			3 wire	
T3YMH *	T3YMV *			4 wire	
T2YD *	-	Strong magnetic field proof switch		2 wire	
T2YDT *	-				

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

F Switch quantity	
R	One on R side
L	One on L side
D	Two
T	Three
4	4 (When more than 4 pieces, indicate switch quantity.)

G Option		Bore size (mm)									
		12	16	20	25	32	40	50	63	80	100
A	Adjustable full-stroke both ends with shock absorbers	●	●	●	●	●	●	●	●	●	●
A1	Adjustable full-stroke R end only, with shock absorber	●	●	●	●	●	●	●	●	●	●
A2	Adjustable full-stroke L end only, with shock absorber	●	●	●	●	●	●	●	●	●	●
A3	Adjustable full-stroke bracket later installation	●	●	●	●	●	●	●	●	●	●
Y	Floating joint	●	●	●	●	●	●	●	●	●	●
Y1	Thin floating joint	●	●	●	●	●	●	●	●	●	●
L *	Intermediate support bracket (for 00, LB)	●	●	●	●	●	●	●	●	●	●
N *	With intermediate support bracket (LB1)	●	●	●	●	●	●	●	●	●	●
H	Larger size of table set screw	●	●	●	●	●	●	●	●	●	●
U	Height adjustment plate	●	●	●	●	●	●	●	●	●	●
LP	Low pressure specifications	●	●	●	●	●	●	●	●	●	●
Blank	F	F (standard)	●	●	●	●	●	●	●	●	●
	R		R (common port)	●	●	●	●	●	●	●	●
B	B	B (common port)	●	●	●	●	●	●	●	●	●
	R		R (common port)	●	●	●	●	●	●	●	●
D	D	D	●	●	●	●	●	●	●	●	●
	S		S	●	●	●	●	●	●	●	●
X	F	F (common port)	●	●	●	●	●	●	●	●	●
	D		D	●	●	●	●	●	●	●	●

Optional combination table

● : Combination available ■ : Combination not available

		Option																		
		Adjustable full-stroke both ends with shock absorbers	Adjustable full-stroke R end only, with shock absorber	Adjustable full-stroke L end only, with shock absorber	Adjustable full-stroke bracket later installation	Floating joint	Thin type floating joint	Intermediate support bracket (for 00, LB)	Intermediate support bracket (LB1)	Select larger size of table set screw	Height adjustment plate	Low pressure specifications	Port position F, cushion needle position F (standard)	Port position R, cushion needle position F (common port)	Port position F, cushion needle position B	Port position R, cushion needle position B (common port)	Port position D, cushion needle position F	Port position D, cushion needle position D	Port position F, cushion needle position F (common port)	
Symbol		A	A1	A2	A3	Y	Y1	L *	N *	H	U	LP	Blank	R	B	T	D	S	X	
Option	A	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	A1	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	A2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	A3	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	■
	Y	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Y1	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	L *	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	N *	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	H	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	U	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	LP	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Blank	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	R	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	B	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	T	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	D	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
S	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
X	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	

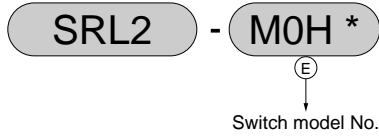
Note 1: Some combination is impossible depending on bore size. Confirm the conditions of options of "how to order" ③ on the previous page.

Note 2: When port position D, LB1 is not available. (25, 32 mm bore)

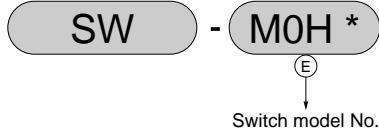
How to order switch

(Please refer to Page Ending 9 to 11 about components.)

- Switch main body + mounting bracket (Note 1)



- Switch only

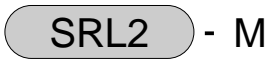


* Lead wire length	
Blank	1m (standard)
3	3m (option)
5	5m (option)

* mark indicates lead wire length.

- Mounting bracket (Note 2)

- M type switch



- T type switch



- Lead wire holder (Note 3)

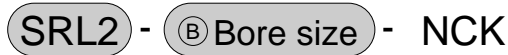


Note 1. Switch main body + mounting bracket set doesn't include any lead wire holder. When a lead wire holder is necessary, place an order separately.

Note 2. M type switch bracket is different from T type switch.

Note 3. Lead wire holder is 10 pieces/set.

- How to order discrete shock absorber



(One shock absorber, one shock absorber fixing hex. nut)

(Note) Shock absorber fixing hex. nut for SRL2- 40 is a custom part.

Applicable shock absorber model No.

Model	Shock absorber model No.
SRL2-12	NCK-0.3-C
SRL2-16	NCK-0.3-C
SRL2-20	NCK-0.7-C
SRL2-25	NCK-1.2
SRL2-32	NCK-2.6
SRL2-40	NCK-7
SRL2-50	NCK-12
SRL2-63	NCK-12
SRL2-80	NCK-20
SRL2-100	NCK-20

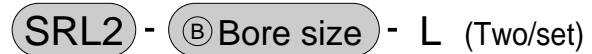
- How to order floating joint set



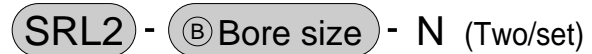
(Mount, mount base, pin, plain washer, pan head machine screw with spring washer)

- How to order discrete intermediate support bracket

LB



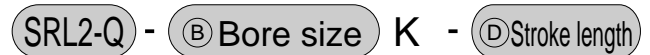
LB1



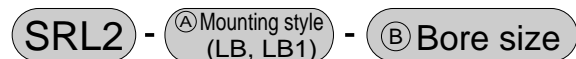
- How to order adjustable full-stroke kit



- How to order repair parts



- How to order mounting bracket



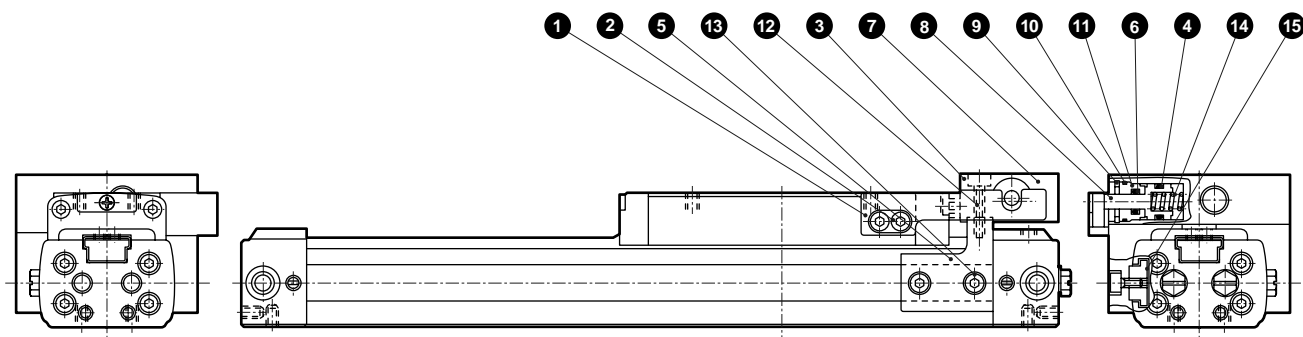
(Two brackets, 4 mounting bolts)

- How to order height adjustment plate set



(Plate, 4 mounting bolts)

Internal structure and parts list (12 to 25 mm bore)



Parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Lock lever	Steel	Quenching	9	C type snap ring for hole	Steel	
2	Hexagon socket head cap screw	Steel		10	Gasket	Nitrile rubber	
3	Stopper	Steel	Blackening	11	Rod cover	Aluminum alloy	
4	Piston packing seal	Nitrile rubber		12	Hexagon socket head cap screw	Steel	Blackening
5	Adaptor	Steel		13	Hexagon socket head cap screw	Steel	Blackening
6	Rod packing seal	Nitrile rubber		14	Spring	Steel	Electrodeposition coating
7	Position locking main body	Aluminum alloy	Black alumite	15	Plate nut	Steel	Blackening
8	Lock pin (stopper piston)	Steel	Chrome plated				

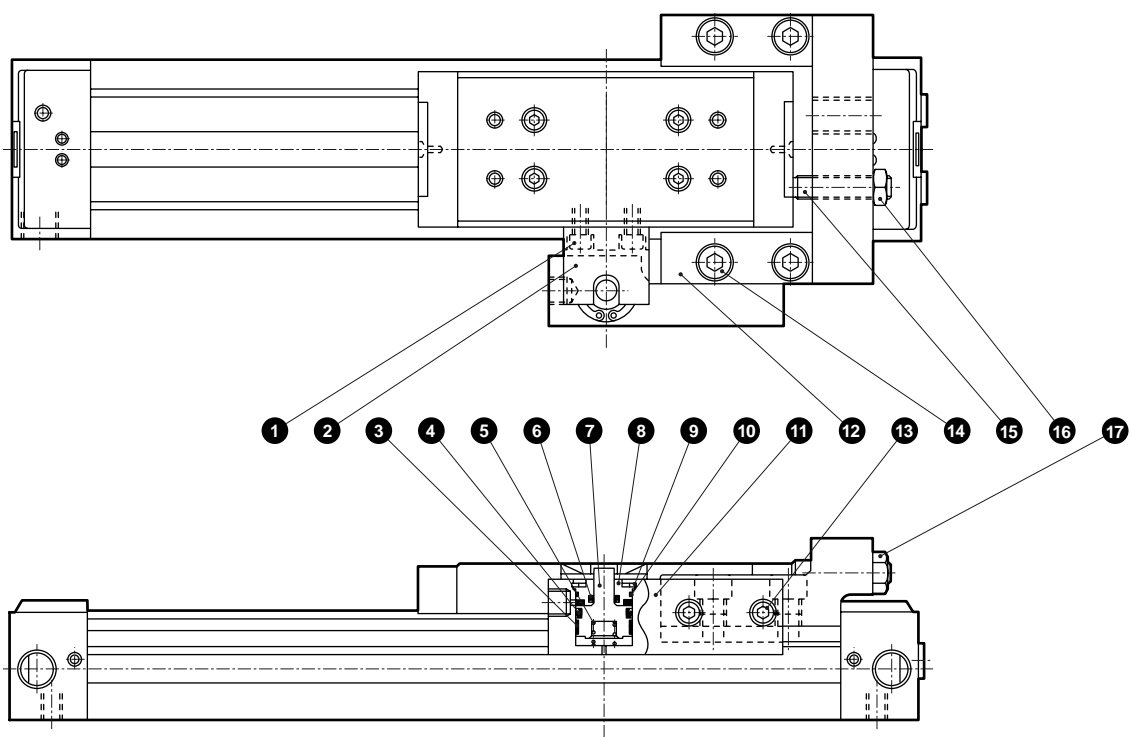
Repair parts list

Bore size (mm)	Kit number	Repair parts number
12 dia.	SRL2-Q-12K- *	
16 dia.	SRL2-Q-16K- *	4 6 10 8 9 21
20 dia.	SRL2-Q-20K- *	22 26 28
25 dia.	SRL2-Q-25K- *	

Note 1: When placing an order, indicate kit number, and indicate stroke length at *.

Note 2: For number of 8 9 21 22 26 28, refer to Page 6.

Internal structure and parts list (32 to 63 mm bore)



Parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Hexagon socket head cap screw	Steel		10	Gasket	Nitrile rubber	
2	Lock lever	Steel	Galvanizing	11	Position locking main body	Aluminum alloy	Black alumite
3	Wear ring	Acetar resin		12	Adaptor	Steel	Galvanizing
4	Piston packing seal	Nitrile rubber		13	Hexagon socket head cap screw	Steel	Blackening
5	Spring	Steel	Electrodeposition coating	14	Hexagon socket head cap screw	Steel	Blackening
6	Rod packing seal	Nitrile rubber		15	Hexagon socket head set screw	Steel	Blackening
7	Lock pin	Steel	Chrome plated	16	Hexagon nut	Steel	Blackening
8	Rod cover	Aluminum alloy		17	Adaptor nut	Steel	Blackening
9	C type snap ring for hole	Steel					

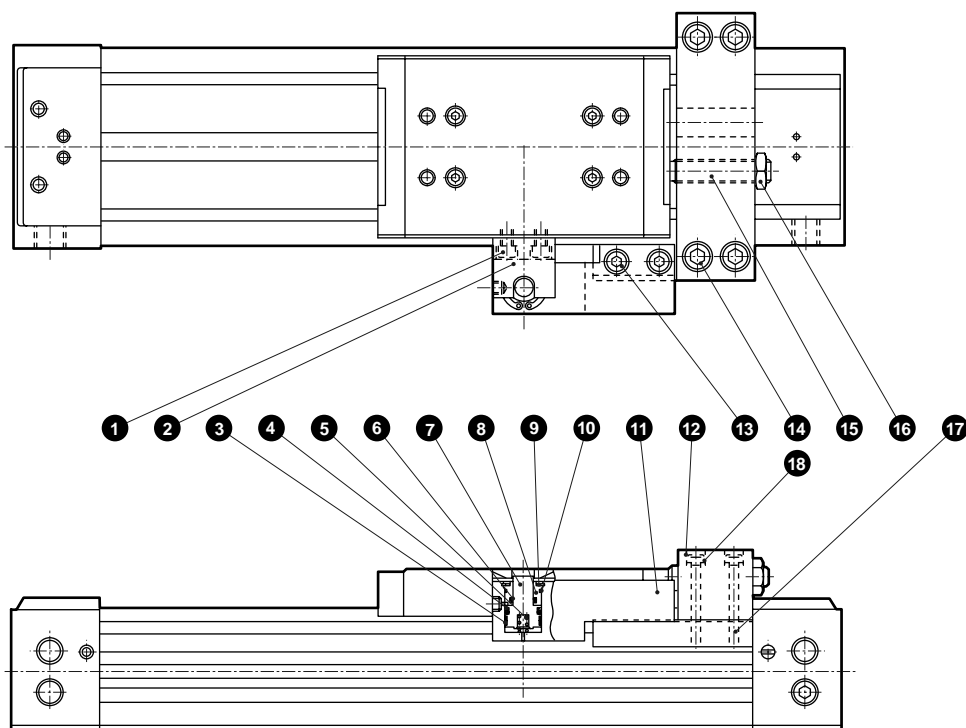
Repair parts list

Bore size (mm)	Kit number	Repair parts number
32 dia.	SRL2-Q-32K- *	
40 dia.	SRL2-Q-40K- *	3 4 6 10 8 9
50 dia.	SRL2-Q-50K- *	21 22 26 28
63 dia.	SRL2-Q-63K- *	

Note 1: When placing an order, indicate kit number, and indicate stroke length at *.

Note 2: For part number of **8 9 21 22 26 28**, refer to Page 6, 7.

Internal structure and parts list (80, 100 mm bore)



Parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Hexagon socket head cap screw	Steel	Blackening	10	Gasket	Nitrile rubber	
2	Lock lever	Steel	Galvanizing	11	Position locking main body	Aluminum alloy	Black alumite
3	Wear ring	Acetar resin		12	Adaptor	Steel	Galvanizing
4	Piston packing seal	Nitrile rubber		13	Hexagon socket head cap screw	Steel	Blackening
5	Spring	Steel	Electrodeposition coating	14	Hexagon socket head cap screw	Steel	Blackening
6	Rod packing seal	Nitrile rubber		15	Hexagon socket head set screw	Steel	Blackening
7	Lock pin	Steel	Chrome plated	16	Hexagon nut	Steel	Blackening
8	Rod cover	Aluminum alloy		17	Adaptor nut	Steel	Blackening
9	C type snap ring for hole	Steel		18	Conical spring washer	Steel	

Repair parts list

Bore size (mm)	Kit number	Repair parts number
80 dia.	SRL2-Q-80K-*	3 4 6
		10 8 9
100 dia.	SRL2-Q-100K-*	21 22 26
		28 29

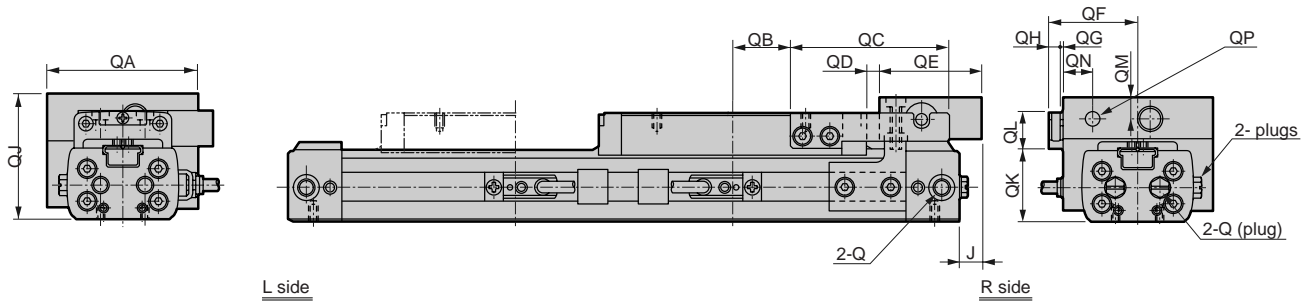
Note 1: When placing an order, indicate kit number, and indicate stroke length at *.

Note 2: For part number of 3 9 21 22 26 28 29, refer to Page 8.

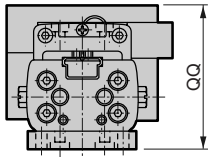
SRL2-Q Series

Dimensions (12 to 25 mm bore)

- SRL2-Q



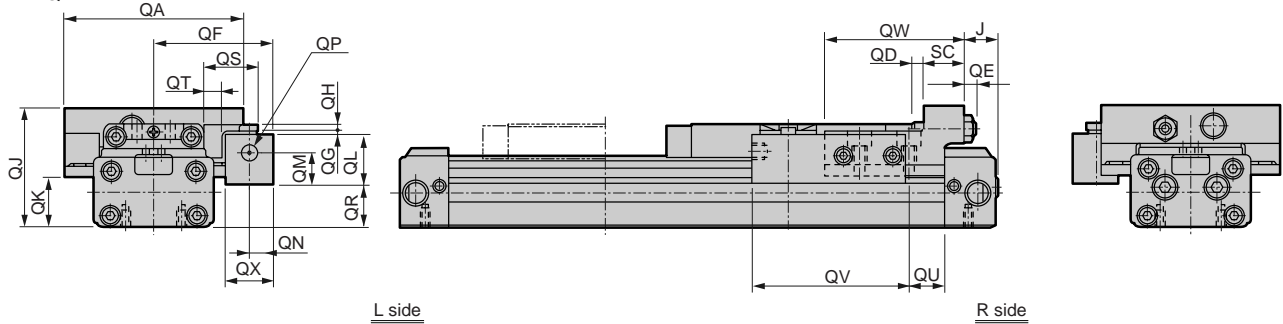
- SRL2-Q-LB1- ** - *** with foot bracket



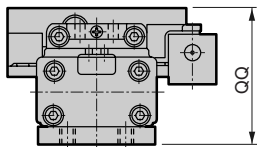
Symbol	J	QA	QB	QC	QD	QE	QF	QG	QH	QJ	QK	QL	QM	QN	QP	QQ
Bore size (mm)																
12 dia.	0	45	19	46	2.5	25	27.5	1	4	40	21.5	12.5	7	9.5	M5	46
16 dia.	0	49	19	52	2.5	28	29.5	1	4	42	25	12	7	9.5	M5	48
20 dia.	-1	57	24	53	2.5	31	33.5	1	4	48	29	13	8	10.5	Rc1/8	56
25 dia.	5.5	77	26	67.5	2.5	37	43.5	1	4	62.5	36	17	8	10.5	Rc1/8	72.5

Dimensions (32 to 63 mm bore)

- SRL2-Q



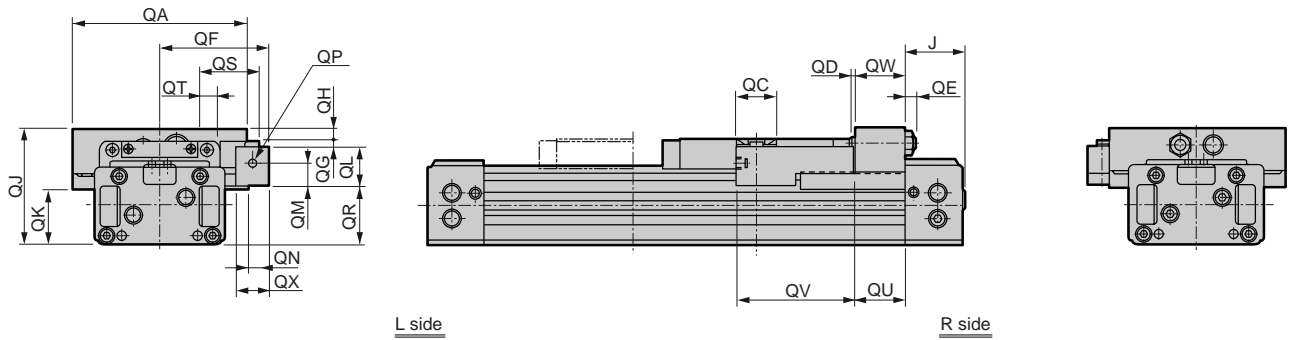
- SRL2-Q-LB1-32- *** with foot bracket



Symbol	J	QA	QD	QE	QF	QG	QH	QJ	QK	QL	QM	QN	QP	QQ	QR	QS	QT	QU	QV	QW	QX	SC
Bore size (mm)																						
32 dia.	19.5	98	7	6	65	2	4	66.5	28	27.5	18	13	Rc1/8	88.5	23.5	29	9	21	84	76	26	22
40 dia.	11.5	112	7	11	72	2	4	78.5	34	27.5	18	13	Rc1/8	-	31.5	29	9	27	84	87	26	32
50 dia.	9.5	136	8	9	84	2	5	99	40	33	21.5	15	Rc1/8	-	42	36	12	12.5	100	102	30	38
63 dia.	20.5	158	8	14	95	2	5	112	50	33	21.5	15	Rc1/8	-	55	36	12	31.5	100	91	30	38

Dimensions (80, 100 mm bore)

- SRL2-Q



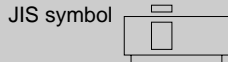
Symbol	J	QA	QC	QD	QE	QF	QG	QH	QJ	QK	QL	QM	QN	QP	QR	QS	QT	QU	QV	QW	QX
Bore size (mm)																					
80 dia.	70	214	50	6	14	133	2	7	145	69	47.5	29	20	Rc ^{1/8}	73.5	48	18	62	143	60	40
100 dia.	80	250	50	6	14	145	2	7	164	88	47.5	29	20	Rc ^{1/8}	92.5	48	18	62	148	60	40



Rodless cylinder, double acting/resin guide type/position locking

SRL2-GQ Series

- Bore size: 12, 16, 20, 25, 32 mm bore
40, 50, 63, 80, 100 mm bore



Specifications

Descriptions		SRL2-GQ									
Bore size	mm	12 dia.	16 dia.	20 dia.	25 dia.	32 dia.	40 dia.	50 dia.	63 dia.	80 dia.	100 dia.
Actuation		Double acting									
Specifications fluids		Compressed air									
Max. working pressure	MPa	0.7									
Min. working pressure (Note 2)	MPa	0.25			0.15			0.1			
Withstanding pressure	MPa	1.05									
Ambient temperature	°C	5 to 60									
Port size	Cylinder section	M5	Rc ¹ /8		Rc ¹ /4		Rc ³ /8		Rc ¹ /2		
	Position locking part	M5	Rc ¹ /8								
Stroke length tolerance	mm	^{+2.0} / ₀ (to 1000)			^{+2.5} / ₀ (to 3000)			^{+3.0} / ₀ (to 5000)			
Working piston speed	mm/s	50 to 2000 (standard port piping) (Note 1)									
Cushion		Air cushion									
Lubrication		Not required (turbine oil Class 1 ISOVG32 should be used. Continue to lubricate once lubricated.)									
Position locking mechanism		Installation on cover R side									
Holding force	N	Max. thrust X 0.7									

- Note 1. (1) When operating with 500 to 2000mm/s speed, rush speed for position locking mechanism should be 500mm/s or less. For common port pipe, working piston speed varies depending on stroke length. Consult with CKD.
(2) For deceleration method, install an external shock absorber or a deceleration circuit etc.
(3) Apply grease to sliding section of lock lever periodically.
- Note 2 For low pressure specifications "LP" (12 to 20mm), 0.15MPa.

Allowable energy absorption

Bore size (mm)	Cushioned		No cushion	With shock absorber (initial set value)	
	Allowable energy absorption (J)	Cushion stroke length (mm)	Allowable energy absorption (J)	Absorbed energy (J)	Effective stroke length (mm)
12 dia.	0.03	14.5	0.003	2.4	5.5
16 dia.	0.22	19.2	0.007	2.4	5.5
20 dia.	0.59	22.2	0.010	5.7	7
25 dia.	1.40	20.9	0.015	10	9
32 dia.	2.57	23.5	0.030	18	13
40 dia.	4.27	23.9	0.050	50	16.5
50 dia.	9.13	24.9	0.072	86	21
63 dia.	17.4	29.6	0.138	86	21
80 dia.	40	45.8	0.393	143	25
100 dia.	67	45.8	0.622	143	25

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
12 dia.	200, 300 400, 500 600, 700 800, 900 1000	5000	The value may vary depending on switch model No. and installation quantity. (Refer to the below table about details.)
16 dia.			
20 dia.			
25 dia.			
32 dia.			
40 dia.			
50 dia.			
63 dia.			
80 dia.			
100 dia.			

M type switch installation quantity and minimum stroke length (mm)

• Custom stroke length is available per 1 mm increment.

Switch quantity	1		2		3		4		5		6		7		8		9	
Switch model No.	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H	M*V	M*H
Bore size (mm)																		
12 dia.	10	10	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
16 dia.	10	10	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
20 dia.	10	10	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
25 dia.	10	10	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
32 dia.	10	10	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
40 dia.	10	10	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
50 dia.	15	15	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
63 dia.	15	15	30	45	60	90	90	135	120	180	150	225	180	270	210	315	240	360
80 dia.	25		50		100		150		200		250		300		350		400	
100 dia.	25		50		100		150		200		250		300		350		400	

T type switch installation quantity and minimum stroke length (mm)

Switch quantity	1		2		3		4		5		6		7		8		9	
Switch model No.	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H	T*Y*V	T*Y*H
Bore size (mm)																		
12 dia.	5	5	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
16 dia.	5	5	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
20 dia.	5	5	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
25 dia.	10	10	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
32 dia.	10	10	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
40 dia.	10	10	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
50 dia.	10	10	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
63 dia.	10	10	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
80 dia.	15	15	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400
100 dia.	15	15	45	50	90	100	135	150	180	200	225	250	270	300	315	350	360	400

Switch specifications

- One color/bi-color indicator

Descriptions	Proximity 2 wire		Proximity 3 wire	
	M2V, M2H	M2WV (2 color indicator)	M3V, M3H	M3WV (2 color indicator)
Applications	Programmable controller		Programmable controller, relay, IC circuit, small solenoid valve	
Power voltage	-		DC4.5 to 28V	DC10 to 28V
Load voltage	DC10 to 30V		DC30V or less	DC30V or less
Load current	5 to 30mA		200mA or less	150mA or less
Light	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)

Descriptions	Reed 2 wire			
	M0V, M0H		M5V, M5H	
Applications	Programmable controller, relay		Programmable controller, relay, IC circuit (without indicator light), serial connection	
Power voltage	-		-	
Load voltage	DC12/24V	AC110V	DC5/12/24V	AC110V or less
Load current	5 to 50mA	7 to 20mA	50mA or less	20mA or less
Light	LED (ON lighting)		Without indicator light	

Note 1: For MO * switch, if load current range is within 7 to 20mA, this switch can be used with AC24V and AC48V.

- With preventive maintenance output

Descriptions	Proximity 3 wire		Proximity 4 wire		
	T2YF H/V	T3YF H/V	T2YM H/V	T3YM H/V	
Applications	Programmable controller		Programmable controller, relay		
Light	Red/green LED (ON lighting)				
Output	Installation position adjustment	-			
	Preventive maintenance output	Yellow LED (ON lighting)			
	Power voltage	-	DC10 to 28V	-	DC10 to 28V
	Load voltage	DC10 to 30V	DC30V	DC10 to 30V	DC30V or less
	Load current	DC5 to 20mA	DC50mA or less	DC5 to 20mA	DC50mA or less
	Internal voltage drop	4V or less	0.5V or less	4V or less	0.5V or less
Preventive maintenance output	Current consumption	-	10mA or less	-	10mA or less
	Leakage current	1mA or less	10 micron A or less	1.2mA or less	10 micron A or less
	Load voltage	DC30V or less			
	Load current	DC20mA or less	DC50mA or less	DC5 to 20mA	DC50mA or less
	Internal voltage drop	0.5V or less		4V or less	2.4V or less
	Leakage current	10 micron A or less			
Signal holding (Ton)	-	-	0.4 ±0.2sec after installation position adjustment red LED turned on.		
Signal release (Toff)	-	-	0.7 ±0.2sec after installation position adjustment red LED turned on.		

- Strong magnetic field

Descriptions	Proximity 2 wire	
	T2YD	
Applications	Programmable controller	
Light	Red/green LED (ON lighting)	
Load voltage	DC24V ±10%	
Load current	5 to 20mA	
Internal voltage drop	6V or less	
Leakage current	1.0mA or less	

Cylinder mass

Unit: kg

Bore size (mm)	Mass when stroke length 0mm			Mass per switch (including bracket.)	Additional mass per St = 100mm
	Basic type (00)	Foot type			
		(LB)	(LB1)		
12 dia.	0.38	0.25	0.26	0.02	0.10
16 dia.	0.47	0.33	0.35		0.13
20 dia.	0.74	0.54	0.58		0.18
25 dia.	1.5	1.6	1.1		0.30
32 dia.	2.4	2.5	1.7		0.39
40 dia.	3.6	3.7	-		0.56
50 dia.	6.1	6.2	-		0.78
63 dia.	8.9	9.2	-		1.17
80 dia.	22.4	23.0	-		2.32
100 dia.	31.5	31.5	-		3.38

How to order

Without switch

SRL2-GQ - (00) - (12) (B) - (200) ————— (B)

With switch

SRL2-GQ - (00) - (12) (B) - (200) - (MOH) - (R) - (B)

A Mounting style
Note 1

B Bore size

C Cushion

D Stroke length

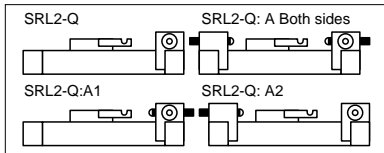
E Switch model No.
Note 2

⚠ Cautions for model No. selection

Note 1: When 12, 16, 20, 25, 32 bore size and option symbol "R" and "T", mounting style "00" or "LB1" is provided. (For option symbol "R" and "T", mounting style "LB" is not available because cannot be piped.)

Note 2: Available other than listed **E** switch model No. (custom order)

Note 3: Adjustable full-stroke bracket on the side of R is a standard part of position locking. When A1 is indicated, a shock absorber is only added to R side. When A is indicated, position locking, adjustable full-stroke, and a shock absorber are provided to R side.



Note 4: For L * and N *, * mark shows set quantity. When 2 sets are necessary, indicate as "L2" (for LB), "or" "N2" (for LB1). Two/set

Note 5: Please refer to dimensions on Page 9 to 14 about ports, and cushion needle position indicating symbols.

Note 6: For standard type of 12 to 25 mm, adjustable full-stroke bracket cannot be installed later. "A3" means the option that a mounting plate nut is installed to install an adjustable full-stroke bracket later.

Note 7: For "H", nominal designation of screw thread of 12, 16 dia. is "M4", while nominal designation of screw thread of 20 dia. is "M5".

Note 8: Please refer to "optional combination table" on the following page about optional combination.

Note 9: Copper and PTFE free specifications are provided as standard.

<Example of model number>

SRL2-GQ-00-12B-200-MOH-R-B

Model: Rodless cylinder, resin guide type/position locking function

A Mounting style : Basic type

B Bore size : 12 mm

C Cushion : Both sides cushion

D Stroke length : 200 mm

E Switch model No : Reed switch MOH, lead wire 1m

F Switch quantity : One on rod side

G Option : Port position F, cushion needle position B

Symbol	Descriptions
A Mounting style	
00	Basic type
LB	Axial foot type
LB1	Axial foot type

B Bore size (mm)	
12	12 dia.
16	16 dia.
20	20 dia.
25	25 dia.
32	32 dia.
40	40 dia.
50	50 dia.
63	63 dia.
80	80 dia.
100	100 dia.

C Cushion	
B	Both sides cushion
R	R side cushion
L	L side cushion
N	No cushion

D Stroke length (mm)	
200, 300, 400, 500, 600, 700, 800, 900, 1000	

E Switch model No.					
Axial lead wire	Radial lead wire	Contact	Display	Lead wire	
M0H *	M0V *	Reed	1 color indicator	2 wire	
M5H *	M5V *				
M2H *	M2V *				
-	M2WV *	Proximity	1 color indicator	2 wire	
M3H *	M3V *		2 color indicator	3 wire	
-	M3WV *		Preventive maintenance Output	1 color indicator	3 wire
T2YFH *	T2YFV *			2 color indicator	4 wire
T3YFH *	T3YFV *	Strong magnetic field Switch		3 wire	4 wire
T2YMH *	T2YMV *		4 wire		
T3YMH *	T3YMV *				
T2YDT *	-				

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

F Switch quantity	
R	One on R side
L	One on L side
D	Two
T	Three
4	4 (When more than 4 pieces, indicate switch quantity.)

G Option													
Bore size (mm)		12	16	20	25	32	40	50	63	80	100		
A	Adjustable full-stroke both ends with shock absorbers	●	●	●	●	●	●	●	●	●	●	●	●
A1	Adjustable full-stroke R end only, with shock absorber	●	●	●	●	●	●	●	●	●	●	●	●
A2	Adjustable full-stroke L end only, with shock absorber	●	●	●	●	●	●	●	●	●	●	●	●
A3	Adjustable full-stroke bracket later installation	●	●	●	●	●	●	●	●	●	●	●	●
L *	Intermediate support bracket (for 00, LB)	●	●	●	●	●	●	●	●	●	●	●	●
N *	With intermediate support bracket (LB1)	●	●	●	●	●	●	●	●	●	●	●	●
C	C mount bracket	●	●	●	●	●	●	●	●	●	●	●	●
H	Larger size of table set screw	●	●	●	●	●	●	●	●	●	●	●	●
U	Height adjustment plate	●	●	●	●	●	●	●	●	●	●	●	●
Blank	: F (standard)	●	●	●	●	●	●	●	●	●	●	●	●
R	: R (common port)	●	●	●	●	●	●	●	●	●	●	●	●
B	: B (common port)	●	●	●	●	●	●	●	●	●	●	●	●
T	: T (common port)	●	●	●	●	●	●	●	●	●	●	●	●
D	: D			●	●	●	●	●	●	●	●	●	●
S	: S					●	●	●	●	●	●	●	●
X	: X							●	●	●	●	●	●

Optional combination table

● : Combination available □ : Combination not available

		Option															
		Adjustable full-stroke both sides, shock absorber	Adjustable full-stroke R end only, with shock absorber	Adjustable full-stroke L end only, with shock absorber	Adjustable full-stroke bracket later installation	Intermediate support bracket (for 00, LB)	Intermediate support bracket (LB1)	Select larger size of table set screw	Height adjustment plate	Port position F, cushion needle position F (standard)	Port position R, cushion needle position F (common port)	Port position F, cushion needle position B	Port position R, cushion needle position B (common port)	Port position D, cushion needle position F	Port position D, cushion needle position D	Port position F, cushion needle position F (common port)	
Option		Symbol	A	A1	A2	A3	L *	N *	H	U	Blank	R	B	T	D	S	X
	A		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	A1		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	A2		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	A3		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	L *						●	●	●	●	●	●	●	●	●	●	●
	N *						●	●	●	●	●	●	●	●	●	●	●
	H							●	●	●	●	●	●	●	●	●	●
	U								●	●	●	●	●	●	●	●	●
	Blank									●	●	●	●	●	●	●	●
	R																
	B																
	T																
	D																
	S																
	X																

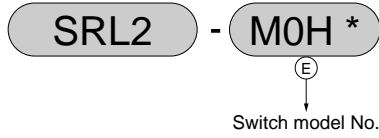
Note 1: Some combination is impossible depending on bore size. Confirm the conditions of options of "how to order" ⑥ on the previous page.

Note 2: When port position D, LB1 is not available. (25, 32 mm bore)

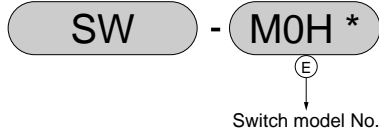
How to order switch

(Please refer to Page Ending 9 to 11 about components.)

- Switch main body + mounting bracket (Note 1)



- Switch only

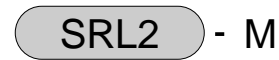


* Lead wire length	
Blank	1m (standard)
3	3m (option)
5	5m (option)

* mark indicates lead wire length.

- Mounting bracket (Note 2)

- M type switch

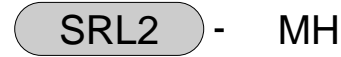


- T type switch



Note: M type switch bracket is different from T type switch.

- Lead wire holder (Note 3)



Note 1. Switch main body + mounting bracket set doesn't include any lead wire holder. When a lead wire holder is necessary, place an order separately.

Note 2. M type switch bracket is different from T type switch.

Note 3. Lead wire holder is 10 pieces/set.

- How to order discrete shock absorber



(One shock absorber, one shock absorber fixing hex. nut)

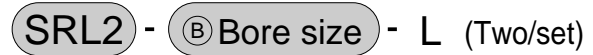
(Note) Shock absorber fixing hex. nut for SRL2- 40 is a custom part.

Applicable shock absorber model No.

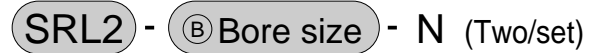
Model	Shock absorber model No.
SRL2-12	NCK-0.3-C
SRL2-16	NCK-0.3-C
SRL2-20	NCK-0.7-C
SRL2-25	NCK-1.2
SRL2-32	NCK-2.6
SRL2-40	NCK-7
SRL2-50	NCK-12
SRL2-63	NCK-12
SRL2-80	NCK-20
SRL2-100	NCK-20

- How to order discrete intermediate support bracket

LB



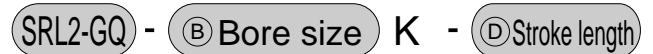
LB1



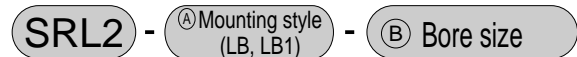
- How to order adjustable full-stroke kit



- How to order repair parts



- How to order mounting bracket



(Two brackets, 4 mounting bolts)

- How to order height adjustment plate set

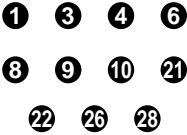



(Plate, 4 mounting bolts)

Internal structure and parts list

For SRL2-G series, refer to Page 20 to 22, while for SRL2 -Q series, refer to Page 34 to 36 about internal structure drawing and parts list.

Repair parts list

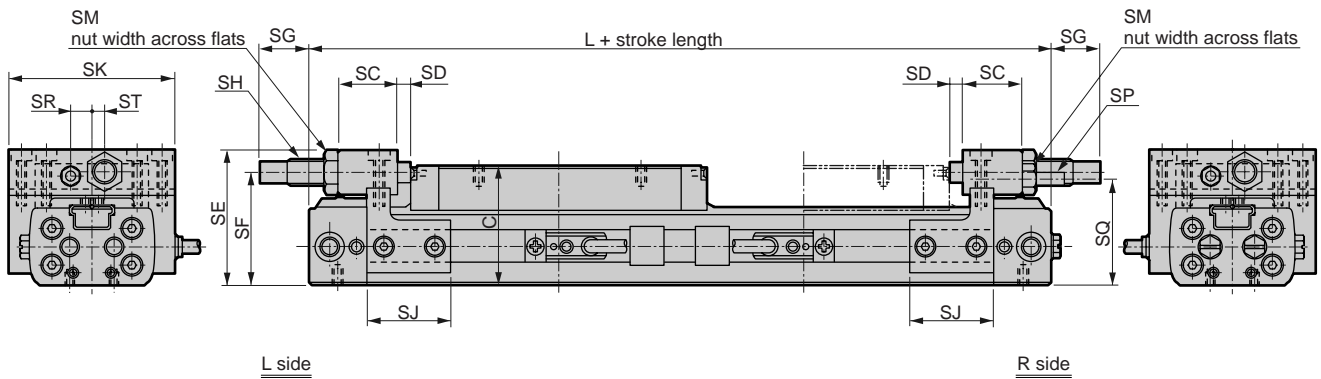
Bore size (mm)	Kit number	Repair parts number
12 dia.	SRL2-GQ-12K- *	
16 dia.	SRL2-GQ-16K- *	
20 dia.	SRL2-GQ-20K- *	
25 dia.	SRL2-GQ-25K- *	
32 dia.	SRL2-GQ-32K- *	
40 dia.	SRL2-GQ-40K- *	(According to part number on Page 6, 7).
50 dia.	SRL2-GQ-50K- *	
63 dia.	SRL2-GQ-63K- *	
80 dia.	SRL2-GQ-80K- *	
100 dia.	SRL2-GQ-100K- *	(According to part number on Page 8).

Dimensions

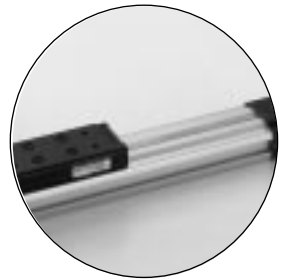
For SRL2-G series, please refer to Page 23 to 28.
For SRL2-Q series, please refer to Page 37 to 38.

SRL2 series common dimensions: With options (12 to 25 mm bore)

- With adjustable full-stroke shock absorber (SRL2)

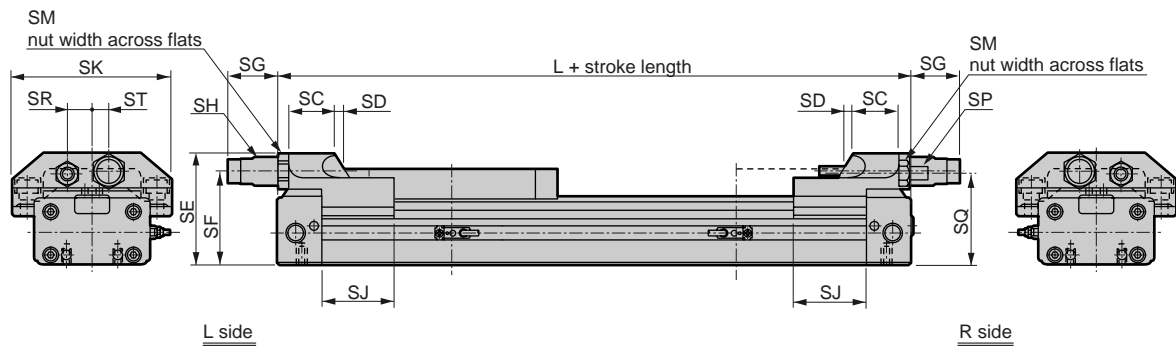


Symbol Bore size (mm)	SC	SD	SE	SF	SG			SH		SJ	SK	SM	SN	SP	SQ	SR	ST	C	L
					MAX time	MIN time	Adjust. width	Screw diameter	Max. energy absorb J										
12 dia.	19.5	2.5	40	32	17.5	7.5	10	M8 X 0.75	3	25	45	12	5.5	M3	30.5	6	3	33	136
16 dia.	18	4	42	35	14.5	4.5	10	M8 X 0.75	3	25	49	12	5.5	M3	34	6	4	37	149
20 dia.	22.5	3.5	48	40	14.5	4.5	10	M10 X 1.0	7	39	57	14	7	M4	38	8	5	42	169
25 dia.	20	2.5	62.5	51.5	14.5	4.5	10	M12 X 1.0	12	50	77	17	10	M6	50	12	10	53	190



SRL2 series common dimensions: With options (32 to 63 mm bore)

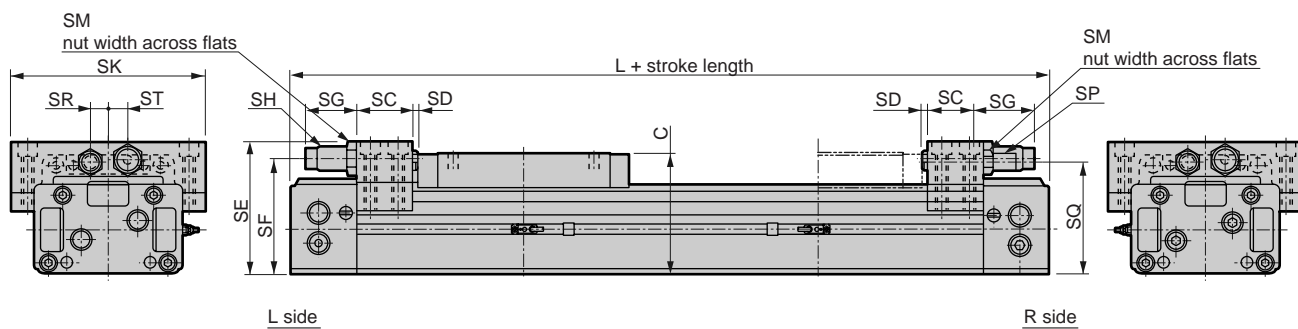
- With adjustable full-stroke shock absorber (SRL2)



Symbol Bore size (mm)	SC	SD	SE	SF	SG			SH		SJ	SK	SM	SN	SP	SQ	SR	ST	C	L
					MAX time	MIN time	Adjust. width	Screw diameter	Max. energy absorb. J										
32 dia.	22	7	66.5	55.5	27	17	10	M14 X 1.5	26	46	98	19	13	M8	53.5	14	12	57	226
40 dia.	32	7	78.5	65.5	34	24	10	M20 X 1.5	70	51	112	24	17	M10	63.5	17	12	67	244
50 dia.	38	8	99	80	55	45	10	M25 X 1.5	120	53	136	32	19	M12	77.5	22	17	82	258
63 dia.	38	8	112	93.5	44	34	10	M25 X 1.5	120	64	158	32	24	M16	89	25	20	95	296

SRL2 series common dimensions: With options (80 to 100 mm bore)

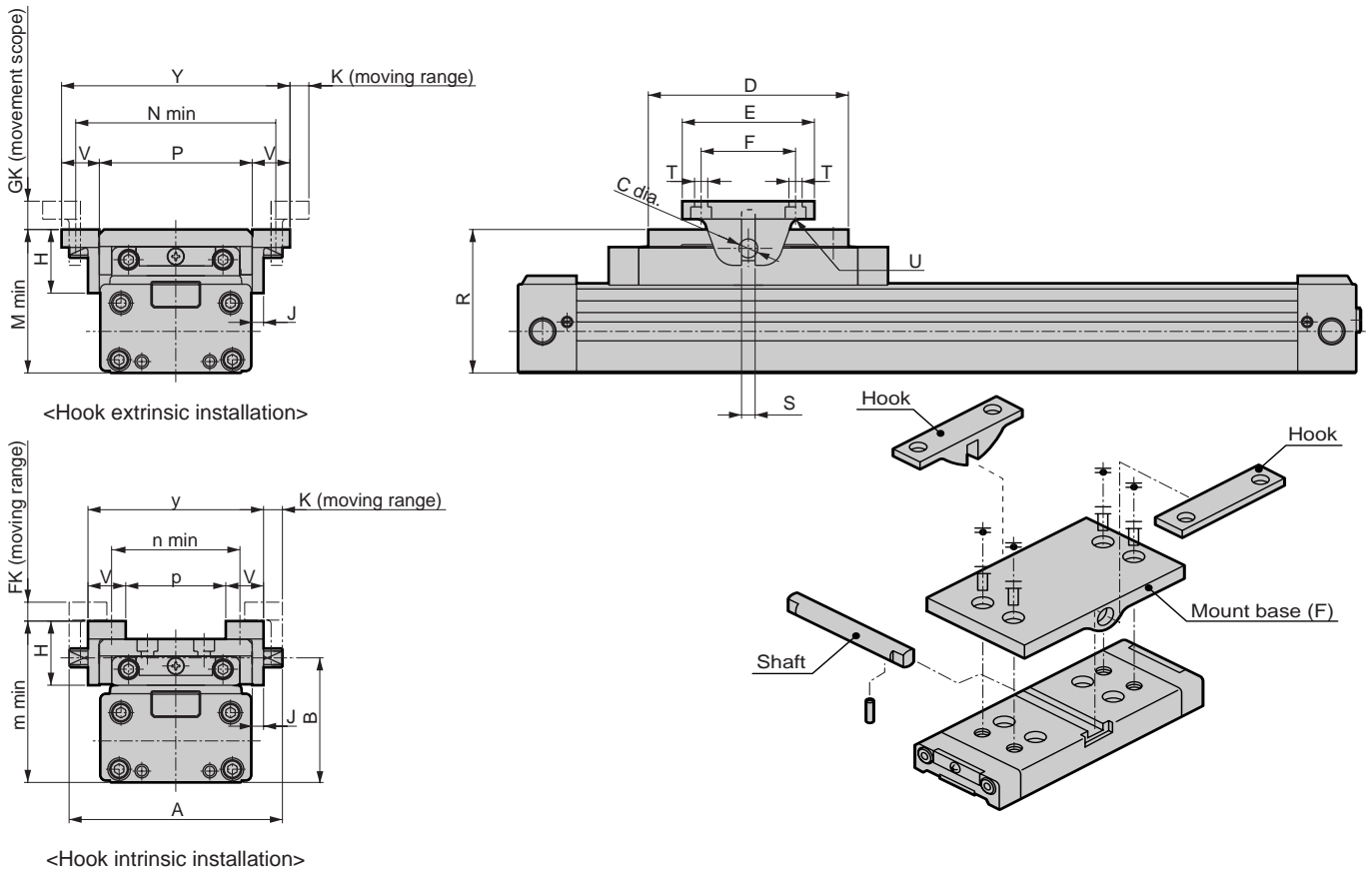
- Adjustable full-stroke shock absorber



Symbol Bore size (mm)	SC	SD	SE	SF	SG			SH		SK	SM	SN	SP	SQ	SR	ST	C	L
					MAX time	MIN time	Adjust. width	Screw diameter	Max. energy absorb J									
80 dia.	60	6	145	125.5	50	40	10	M27 X 1.5	200	214	32	27	M20	123	20	20	130	500
100 dia.	60	6	164	144.5	50	40	10	M27 X 1.5	200	250	32	27	M20	142	20	20	150	530

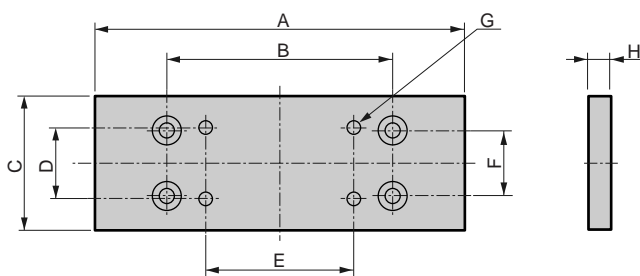
Dimensions: With options

- Thin type floating joint (Y1) 12 to 63 mm bore




Symbol Port size	A	B	C	D	E	F	G	H	J	K	FK	GK	M min	m min	N min	n min	P	p	S	V	Y	y	T	U
12 dia.	52	32	5	60	40	30	5	20	3	6	6	9	38	43	47.5	26.5	34	16	3.5	12	58	40	3.4 dia.	6.5 dia. spot face depth 3.3.
16 dia.	56	36.5	5	60	40	30	5	20	3	6	6	9	42	47	51.5	30.5	38	20	3.5	12	62	44	3.4 dia.	6.5 dia. spot face depth 3.3.
20 dia.	64	41	6	84	56	40	8	24.5	4	6	6	9	48.5	56.5	62	34	44	22	4	15	74	52	4.5 dia.	8 dia. spot face depth 4.4.
25 dia.	74	53	6	84	56	40	8	24.5	4	6	6	9	60.5	68.5	72	44	54	32	4	15	84	62	5.5 dia.	9.5 dia. spot face depth 5.4.
32 dia.	99	56.5	8	106	70	50	9.5	34	6	10	10	15	66	75.5	92	54	67	39	5.5	20	107	79	6.6 dia.	11 dia. spot face depth 6.5.
40 dia.	113	66	10	116	70	50	9.5	34	6	10	10	15	76	85.5	106	68	81	53	7	20	121	93	6.6 dia.	11 dia. spot face depth 6.5.
50 dia.	133	81	12	120	90	70	13	43	8	10	10	15	93	106	129	81	97	63	8.5	25	147	113	9 dia.	14 dia. spot face depth 8.6.
63 dia.	155	94	14	136	90	70	13	43	8	10	10	15	107	120	151	103	119	85	10	25	169	135	9 dia.	14 dia. spot face depth 8.6.

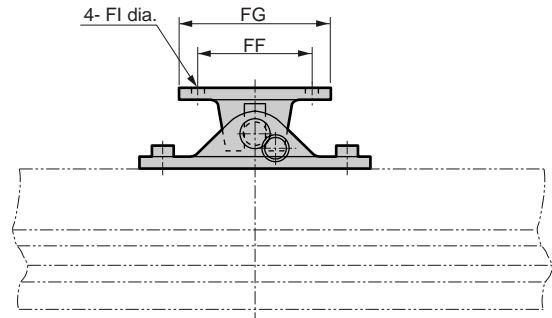
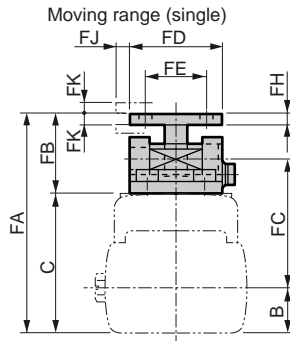
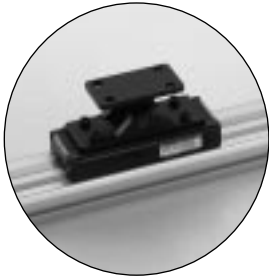
- Height adjustment plate



Symbol Port size	A	B	C	D	E	F	G	H
12 dia.	80	42	29	16	30	13	4-M3 pene.	8
16 dia.	87	48	32	16	30	15	4-M4 pene.	6
20 dia.	99	60	38	20	40	18	4-M4 pene.	7
25 dia.	121	70	48	20	40	20	4-M5 pene.	10.5
32 dia.	134	80	56	30	50	20	4-M6 pene.	10.5
40 dia.	147	90	68	30	50	30	4-M6 pene.	12.5
50 dia.	151	100	80	40	70	30	4-M8 pene.	18
63 dia.	167	110	102	40	70	40	4-M8 pene.	18
80 dia.	227	150	146	50	90	50	4-M12 pene.	18
100 dia.	237	160	170	60	110	60	4-M12 pene.	18

SRL2 series common dimensions: With options


- Floating joint  (File name: Page Ending 12)

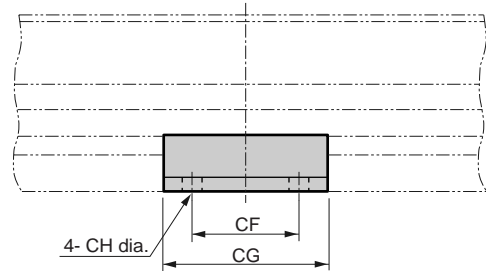
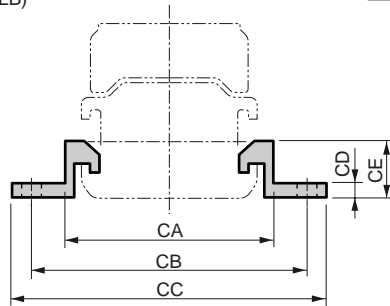
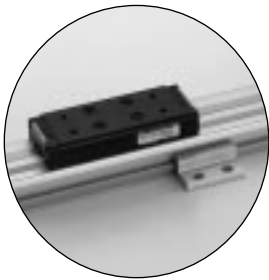


Symbol Bore size (mm)	FA	FB	FC	FD	FE	FF	FG	FH	FI	FJ	FK	B	C
12 dia.	54	21	31.5	24	16	30	40	3	3.4	3	3	10.5	33
16 dia.	58	21	34	24	16	30	40	3	3.4	3	3	12	37
20 dia.	67	25	39	30	20	40	56	4	4.5	3	3	14	42
25 dia.	78	25	47	30	20	40	56	4	6	3	3	17	53
32 dia.	95	38	55.5	45	30	50	70	6	7	5	5	18.5	57

Symbol Bore size (mm)	FA	FB	FC	FD	FE	FF	FG	FH	FI	FJ	FK	B	C
40 dia.	105	38	62	45	30	50	70	6	7	5	5	22	67
50 dia.	126	44	73	60	40	70	90	8	9	5	5	28	82
63 dia.	139	44	79	60	40	70	90	8	9	5	5	35	95
80 dia.	188	58	107	80	50	90	120	11	14	10	5	49	130
100 dia.	220	70	120.5	90	60	110	140	13	14	10	5	61.5	150

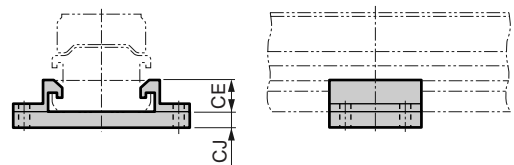
- Intermediate support bracket (this bracket is an auxiliary bracket to prevent deflection.)
L * (LB)

 (File name: Page Ending 12)




Symbol Bore size (mm)	CA	CB	CC	CD	CE	CF	CG	CH	CJ	CK
12 dia.	38	52	60	3	11	16	30	4	6	17
16 dia.	42	56	64	3	12	20	35	4	6	18
20 dia.	49	64	75	4	14	20	38	5	8	22
25 dia.	60	76	88	6	19.5	20	40	7	10	29.5
32 dia.	74	88	100	6	21.5	20	40	7	10	31.5
40 dia.	90	108	124	6	24.5	30	60	9	-	-
50 dia.	106	124	140	8	30.5	30	60	9	-	-
63 dia.	130	152	172	10	38.5	50	90	11	-	-
80 dia.	172	210	236	12	32	60	110	14	-	-
100 dia.	208	246	272	12	32	60	110	14	-	-

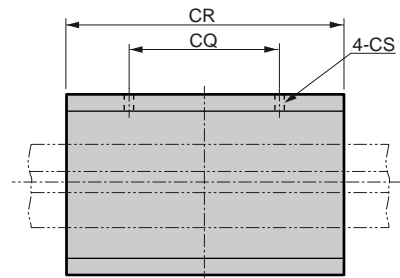
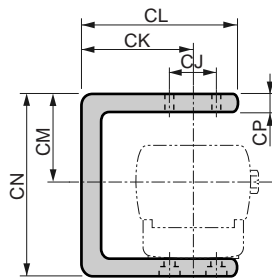
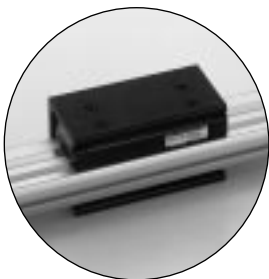
N * (LB1)



L * (LB) N * (LB1)

- C mount bracket

 (File name: Page Ending 12)



Symbol Bore size (mm)	CJ	CK	CL	CM	CN	CP	CQ	CR	CS
12 dia.	13	27	40	22.5	50	5	42	81	M3
16 dia.	15	35.5	50	29	60	6	48	88	M3
20 dia.	18	32.5	50	26	60	6	60	100	M4
25 dia.	20	45	69	28	71	5	70	116	M5

Symbol Bore size (mm)	CJ	CK	CL	CM	CN	CP	CQ	CR	CS
32 dia.	20	54	81.5	33.5	80	7	80	128	M6
40 dia.	30	63	95.5	38	91.5	8	90	138	M6
50 dia.	30	74	113	48	112.5	10	100	142	M8
63 dia.	40	88	138	58	131	13	110	158	M8

Rodless cylinder SRL2-J series

Full Cowling (With Dust-proof Cover)

Dust-proof properties powerful in adverse environments.

(25 to 63 mm bore)

No more worry about direct contact with spatter, metal chips, or cutting lubricants.

PAT.PEND

Overview

A new option with powerful dust-proof properties has been added to the rodless cylinder SRL2 Series. By mounting an original metal cover on the standard type, the product can be used safely without direct contact from spatter, metal chips, coolant, or cutting lubricants.

Features

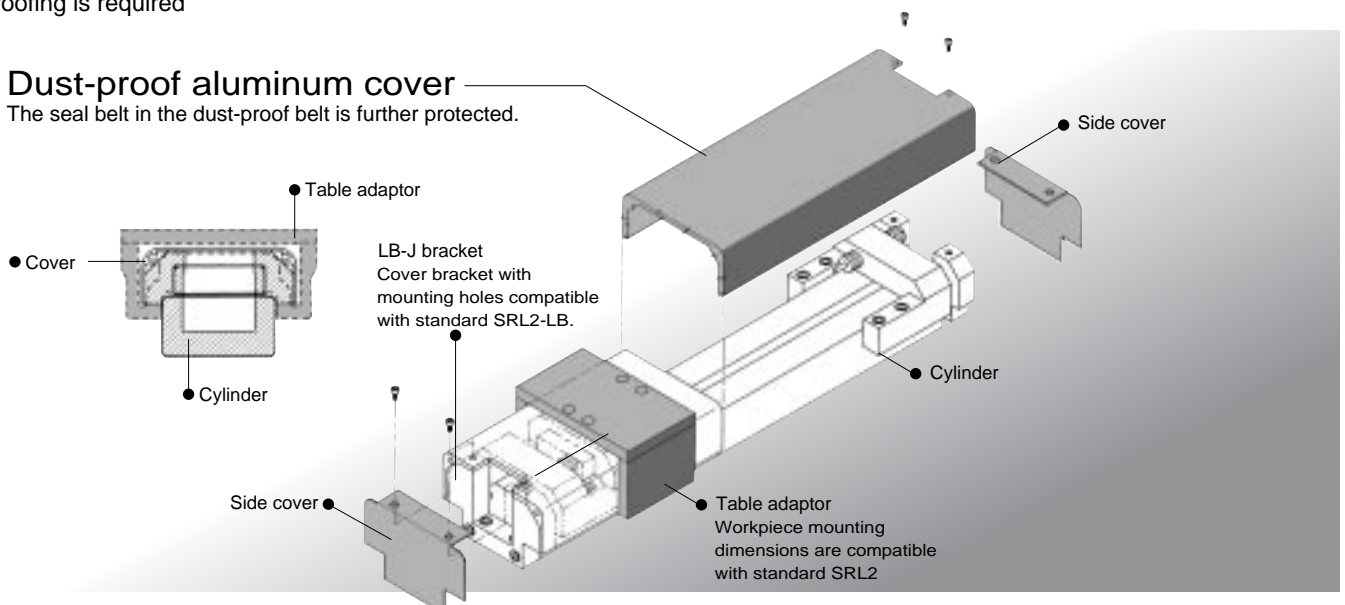
- Industry's first rodless type with dust-proof cover
- Even with dust-proof structure, total length and installation dimensions are the same as conventional products
- Aluminum cover resistant to spatter adherence
- Cover removable from top with just one wrench
- Simple, neat design with side covers on both ends
- Five sizes from 25 to 63 mm bore

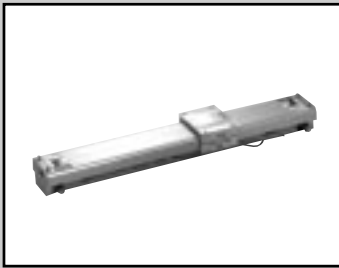
Example of application

- Possible contact with coolant and cutting lubricants from machines, etc.
- Possible contact with metal chips from metal processing machines, etc.
- Spatter from welding machines, etc.
- Where cleanliness is required, such as in food processing plants
- Other places with adverse environments where dust-proofing is required

Dust-proof aluminum cover

The seal belt in the dust-proof belt is further protected.





Rodless cylinder, double acting/full cowling type

SRL2-J Series

- Bore size: 25, 32, 40, 50, 63 mm



CAD DATA AVAILABLE.

Specifications

Descriptions		SRL2-J				
Bore size	mm	25 dia.	32 dia.	40 dia.	50 dia.	63 dia.
Actuation		Double acting				
Working fluid		Compressed air				
Max. working pressure	MPa	0.7				
Min. working pressure	MPa	0.1		0.05		
Withstanding pressure	MPa	1.05				
Ambient temperature	°C	5 to 60				
Port size		Rc1/8	Rc1/4		Rc3/8	
Stroke length tolerance	mm	+2.0 ₀ (to 1000), +2.5 ₀ (to 3000)				
Working piston speed	mm/s	50 to 2000 (standard port piping) (Note 1)				
Cushion		Air cushion				
Lubrication		Not required (when lubrication, use turbine oil Class 1 ISO VG 32. Continue to lubricate once lubricated.)				

Note 1: Working piston speed, when using with common port piping, may vary depending on stroke length. Consult with CKD.

Allowable energy absorption

Bore size (mm)	Cushioned		No cushion	With shock absorber (initial set value)	
	Allowable energy absorption (J)	Cushion stroke length (mm)	Allowable energy absorption (J)	Absorbed energy (J)	Effective stroke length (mm)
25 dia.	1.40	20.9	0.015	10	9
32 dia.	2.57	23.5	0.030	18	13
40 dia.	4.27	23.9	0.050	50	16.5
50 dia.	9.13	24.9	0.072	86	21
63 dia.	17.4	29.6	0.138	86	21

Stroke length

Equivalent bore size	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
25 dia./32 dia./40 dia. 50 dia./63 dia.	200/300/400/ 500/600/700/ 800/900/1000	3000	The value may vary depending on switch model No. and installation quantity. Please refer to Page 1488 about details.

Note 1: If stroke length more than 3000 mm stroke is required, consult with CKD.

Note 2: Custom stroke is available per 1 mm increment.

Cylinder mass

Descriptions	Mass when stroke length 0mm		Additional mass per stroke length = 100mm
	Basic type	Mass per switch (not including bracket)	
25 dia.	2.37	0.02	0.39
32 dia.	3.34		0.49
40 dia.	4.78		0.68
50 dia.	7.33		0.93
63 dia.	11.37		1.34

Switch specifications

- One color/bi-color indicator

Descriptions	Proximity 2 wire		Proximity 3 wire	
	M2V, M2H	M2WV (2 color indicator)	M3V, M3H	M3WV (2 color indicator)
Applications	Programmable controller		Programmable controller, relay, IC circuit, small solenoid valve	
Power voltage	-		DC4.5 to 28V	DC10 to 28V
Load voltage	DC10 to 30V		DC30V or less	DC30V or less
Load current	5 to 30mA		200mA or less	150mA or less
Light	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)
Descriptions	Reed 2 wire			
	MOV, MOH		M5V, M5H	
Applications	Programmable controller, relay		Programmable controller, relay, IC circuit (without indicator light), serial connection	
Power voltage	-		-	
Load voltage	DC12/24V	AC110V	DC5/12/24V	AC110V
Load current	5 to 50mA	7 to 20mA	50mA or less	20mA or less
Light	LED (ON lighting)		Without indicator light	

Note 1: For MO * switch, if load current range is within 7 to 20mA, this switch can be used with AC24V and AC48V.

- With preventive maintenance output

Descriptions	Proximity 3 wire		Proximity 4 wire	
	T2YF H/V	T3YF H/V	T2YM H/V	T3YM H/V
Applications	Programmable controller	Programmable controller, relay	Programmable controller	Programmable controller, relay
Light	Installation position adjustment	Red/green LED (ON lighting)		
	Preventive maintenance output	Yellow LED (ON lighting)		
Output	Power voltage	-	DC10 to 28V	-
	Load voltage	DC10 to 30V	DC30V	DC10 to 30V
	Load current	DC5 to 20mA	DC50mA or less	DC5 to 20mA
	Internal voltage drop	4V or less	0.5V or less	4V or less
	Current consumption	-	10mA or less	-
	Leakage current	1mA or less	10 micron A or less	1.2mA or less
Preventive maintenance output	Load voltage	DC30V or less		
	Load current	DC20mA or less	DC50mA or less	DC5 to 20mA
	Internal voltage drop	0.5V or less		2.4V or less
	Leakage current	10 micron A or less		
Signal holding (Ton)	-	-	0.4 ±0.2sec after installation position adjustment red LED turned on.	
Signal release (Toff)	-	-	0.7 ±0.2sec after installation position adjustment green LED turned on.	

- Strong magnetic field

Descriptions	Proximity 2 wire	
	T2YD	
Applications	Programmable controller	
Light	Red/green LED (ON lighting)	
Load voltage	DC24V ±10%	
Load current	5 to 20mA	
Internal voltage drop	6V or less	
Leakage current	1.0mA or less	

- Cutting oil

Descriptions	Proximity 2 wire		Proximity 3 wire	
	T2YLH, T2YLV		T3YLH, T3YLV	
Applications	Programmable controller		Programmable controller, relay	
Power voltage	-		DC10 to 28V	
Load voltage/current	DC10 to 30V 5 to 20mA		DC30V or less 50mA or less	
Current consumption	-		10mA or less at DC24V (at ON state)	
Internal voltage drop	4V or less		0.5V or less	
Leakage current	1mA or less		10 micron A or less	
Light	Red/green LED (ON lighting)			

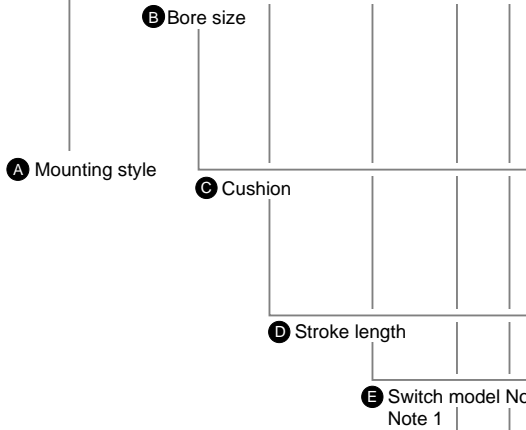
How to order

Without switch

SRL2-J - 00 - 25 B - 200 ————— B

With switch

SRL2-J - 00 - 25 B - 200 - M0H - R - B



⚠ Cautions for model No. selection

- Note 1: Available other than listed **E** switch model No. (custom order)
- Note 2: For 25 mm bore standard type, adjustable full-stroke bracket cannot be installed later. "A3" is an option that mounting plate nuts are installed for installing a adjustable full-stroke bracket later.
- Note 3: For L * and N *, * mark shows set quantity. When 2 sets are necessary, indicate as "L2" (for 00), or "N2" (for LJ). Two/set.
- Note 4: Please refer to dimensions on Page 59 to 65 about ports, and cushion needle position indicating symbols.
- Note 5: When installing a joint and a flow control valve, we recommend to use the extension joints attached. Please refer to Page 66 about model No./dimensions.
- Note 6: When using common port (R side port), remove the side cover before using.

<Example of model number>

SRL2-J-00-25B-200-M0H-R-B

- A** Mounting style : Basic type
- B** Bore size : 25mm
- C** Cushion : Both sides cushion
- D** Stroke length : 200mm
- E** Switch model No : Reed M0H
- F** Switch quantity : One on R side
- G** Option : Port position F, cushion needle position B

Symbol	Descriptions					
A Mounting style						
	Bore size (dia.)	25	32	40	50	63
00	Basic type	●	●	●	●	●
LJ	Axial foot type (common porting)	●	●			
B Bore size						
25	25 dia.					
32	32 dia.					
40	40 dia.					
50	50 dia.					
63	63 dia.					
C Cushion						
B	Both sides cushion					
R	R side cushion					
L	L side cushion					
N	No cushion					
D Stroke length (mm)						
200, 300, 400, 500, 600, 700, 800, 900, 1000						
E Switch model No.						
Axial lead wire	Radial lead wire	Contact	Display	Lead wire		
M0H *	M0V *	Reed	1 color indicator	2 wire		
M5H *	M5V *					
M2H *	M2V *		1 color indicator	2 wire		
-	M2WV *	Proximity	2 color indicator	3 wire		
M3H *	M3V *		1 color indicator			
-	M3WV *		2 color indicator			
T2YFH *	T2YFV *		With preventive maintenance output	3 wire	4 wire	
T3YFH *	T3YFV *	3 wire				
T2YMH *	T2YMV *					4 wire
T3YMH *	T3YMV *					
T2YD *	-	Strong magnetic field proof switch	2 wire			
T2YDT *	-					
T2YLH *	T2YLV *	Cutting oil switch	2 wire			
T3YLH *	T3YLV *			2 wire		
* Lead wire length						
Blank	1m (standard)					
3	3m (option)					
5	5m (option)					
F Switch quantity						
R	One on R side					
L	One on L side					
D	Two					
T	Three					
4	4 (when more than 4 switches, indicate switch quantity)					
G Option/accessory						
	Bore size (dia.)	25	32	40	50	63
A	Adjustable full-stroke both ends with shock absorbers	●	●	●	●	●
A1	Adjustable full-stroke R end only, with shock absorber	●	●	●	●	●
A2	Adjustable full-stroke L end only, with shock absorber	●	●	●	●	●
A3	Adjustable full-stroke bracket later installation	●				
Y	Floating joint	●	●	●	●	●
L *	Intermediate support bracket (00)	●	●	●	●	●
N *	With intermediate support bracket (LJ)	●	●			
Blank	F (standard)	●	●	●	●	●
R	Port position	R	F (common port)	●	●	●
		B	B	●	●	●
T	Cushion needle position	R	B (common port)	●	●	●
		D	F	●	●	●
D		D		●	●	●
S		D		●	●	●

How to order switch

(Please refer to Page Ending 9 to 11 about components.)

Switch main body + mounting bracket (Note 1)

SRL2 - M0H *

Switch only

SW - M0H *

Ⓔ Switch model No.
(Previous page Ⓔ)

Mounting bracket (Note 2)

SRL2 - M

SRL2 - T

Lead wire holder (Note 3)

SRL2 - MH

Note 1: Switch main body + mounting bracket doesn't include a lead wire holder. When a lead wire holder is necessary, placing an order separately.

Note 2: M type switch bracket is different from T type switch.

Note 3: Lead wire holder is 10 pieces/set.

How to order discrete shock absorber

SRL2 - Ⓑ Bore size - NCK

(One shock absorber, one shock absorber fixing hex. nut)

(Note) Shock absorber fixing hex. nut for SRL2- 40 is a custom part.

How to order cover kit

SRL2-J - Bore size - Stroke length - COVER-KIT

Applicable shock absorber model No.

Model No.	Apply shock absorber.
SRL2-J-25	NCK-00-1.2
SRL2-J-32	NCK-00-2.6
SRL2-J-40	NCK-00-7
SRL2-J-50/63	NCK-00-12

How to order adaptor kit

SRL2-J - Bore size - ADAPTOR-KIT

How to order repair parts

SRL2 - Bore size - K - Stroke length

Please refer to Page 5 to 8 about details of repair parts.

How to order floating joint set

SRL2 - Bore size - Y

(Mount, mount base, pin, plain washer, pan head machine screw 4 mounting bolts with spring washer)

How to order discrete intermediate support bracket

00

SRL2 - Bore size - L (2 pieces/set)

LJ

SRL2 - Bore size - N (2 pieces/set)

How to order adjustable full-stroke kit

SRL2-J - Bore size - A1 (1 set)

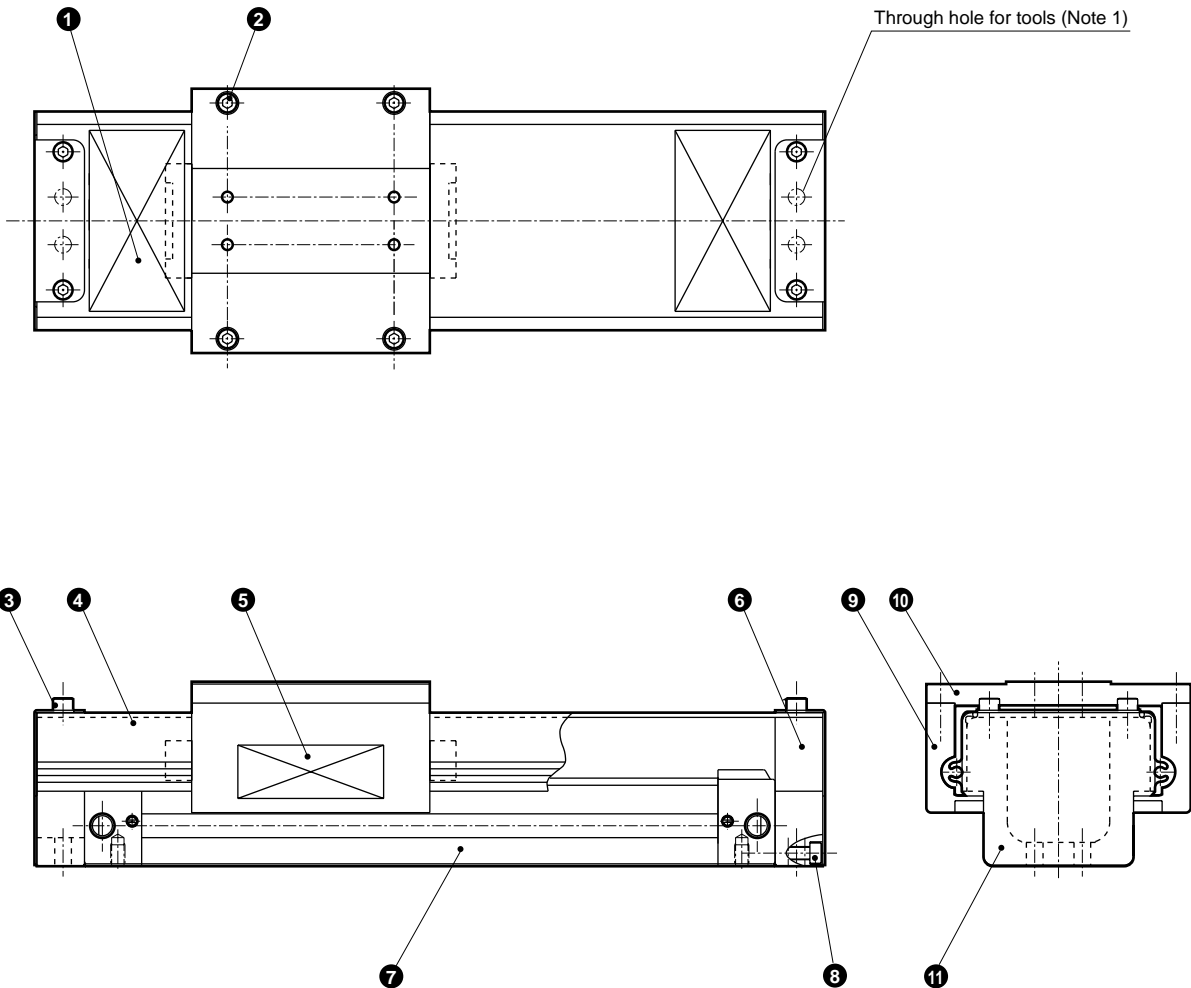
Please refer to Page Ending 10 about components tables.

How to order mounting bracket

SRL2-J - Mounting style - Bore size

(Two brackets, 4 mounting bolts)

Internal structure and parts list (25 mm bore)



Note 1: When installing the product, remove the side cover at first. Then using this hole, tighten the bolt with a hexagonal wrench.

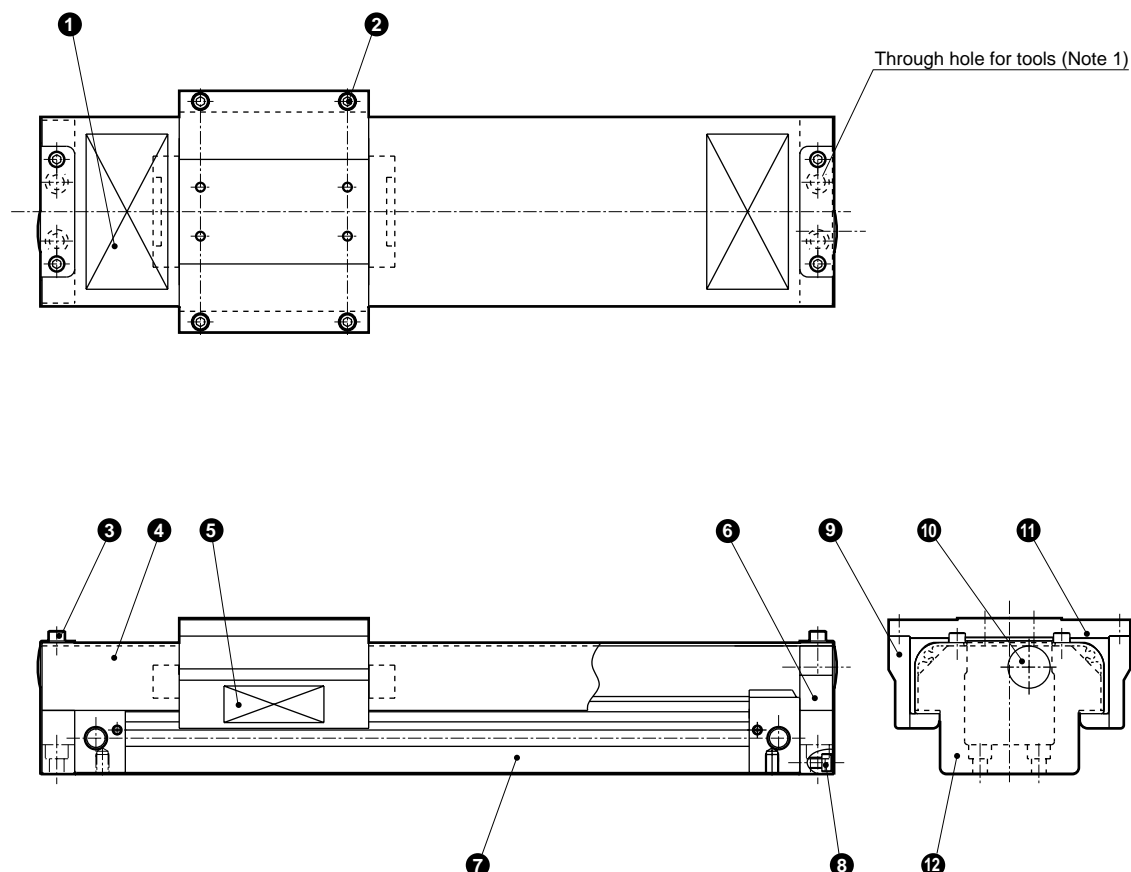
Note 2: When shipping, extension joints (two pcs.) are attached.

Parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Caution plate (Do not step.)	Polypropylene		7	Main body		
2	Hexagon socket head cap screw	Stainless steel		8	Hexagon socket head cap screw	Steel	
3	Hexagon socket head cap screw	Stainless steel		9	Table adaptor	Aluminum alloy	Alumite
4	Cover	Aluminum alloy	Alumite	10	Table plate	Aluminum alloy	Alumite
5	Caution plate (pinch caution)	Polypropylene		11	Side cover	Aluminum alloy	Alumite
6	LB-J bracket	Aluminum alloy	Alumite				

• For internal structure and repair parts list of main body, as same as standard type SRL2 series. Please refer to Page 6 to 8.

Internal structure and parts list (32 to 63 mm bore)



Note 1: When installing the product, remove the side cover at first. Then using this hole, tighten the bolt with a hexagonal wrench.

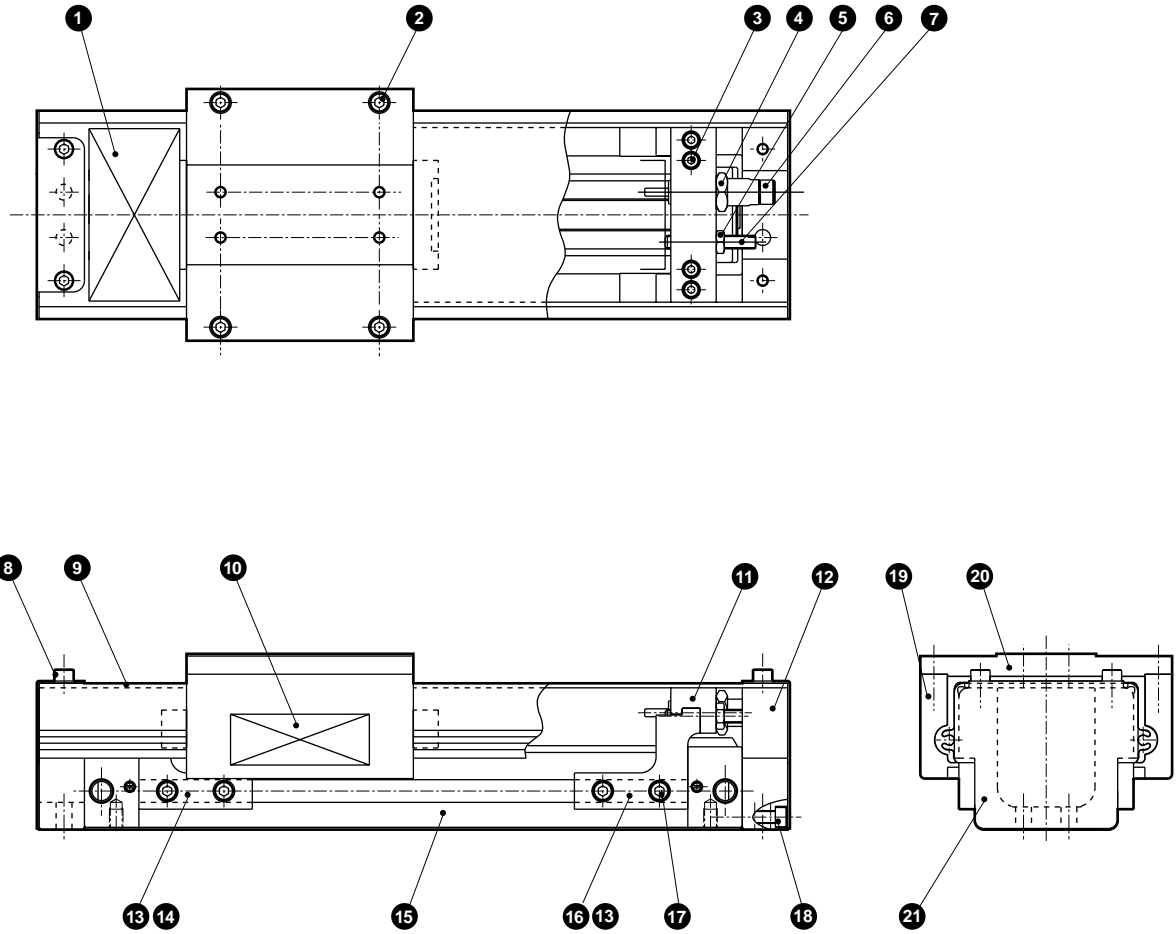
Note 2: When shipping, extension joints (two pcs.) are attached.

Parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Caution plate (Do not step.)	Polypropylene		7	Main body		
2	Hexagon socket head cap screw	Stainless steel		8	Hexagon socket head cap screw	Steel	
3	Hexagon socket head cap screw	Stainless steel		9	Table adaptor	Aluminum alloy	Alumite
4	Cover	Aluminum alloy	Alumite	10	Hole plug	66 nylon	
5	Caution plate (pinch caution)	Polypropylene		11	Table plate	Aluminum alloy	Alumite
6	LB-J bracket	Aluminum alloy	Alumite	12	Side cover	Aluminum alloy	Alumite

• For internal structure and repair parts list of main body, as same as standard type SRL2 series. Please refer to Page 6 to 8.

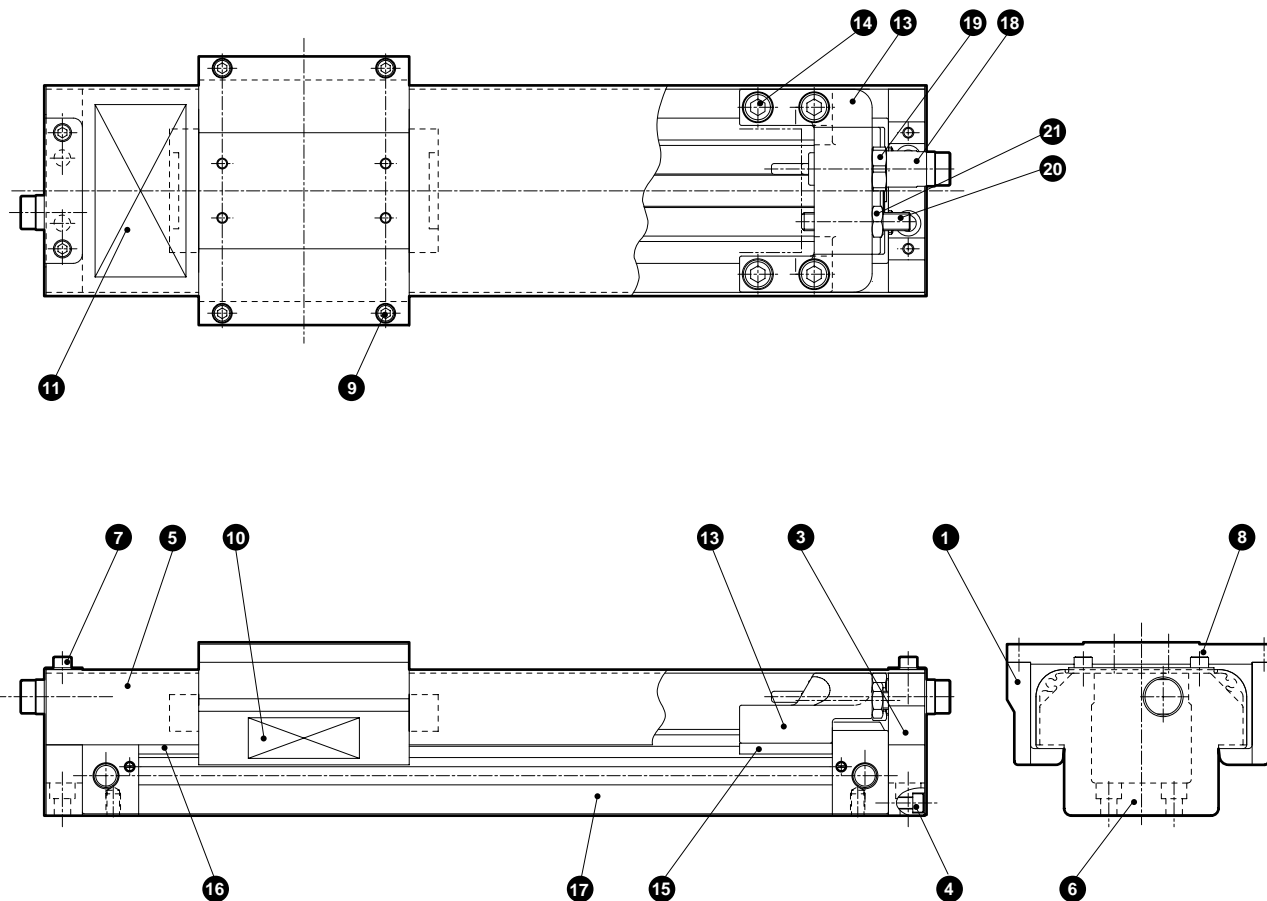
Internal structure and parts list: With adjustable full-stroke shock absorber (25 mm bore)



Note 1: When shipping, extension joints (two pcs.) are attached.

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Caution plate (Do not step.)	Polypropylene		12	LB-J bracket	Aluminum alloy	Alumite
2	Hexagon socket head cap screw	Stainless steel		13	Plate nut	Steel	Blackening
3	Hexagon socket head cap screw	Steel	Blackening	14	Adaptor (R)	Steel	Galvanizing
4	Hexagon nut	Steel	Blackening	15	Main body		
5	Hexagon nut	Steel	Blackening	16	Adaptor (L)	Steel	Galvanizing
6	Shock absorber			17	Hexagon socket head cap screw	Steel	Blackening
7	Hexagon socket head set screw	Steel	Blackening	18	Hexagon socket head cap screw	Steel	Blackening
8	Hexagon socket head cap screw	Stainless steel		19	Table adaptor	Aluminum alloy	Alumite
9	Cover	Aluminum alloy	Alumite	20	Table plate	Aluminum alloy	Alumite
10	Caution plate (pinch caution)	Polypropylene		21	Side cover	Aluminum alloy	Alumite
11	Plate	Steel	Black alumite				

Internal structure and parts list: With adjustable full-stroke shock absorber (32 to 63 mm bore)




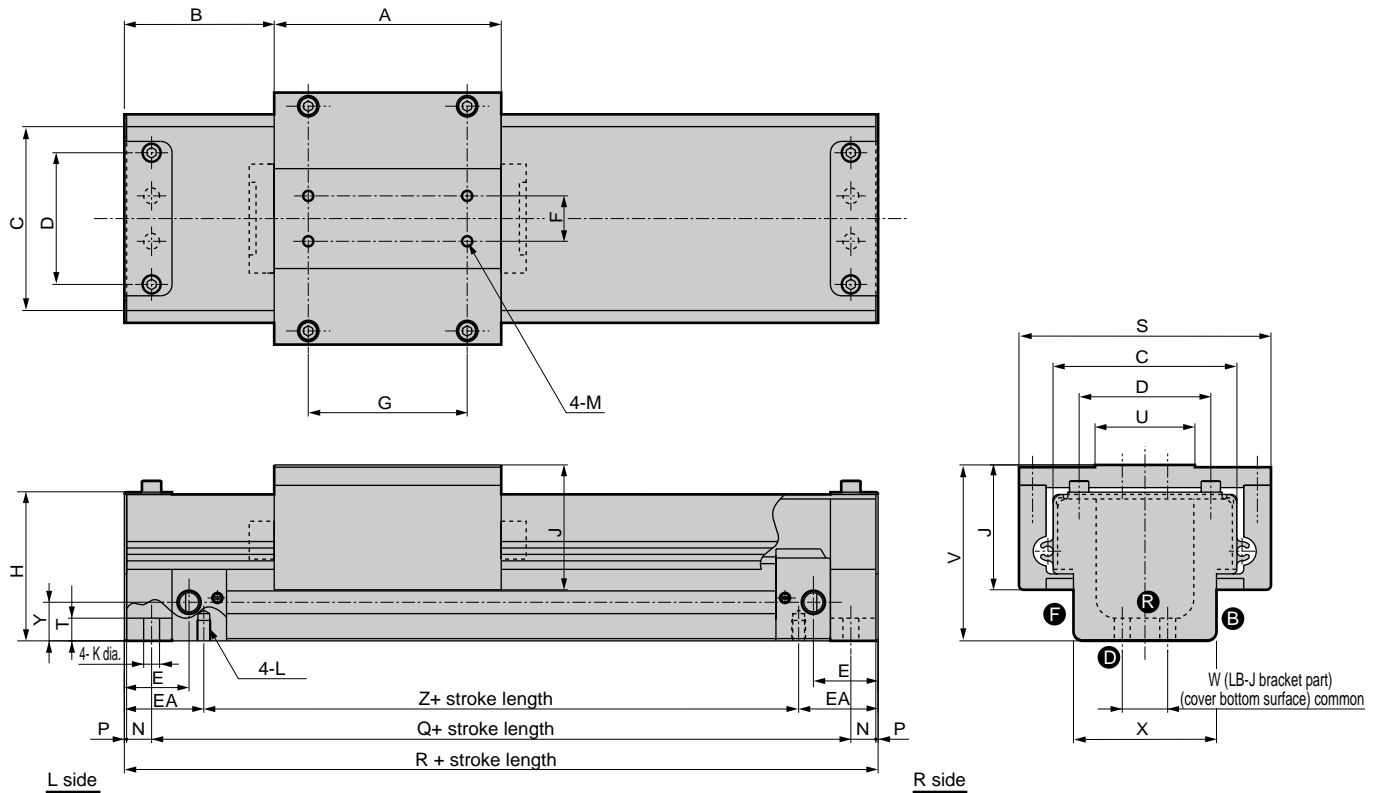
Note 1: When shipping, extension joints (two pcs.) are attached.

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Caution plate (Do not step.)	Polypropylene		11	Caution plate (pinch caution)	Polypropylene	
2	Hexagon socket head cap screw	Stainless steel		12	Adaptor	Steel	Galvanizing
3	Hexagon socket head cap screw	Steel	Blackening	13	LB-J bracket	Aluminum alloy	Alumite
4	Adaptor	Steel	Galvanizing	14	Adaptor nut B	Steel	Blackening
5	Hexagon nut	Steel	Blackening	15	Main body		
6	Shock absorber			16	Adaptor nut A	Steel	Blackening
7	Hexagon nut	Steel	Blackening	17	Hexagon socket head cap screw	Steel	Blackening
8	Hexagon socket head set screw	Steel	Blackening	18	Table adaptor	Aluminum alloy	Alumite
9	Hexagon socket head cap screw	Stainless steel		19	Table plate	Aluminum alloy	Alumite
10	Cover	Aluminum alloy	Alumite	20	Side cover	Aluminum alloy	Alumite

SRL2-J Series

Dimensions (25 mm bore)

- 25 mm bore  (File name : Page Ending 13)



Note 1: When shipping, extension joints (two pcs.) are attached.

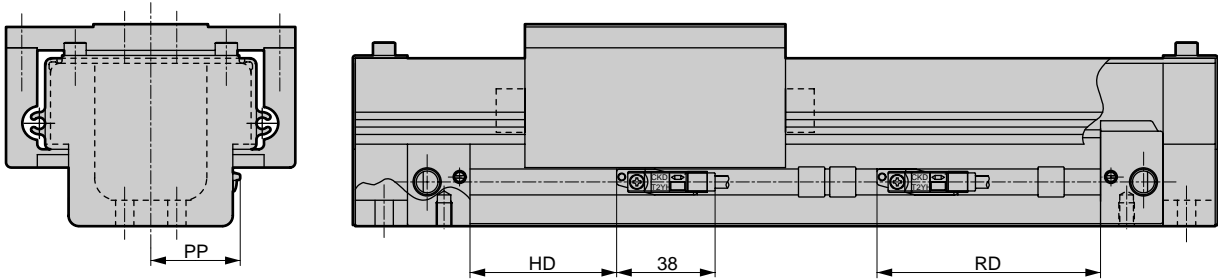
Symbol	A	B	C	D	E	EA	F	G	H	J	K	L	M
SRL2-J-25	100	66	81	58	28.5	35	20	70	65.5	55	7	M6 depth 9	M5 penetrating
Symbol	N	P	Q	R	S	T	U	V	W	X	Y	Z	
SRL2-J-25	11	1	208	232	111	10	44	77.5	20	63	17	162	

Note) For SRL2- J, installation dimensions are as same as SRL2 -LB (Page 10).

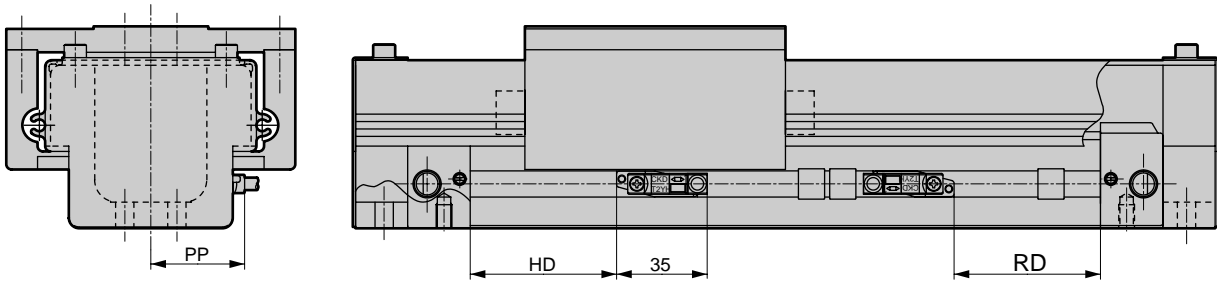
Dimensions

- 25 mm bore (with switch)

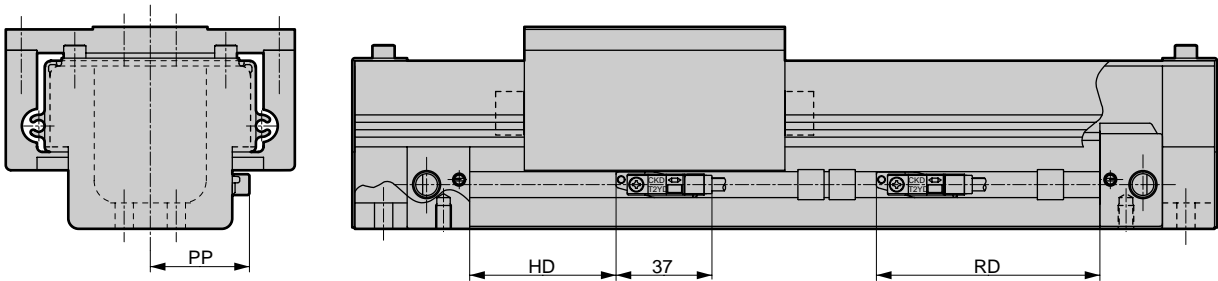
- SRL2-J-**-**-***-T*YLH with cylinder switch (axial lead wire)



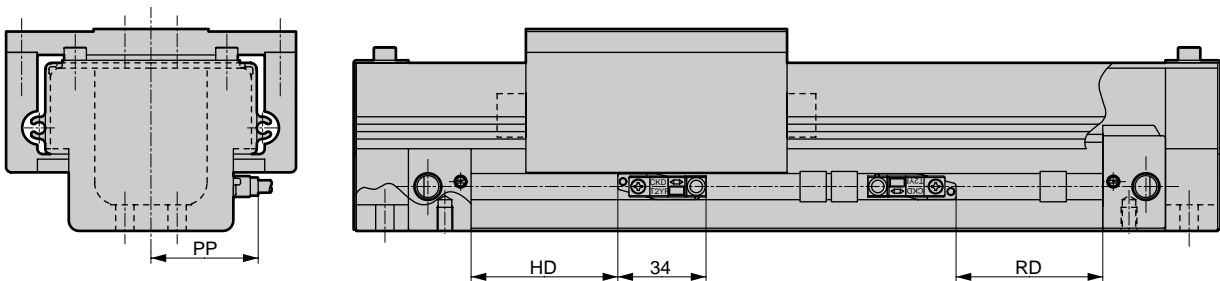
- SRL2-J-**-**-***-T*YLV with cylinder switch (radial lead wire)



- SRL2-J-**-**-***-T*Y*H with cylinder switch (T*YF, T*YM, T*YD) (axial lead wire)



- SRL2-J-**-**-***-T*Y*V with cylinder switch (T*YF, T*YM) (radial lead wire)

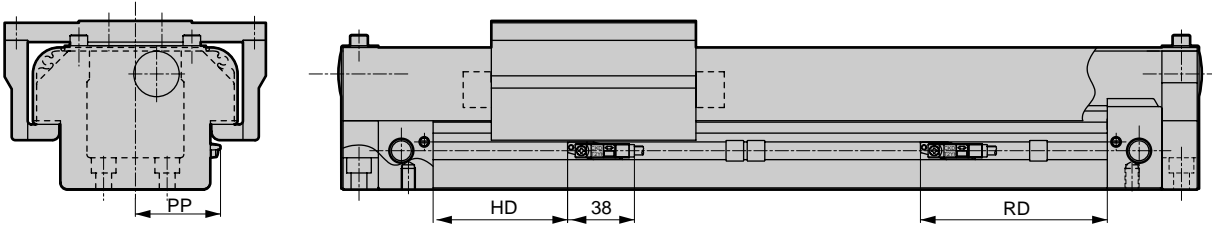


HD	RD	PP			
		T*Y _M ^F V	T*Y _M ^F H, T*YD	T*YLV	T*YLH
56	86	41	38	36	34

Dimensions

- 32 to 63 mm bore (with switch)

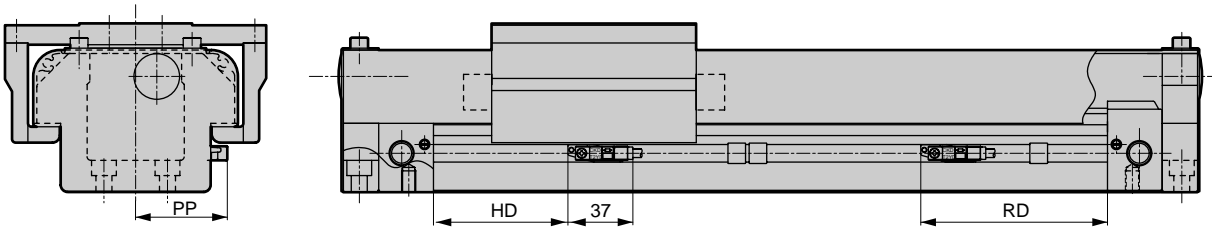
- SRL2-J-**-**-***-T*YLH with cylinder switch (axial lead wire)



- SRL2-J-**-**-***-T*YLV with cylinder switch (radial lead wire)



- SRL2-J-**-**-***-T*Y*H with cylinder switch (T*YF, T*YM, T*YD) (axial lead wire)



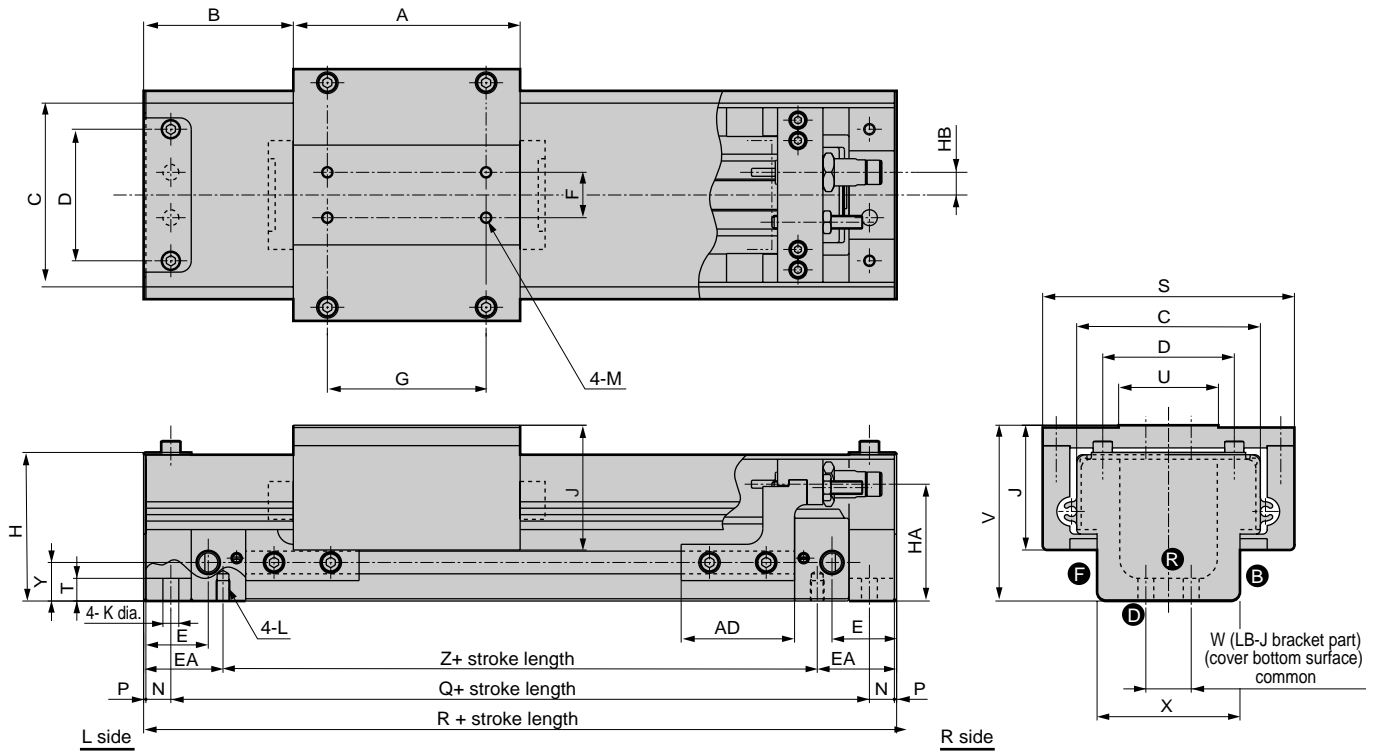
- SRL2-J-**-**-***-T*Y*V with cylinder switch (T*YF, T*YM) (radial lead wire)



Symbol	HD	RD	PP			
			T*Y _M V	T*Y _M H, T*YD	T*YLV	T*YLH
SRL2-J-32	70	100	48	45	43	41
SRL2-J-40	76	106	55	52	50	48
SRL2-J-50	75	105	63	60	58	56
SRL2-J-63	94	124	74	71	69	67

SRL2-J Series

Dimensions: With adjustable full-stroke shock absorber (25 mm bore)




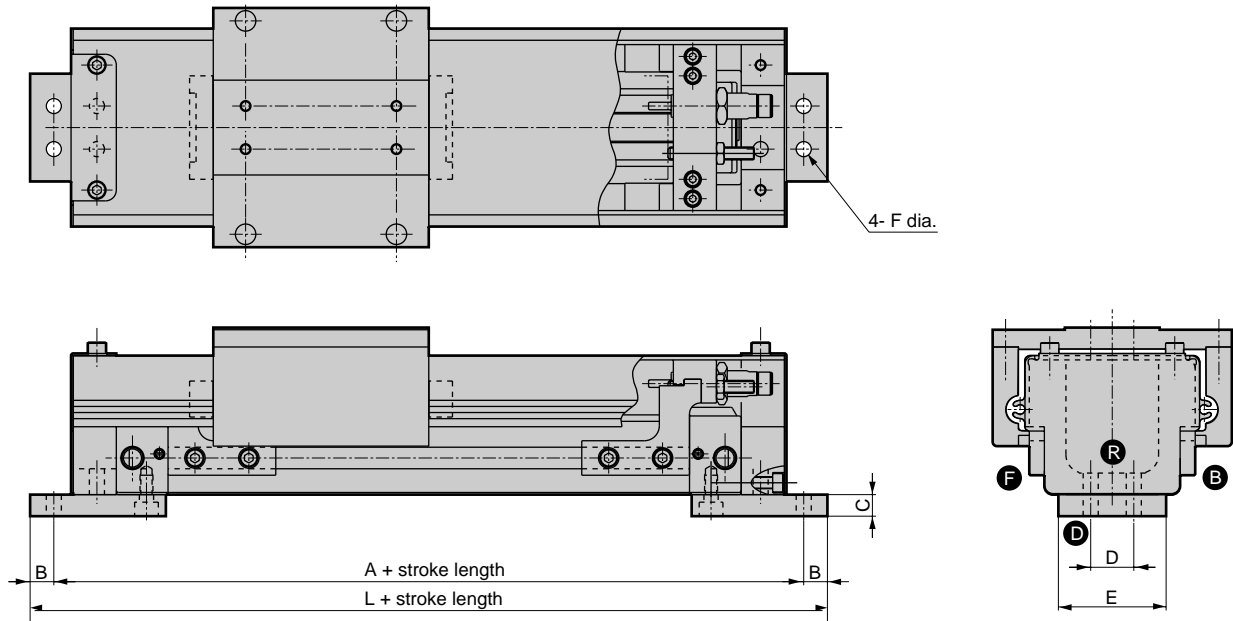
Note 1: When shipping, extension joints (two pcs.) are attached.

Symbol	A	AD	B	C	D	E	EA	F	G	H	HA	HB	J	K
SRL2-J-25-A	100	50	66	81	58	28.5	35	20	70	65.5	51.5	10	55	7
Symbol	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z
SRL2-J-25-A	M6 depth 9	M5 pene.	11	1	208	232	111	10	44	77.5	20	63	17	162

Note) Installation dimensions of SRL2- J are as same as SRL2 -LB (Page 10).

Dimensions: Mounting style (L J) (25 mm bore)


 (File name : Page Ending 13)

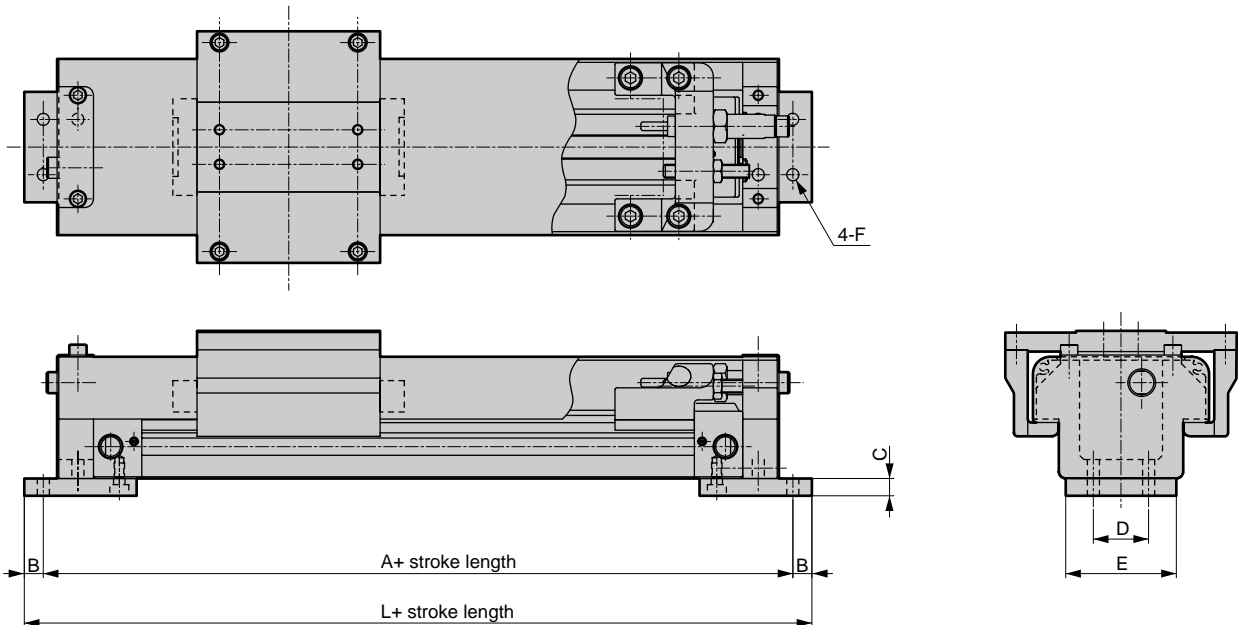


Symbol	A	B	C	D	E	F	L
SRL2-J-LJ-25-A	248	11	10	20	50	7	270

• Dimensions with adjustable full-stroke shock absorber (A *) are as same as basic type.

Dimensions: Mounting style (L J) (32 mm bore)

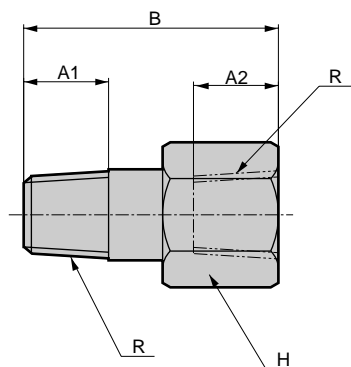
 (File name : Page Ending 13)



Symbol	A	B	C	D	E	F	L
SRL2-J-LJ-32-A	284	11	10	32	64	7	306

• Dimensions with adjustable full-stroke shock absorber (A *) are as same as basic type.

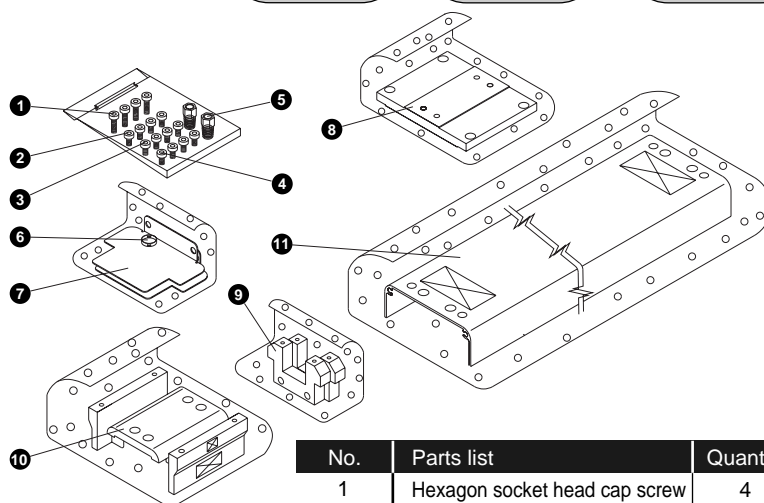
Dimensions: Extension joint



Symbol	A1	A2	B	R	H
SRL2-J-PF01	8	8	28.5	Rc1/8	14
SRL2-J-PF02	11	11	33	Rc1/4	17
SRL2-J-PF03	12	12	37	Rc3/8	21

Cover kit components table

SRL2-J - Bore size - Stroke length - COVER-KIT



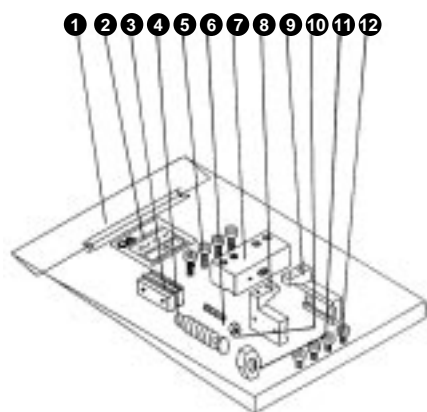
No.	Parts list	Quantity
1	Hexagon socket head cap screw	4
2	Hexagon socket head cap screw	4
3	Hexagon socket head cap screw	4
4	Hexagon socket head cap screw	4
5	Extension joint	2
6	Hole plug	2
7	Side cover	2
8	Table plate	1
9	LB-J bracket	2
10	Table adaptor	1
11	Cover	1

Adjustable full-stroke kit components table

• Adjustable full-stroke kit

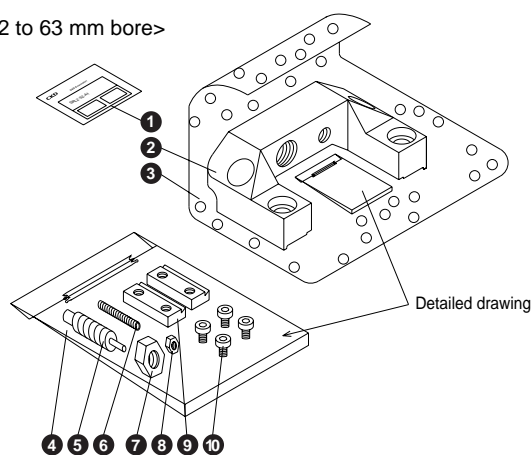
SRL2-J - Bore size - A1 1 set

<25 mm bore>



No.	Parts list	Quantity
1	Plastic bag	1
2	Package label (S)	1
3	Plate nut	2
4	Shock absorber	1
5	Hexagon socket head cap screw	4
6	Hexagon socket head set screw	1
7	Plate	1
8	Adaptor (R)	1
9	Adaptor (L)	1
10	Nut for stopper bolt fixing	1
11	Nut for shock absorber fixing	1
12	Hexagon socket head cap screw	4

<32 to 63 mm bore>



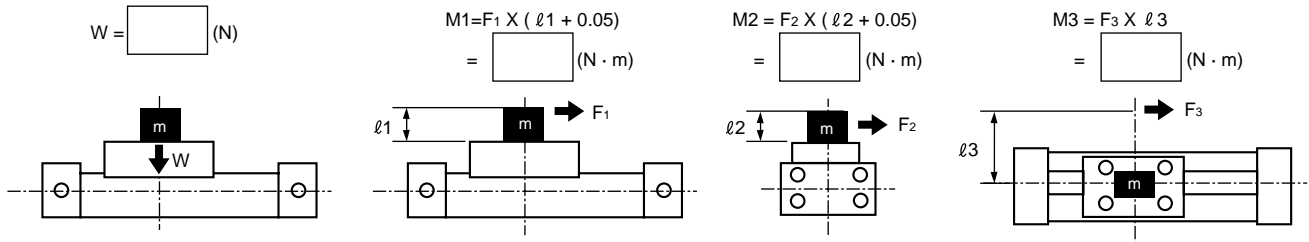
No.	Parts list	Quantity
1	Package label (S)	1
2	Adaptor	1
3	Air mat	
4	Plastic bag	1
5	Shock absorber	1
6	Hexagon socket head set screw	1
7	Hexagon nut	1
8	Hexagon nut	1
9	Adaptor nut	2
10	Hexagon socket head cap screw	4

Rodless cylinder selection guide

<STEP1>

1 Find the static moment.

- How to find moment



Note: Above 0.05 (m) is the temporary distance from the piston center to the table surface.

2 Find a rough value of coefficient G according to <Table 1>.

<Table 1>
 $V_a \text{ (average speed)} = \frac{\text{Moving distance}}{\text{Travel time}} \text{ (m/s)}$

Va (average speed) (m/s)	Vm (speed at stroke end) (m/s)	Coefficient G
0.3	to 0.65	9
0.6	to 1.00	15
0.9	to 1.30	23
1.2	to 2.00	40

Coefficient G =

Select a bore size roughly.

$M1 \times G = \square \text{ (N} \cdot \text{m)} \rightarrow \text{(dia.)}$
 $M2 = \square \text{ (N} \cdot \text{m)} \rightarrow \text{(dia.)}$
 $M3 \times G = \square \text{ (N} \cdot \text{m)} \rightarrow \text{(dia.)}$
 $W = \square \text{ (N)} \rightarrow \text{(dia.)}$
 $E_0 = \frac{1}{2} \times m \times Vm^2 = \square \text{ (J)} \rightarrow \text{(dia.)}$
($m \div \frac{W}{9.8}$)

Select the maximum bore size temporarily.

dia.

<Table 2> Allowable value

Refer to the value in () for C mount bracket.

Descriptions	Wmax (N)	M1max (N · m)	M2max (N · m)	M3max (N · m)	
Bore size (mm)					
SRL2	12 dia.	30(15)	1.5(1)	0.6(0.3)	0.6(0.6)
	16 dia.	140(70)	5(3.5)	1(0.5)	1(1)
	20 dia.	200(100)	10(7)	1.5(0.7)	3(3)
	25 dia.	360(180)	17(12)	5(2.5)	10(10)
	32 dia.	620(310)	36(25)	10(5)	21(21)
	40 dia.	970(485)	77(54)	23(11.5)	26(26)
	50 dia.	1470(735)	154(108)	32(16)	42(42)
	63 dia.	2320(1160)	275(193)	52(26)	76(76)
	80 dia.	3500	460	70	100
	100 dia.	5000	750	95	130
SRL2-G	12 dia.	30(15)	1.5(1)	0.6(0.3)	0.4(0.4)
	16 dia.	140(70)	5(3.5)	1(0.5)	0.6(0.6)
	20 dia.	200(100)	10(7)	1.5(0.7)	1(1)
	25 dia.	360(180)	17(12)	5(2.5)	2(2)
	32 dia.	620(310)	36(25)	10(5)	4(4)
	40 dia.	810(485)	41(41)	18(11.5)	5(5)
	50 dia.	1440(735)	76(76)	32(16)	9(9)
	63 dia.	1630(1160)	98(98)	51(26)	12(12)
	80 dia.	3500	351	70	37
	100 dia.	4130	386	95	42
SRL2-J	25 dia.	350	12	3.5	10
	32 dia.	600	25	7	21
	40 dia.	950	55	17	26
	50 dia.	1440	107	23	42
	63 dia.	2280	200	38	76

<Table 3> Allowable energy absorption of SRL2 (E0)

Bore size (mm)	Integrated air cushion (J)	Shock absorber (J)	Model
12 dia.	0.03	2.4	NCK-0.3-C
16 dia.	0.22	2.4	NCK-0.3-C
20 dia.	0.59	5.7	NCK-0.7-C
25 dia.	1.40	10.0	NCK-1.2
32 dia.	2.57	18.0	NCK-2.6
40 dia.	4.27	50.0	NCK-7
50 dia.	9.13	86.0	NCK-12
63 dia.	17.4	86.0	NCK-12
80 dia.	33.0	143.0	NCK-20
100 dia.	57.0	143.0	NCK-20

3 Find composite moment at stroke end (M_T).

(Confirm that bore size selected at 2 should meet the expression below.)

$$M_T = \frac{M1 \times G}{M1_{max}} + \frac{M2}{M2_{max}} + \frac{M3 \times G}{M3_{max}} + \frac{W}{W_{max}} < 1$$

M : Composite moment (should be smaller than 1.)

G : Coefficient G

W_{max} : Max. allowable value of W (from Table 2)

M1_{max} : M1 maximum allowable value (from Table 2)

M2_{max} : M2 maximum allowable value (from Table 2)

M3_{max} : M3 maximum allowable value (from Table 2)

<STEP2>

Then increase accuracy of load factor, effective thrust, speed at stroke end, and composite moment value.

- Find load factor.

$$\alpha = \frac{F_0}{F} \times 100[\%]$$

α : Load factor
 F_0 : Required force to move a work piece (N).
 F : Cylinder effective thrust (N) (Fig1 to 4)

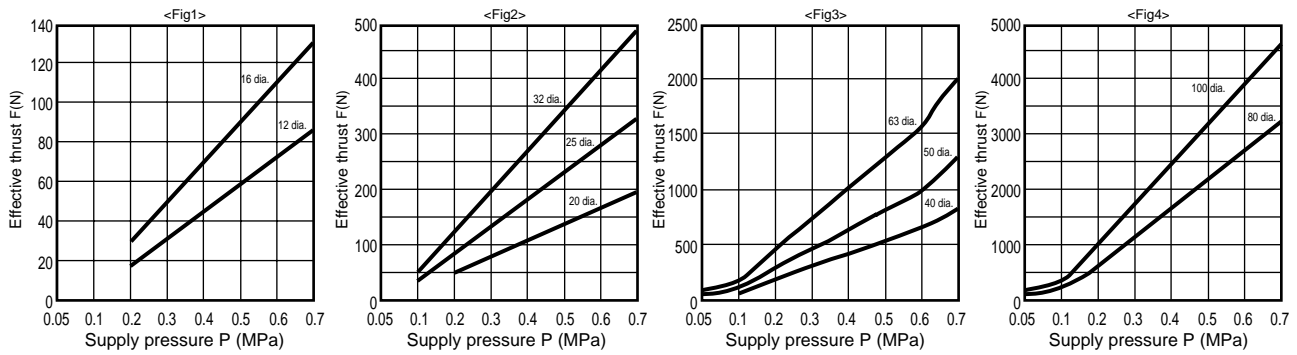
At horizontal operation	When vertical operation
$F_0 = F_w + F_1 + F_2 + F_3 + F_L$	$F_0 = W + F_1 + F_2 + F_3 + F_L$
F_w : W X 0.2 (N)	F_1 : M1 X 10 Note (N)
F_2 : M2 X 30 Note (N)	F_3 : M3 X 10 Note (N)
F_L : Other resistance (guide resistance etc.) (N)	W: Load (N)

Note: When moment is applied, coefficient compensating increase of generated frictional force.

<Table 4> Reference of load factor

Working pressure (MPa)	Load factor (%)
0.2 to 0.3	$\alpha \leq 40$
0.3 to 0.6	$\alpha \leq 50$
0.6 to 0.7	$\alpha \leq 60$

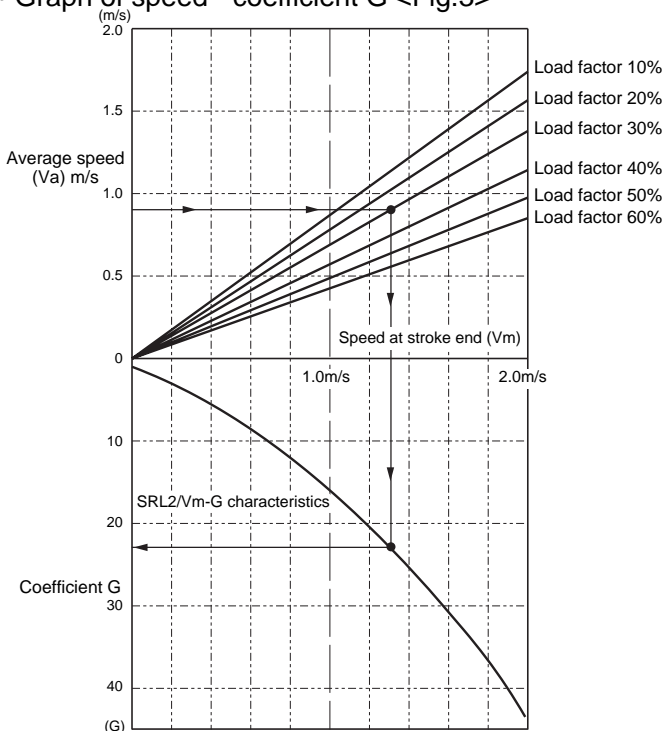
- Graph of effective thrust



<STEP3>

Find speed at stroke end (V_m) according to coefficient G, average speed (V_a), and load factor found at STEP 2. Refer to <Fig.3>.

- Graph of speed - coefficient G <Fig.3>



- Arrow (\rightarrow) in figure shows

Average speed: 0.9m/s
 Load factor: 30%

Speed at stroke end: 1.3m/s
 Coefficient G: Example finding 22.5 is shown.

Graph of speed - coefficient G

Coefficient G =

<STEP4>

- Check composite moment (M_T) according to coefficient G , and coefficient of speed at stroke end (V_m) found at STEP 3.

$$M1 \times G = F_1 \times (\ell_1 + a) \times G = \boxed{} \text{ (N} \cdot \text{m)}$$

$$M2 = F_1 \times (2\ell + a) = \boxed{} \text{ (N} \cdot \text{m)}$$

$$M3 \times G = F_3 \times \ell_3 \times G = \boxed{} \text{ (N} \cdot \text{m)}$$

$$W = \boxed{} \text{ (N)}$$

$$M_T = \frac{M1 \times G}{M1_{max}} + \frac{M2}{M2_{max}} + \frac{M3 \times G}{M3_{max}} + \frac{W}{W_{max}}$$

$$M_T \leq 1$$

Bore size decision (*Refer to <Table 2> at STEP 1)

Cushion faculty confirmation

<Table 5> Value of a

Bore size	a(m)	
	SRL2, SRL2-G, SRL2-Q, SRL2-GQ	SRL2-J
12 dia.	0.023	-
16 dia.	0.025	-
20 dia.	0.028	-
25 dia.	0.036	0.061
32 dia.	0.039	0.068
40 dia.	0.045	0.074
50 dia.	0.054	0.091
63 dia.	0.060	0.097
80 dia.	0.081	-
100 dia.	0.089	-



<STEP5>

- Confirming cushion faculty

$$E = \frac{1}{2} \times m \times V_m^2$$

E : Kinetic energy at work piece final end (J)

M : Load mass (kg)

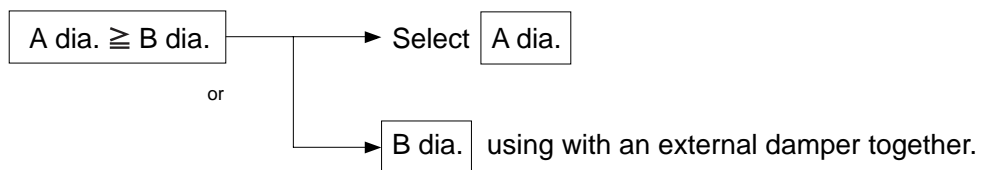
V_m : Piston cushion rush speed (m/s)

<Table 3> Allowable energy absorption of SRL2 (E0)

Bore size (mm)	Integrated air cushion (J)	Shock absorber (J)	Model No.
12 dia.	0.03	2.4	NCK-0.3-C
16 dia.	0.22	2.4	NCK-0.3-C
20 dia.	0.59	5.7	NCK-0.7-C
25 dia.	1.40	10.0	NCK-1.2
32 dia.	2.57	18.0	NCK-2.6
40 dia.	4.27	50.0	NCK-7
50 dia.	9.13	86.0	NCK-12
63 dia.	17.4	86.0	NCK-12
80 dia.	33.0	143.0	NCK-20
100 dia.	57.0	143.0	NCK-20

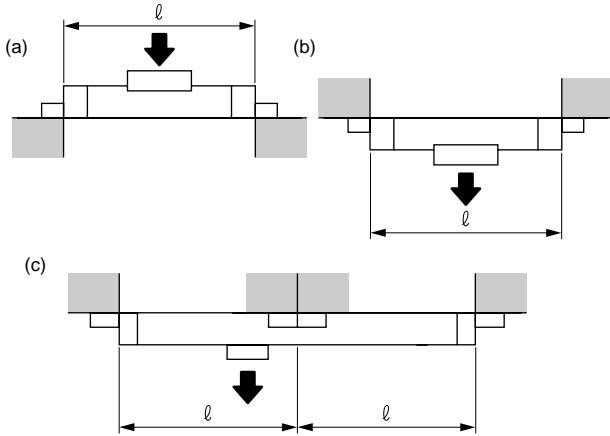
<STEP6>

- Bore size determined by cushion faculty is assumed as $A \text{ dia.}$ (Bore size determined at STEP5)
- Bore size determined according to load conditions is assumed as $B \text{ dia.}$ (bore size determined according to STEP 4)

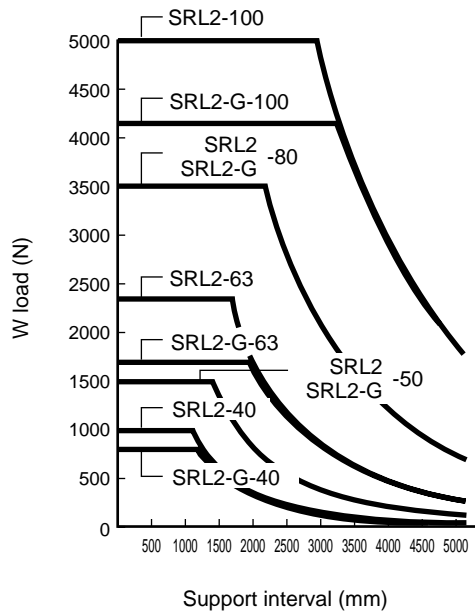
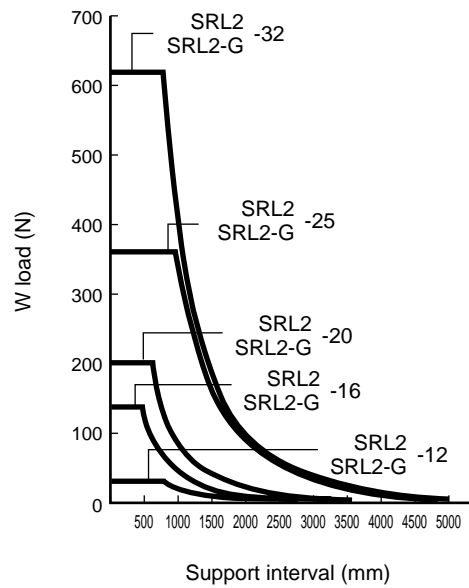


1 Restriction of vertical load

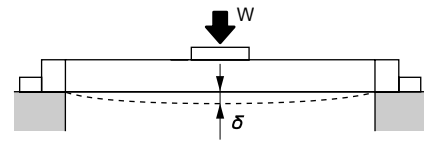
- Long stroke length causes cylinder tube deflection by cylinder self-weight/load. In this case, adjust the intermediate support bracket to meet the conditions such as support intervals ℓ on the following diagram should be the graph value or less. (Intermediate support bracket is an auxiliary bracket for deflection prevention, but not fixing bracket).



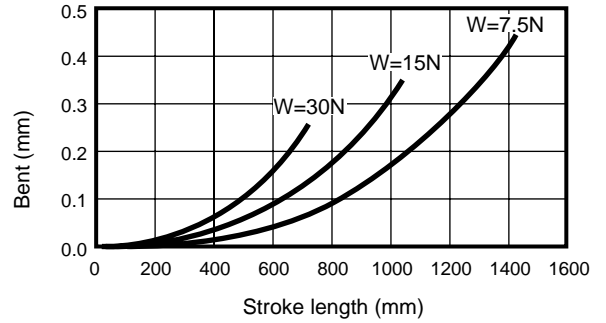
- Allowable load for support methods above (a) (b) (c)



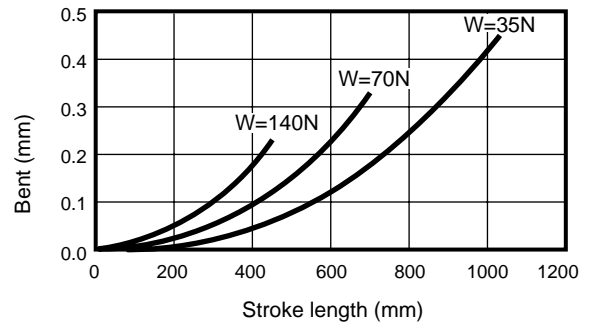
2 Bent of cylinder tube δ



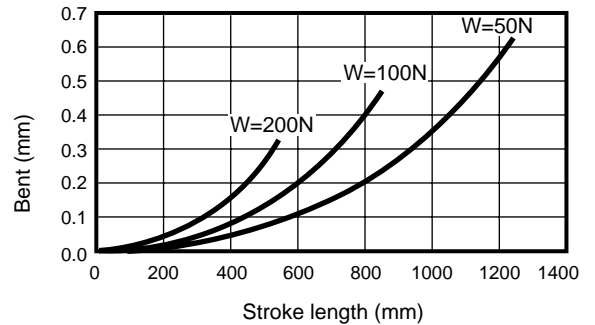
- SRL2-12, SRL2-G-12 (12 mm bore)



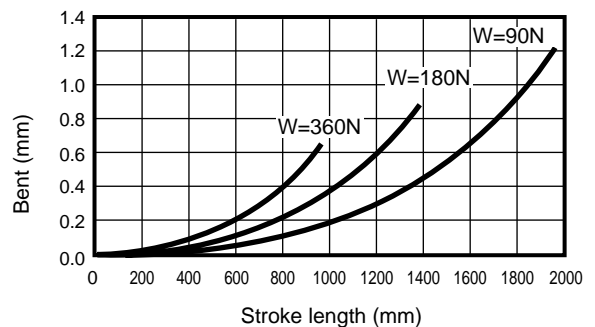
- SRL2-16, SRL2-G-16 (16 mm bore)



- SRL2-20, SRL2-G-20 (20 mm bore)



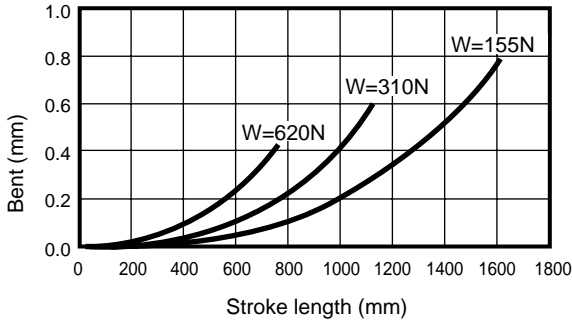
- SRL2-25, SRL2-G-25 (25 mm bore)



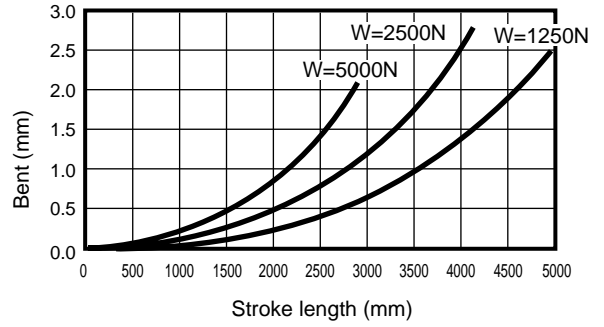
SRL2 Series

Selection guide

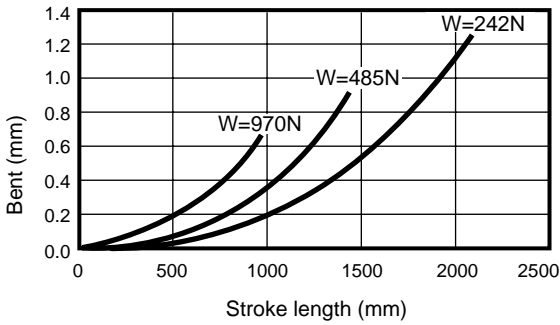
- SRL2-32, SRL2-G-32 (32 mm bore)



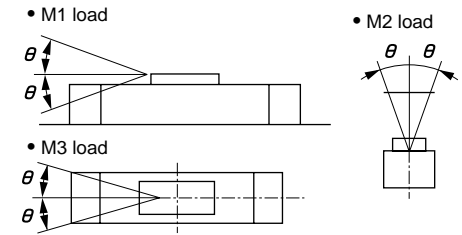
- SRL2-100, SRL2-G-100 (100 mm bore)



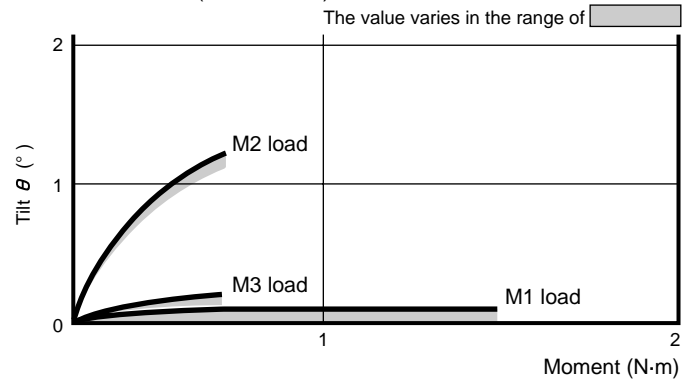
- SRL2-40, SRL2-G-40 (40 mm bore)



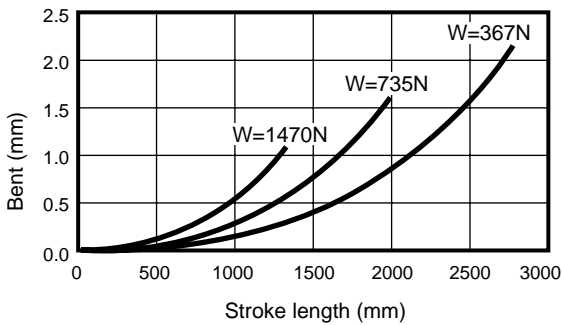
3 Inclination of table θ



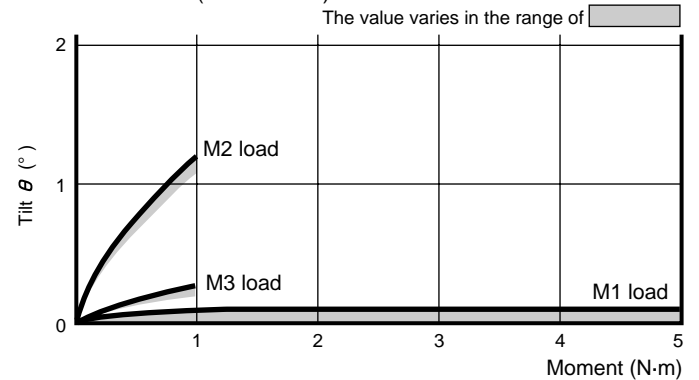
- SRL2-12 (12 mm bore)



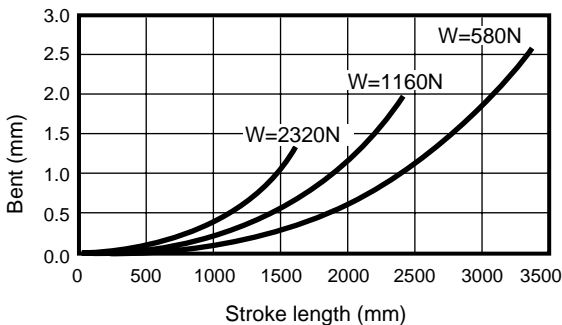
- SRL2-50, SRL2-G-50 (50 mm bore)



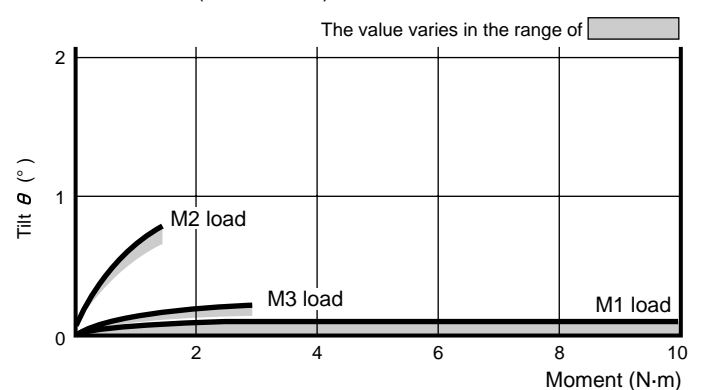
- SRL2-16 (16 mm bore)



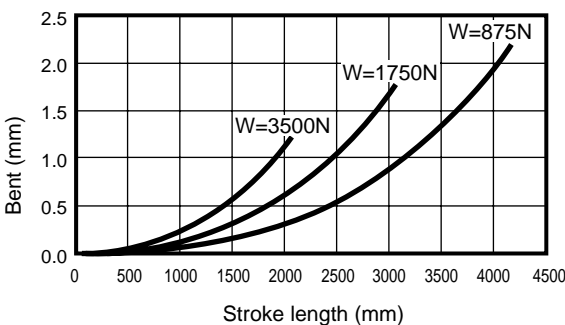
- SRL2-63, SRL2-G-63 (63 mm bore)

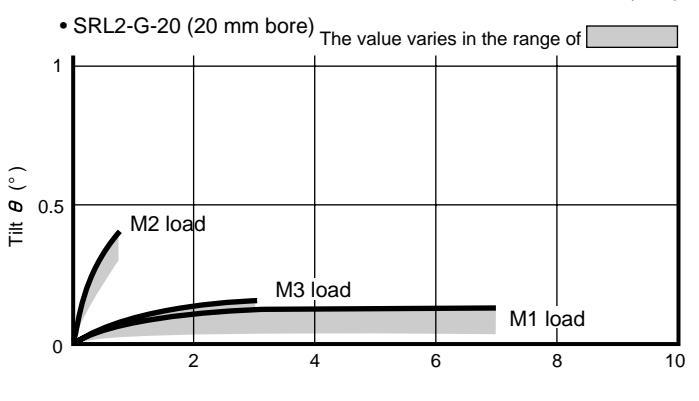
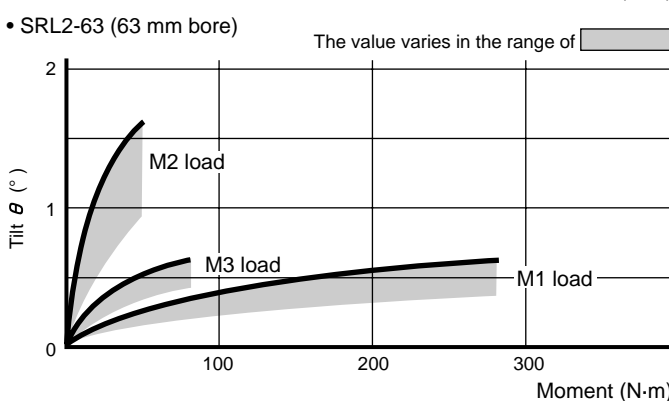
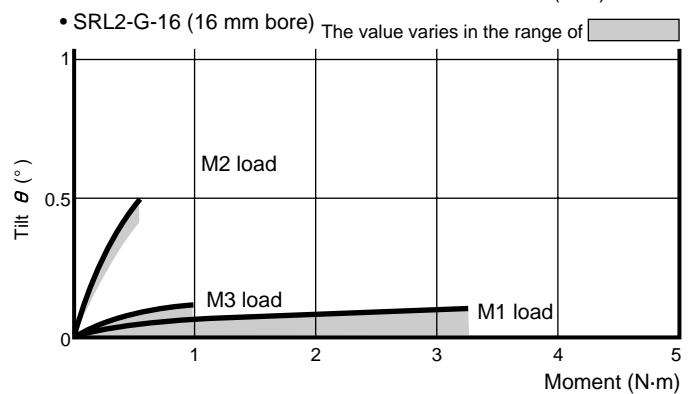
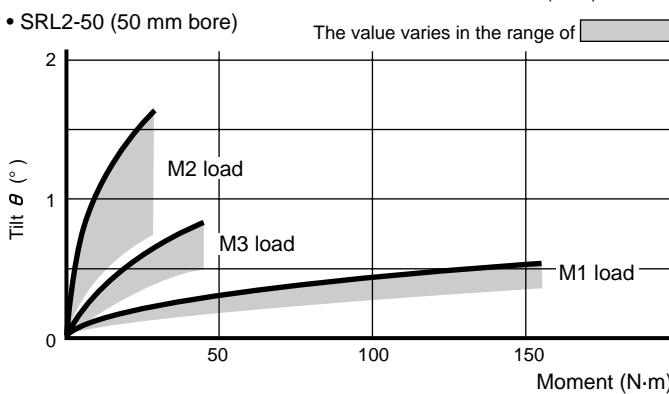
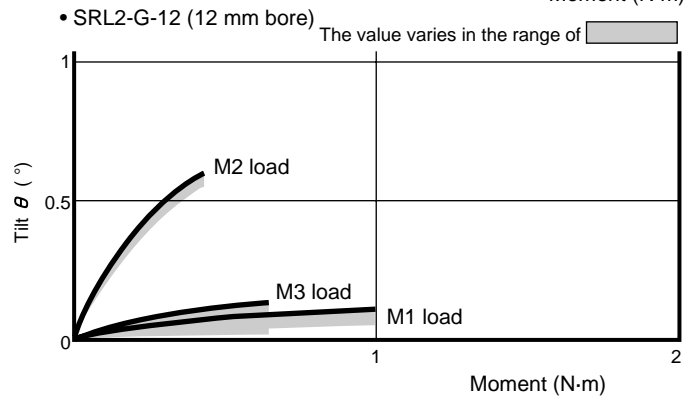
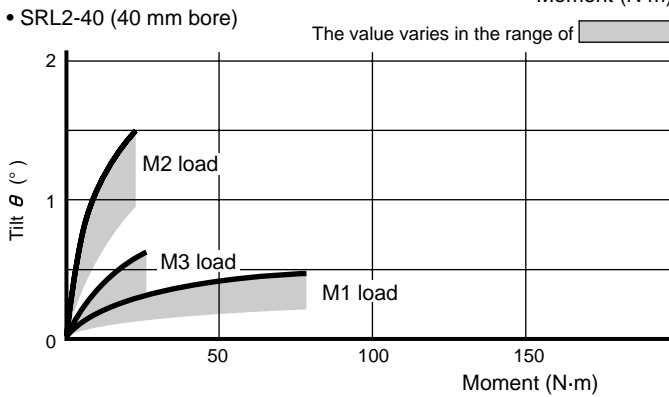
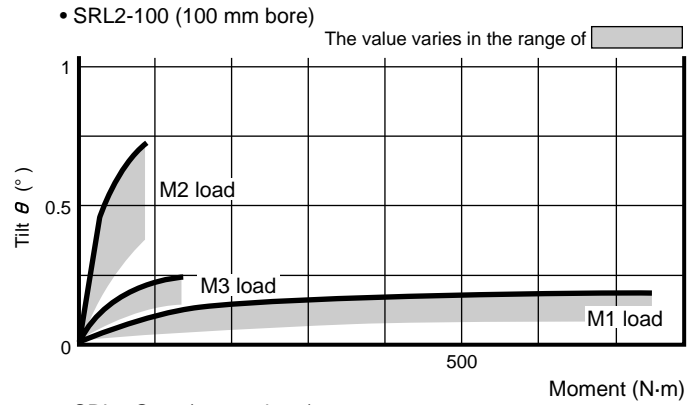
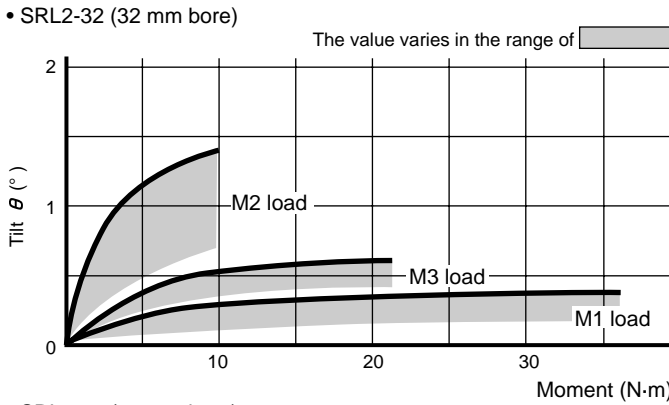
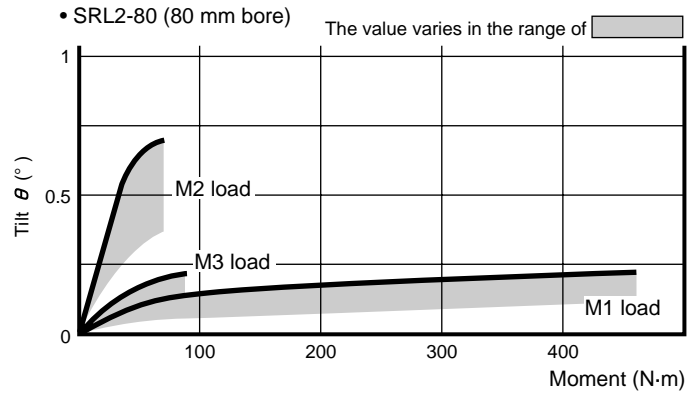
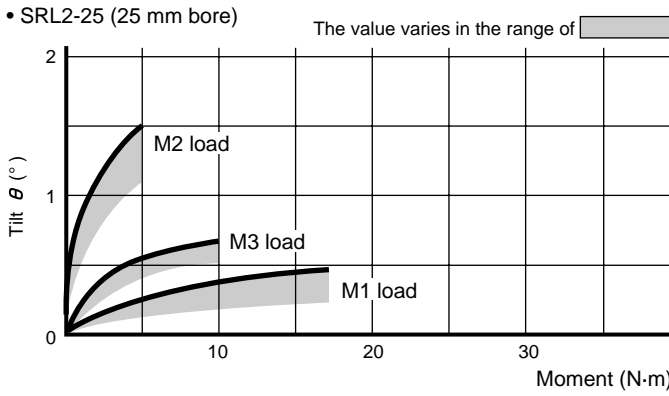


- SRL2-20 (20 mm bore)



- SRL2-80, SRL2-G-80 (80 mm bore)

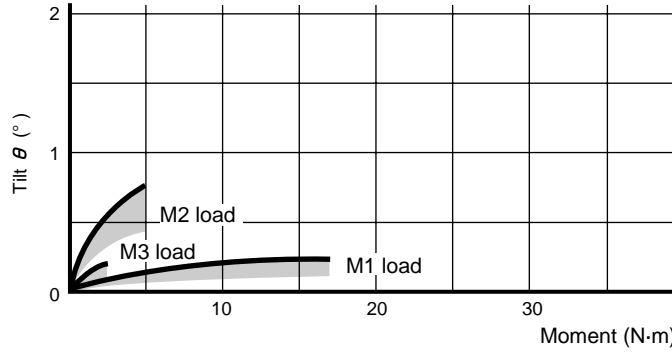




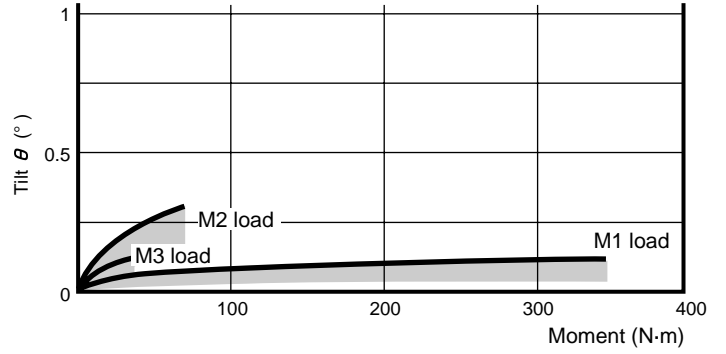
SRL2 Series

Selection guide

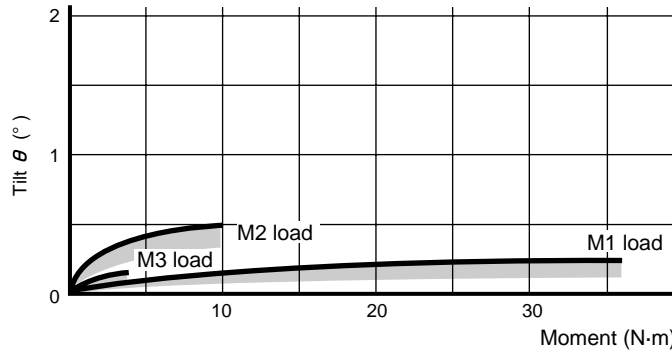
- SRL2-G-25 (25 mm bore) The value varies in the range of



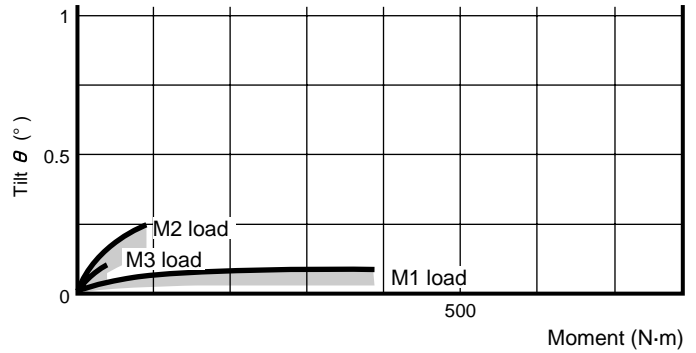
- SRL2-G-80 (80 mm bore) The value varies in the range of



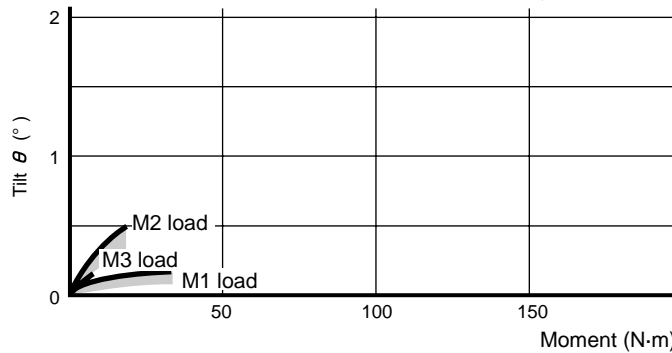
- SRL2-G-32 (32 mm bore) The value varies in the range of



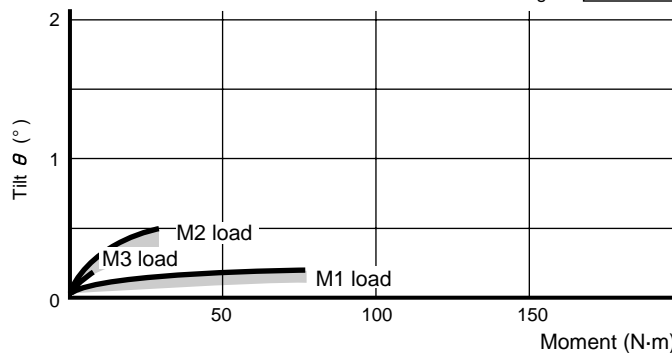
- SRL2-G-100 (100 mm bore) The value varies in the range of



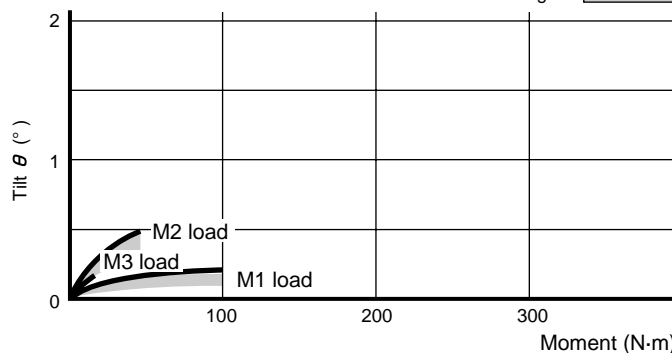
- SRL2-G-40 (40 mm bore) The value varies in the range of



- SRL2-G-50 (50 mm bore) The value varies in the range of



- SRL2-G-63 (63 mm bore) The value varies in the range of



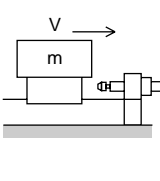
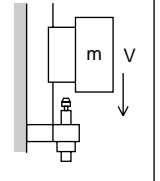
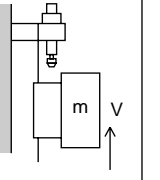
Adjustable full-stroke unit adjustment method

Confirming allowable energy absorption of shock absorber
Calculate mass equivalent to colliding object M_e , and absorbed energy E according to the formula on the table below, and M_e and E should not be greater than the allowable value of Fig.4, and Table 3 on Page Ending 1.

Allowable value of mass equivalent to colliding object M_e and colliding energy E may vary depending on colliding speed.

• Symbol

- E : Colliding energy J
- M_e : Equivalent to colliding physical mass kg
- m : Mass of work piece kg
- F : Cylinder thrust N
- V : Colliding speed (m/s)
- St : Stroke length (m) of shock absorber
- g : Gravity acceleration 9.8 (m/s²)

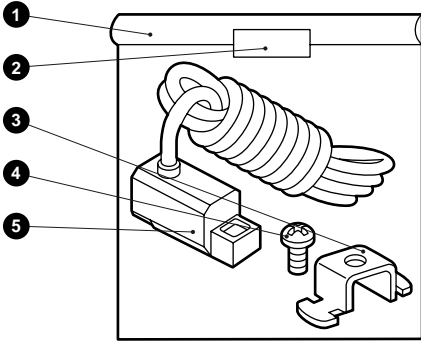
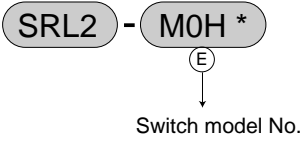
Applications	Horizontal movement	Lifting downward vertically	Lifting upward vertically
Equivalent to colliding physical mass M_e (kg)			
Energy E (J)	$E = \frac{mV^2}{2} + F \cdot St$	$E = \frac{mV^2}{2} + (F + mg) \cdot St$	$E = \frac{mV^2}{2} + (F - mg) \cdot St$

SRL2 Series

Components table

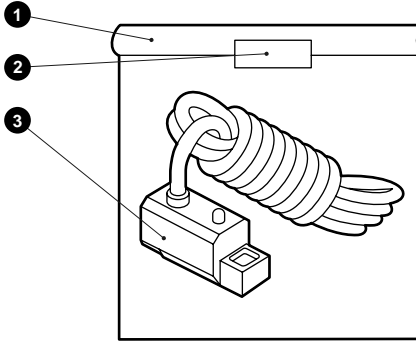
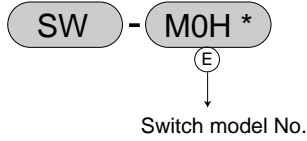
Switch

- Switch main body + mounting bracket (Note 1)



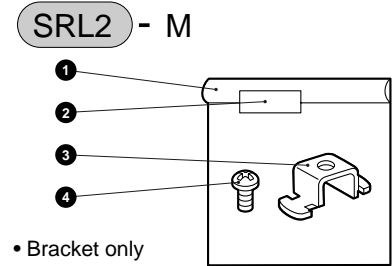
No.	Part name	Qty
1	Plastic bag	1
2	Label	1
3	Switch bracket	1
4	Cross headed pan	1
5	Switch	1

- Switch only

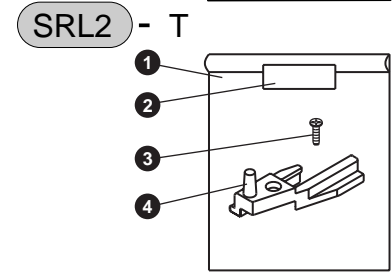


No.	Part name	Qty
1	Plastic bag	1
2	Label	1
3	Switch	1

- Bracket only



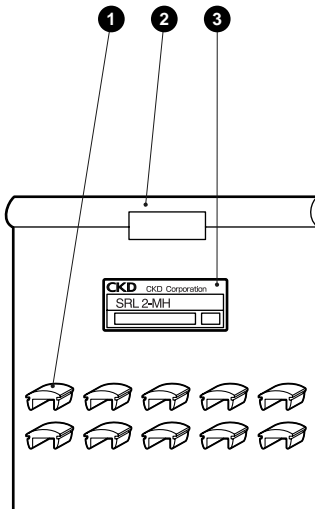
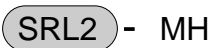
- Bracket only



No.	Part name	Qty
1	Plastic bag	1
2	Label	1
3	Switch bracket	1
4	Cross headed pan	1

Switch

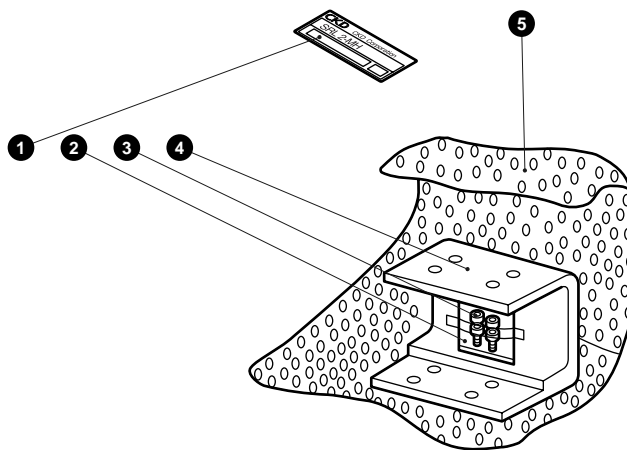
- Lead wire holder



No.	Part name	Qty
1	Lead wire holder	10
2	Plastic bag	1
3	Package label (S)	1

C mount bracket

- C mount bracket



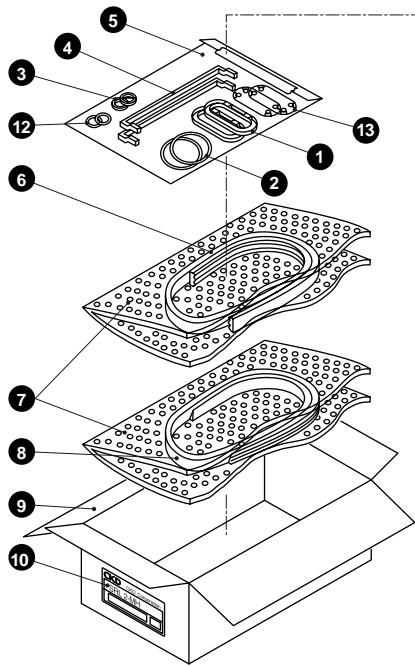
No.	Part name	Qty
1	Package label (S)	1
2	Plastic bag	1
3	Hexagon socket head cap screw	4
4	C mount	1
5	Air mat	

Note: Some packing style may change depending on size.

Repair parts

• Repair parts

SRL2 - (B) Bore size K - (D) Stroke length



No.	Part name	Qty
1	Piston packing seal	2
2	O ring P	2
3	Cushion packing seal	2
4	Dust wiper	2
5	Plastic bag	1
6	Seal belt (L)	1
7	Air mat	1
8	Dust-proof belt (B)	1
9	Cardboard box	1
10	Package label (L)	1
11	Repair parts replacement procedure	1
12	O ring special	2
13	Cushion ring gasket	2

Note 1: For 12 to 40 mm bore, no cushion ring gasket is included.

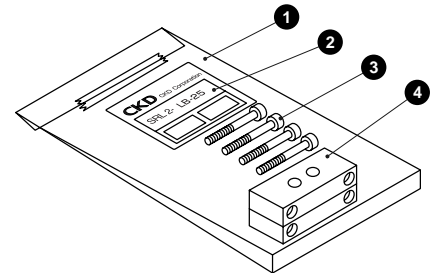
Note 2: For 80 to 100 mm bore cylinder, 4 gaskets are additionally attached.

Mounting bracket

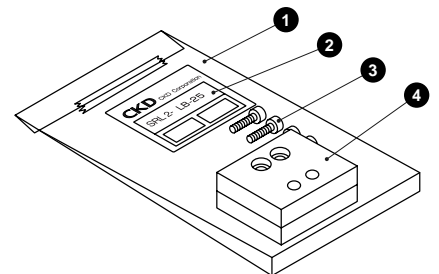
• Mounting bracket

SRL2 - (A) Mounting style (LB, LB1) - (B) Bore size

Two brackets + 4 mounting bolts



No.	Part name	Qty
1	Plastic bag	1
2	Package label (S)	1
3	Hexagon socket head cap screw	4
4	Foot bracket (A)	2

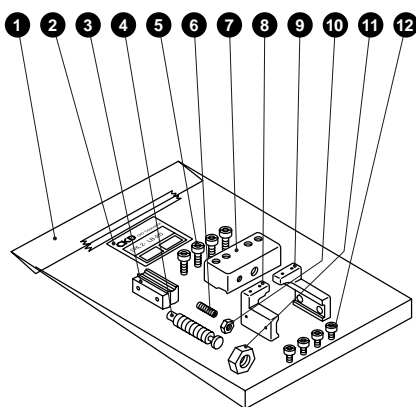


No.	Part name	Qty
1	Plastic bag	1
2	Package label (S)	1
3	Hexagon socket head cap screw	4
4	Foot bracket (B)	2

Adjustable full-stroke kit

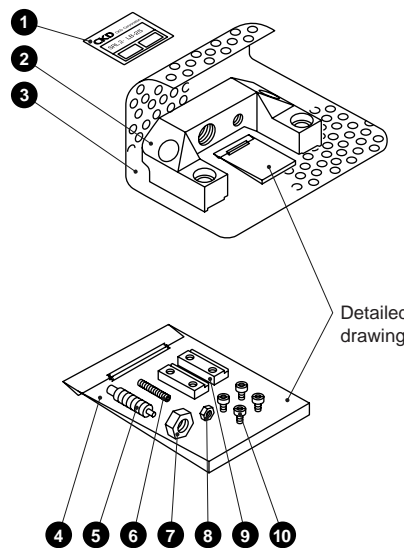
• Adjustable full-stroke kit

SRL2 - (B) Bore size - A1 1 set



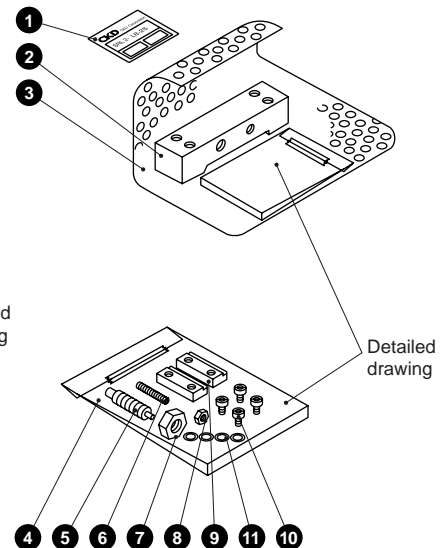
No.	Part name	Qty
1	Plastic bag	1
2	Package label (S)	1
3	Plate nut	2
4	Shock absorber	1
5	Hexagon socket head cap screw	4
6	Hexagon socket head set screw	1
7	Plate	1
8	Adaptor (R)	1
9	Adaptor (L)	1
10	Nut for stopper bolt fixing	1
11	Nut for shock absorber fixing	1
12	Hexagon socket head cap screw	4

<32 to 63 mm bore>



No.	Product name	Qty
1	Package label (S)	1
2	Adaptor	1
3	Air mat	1
4	Plastic bag	1
5	Shock absorber	1
6	Hexagon socket head set screw	1

<80, 100 mm bore>



No.	Product name	Qty
7	Hexagon nut	1
8	Hexagon nut	1
9	Adaptor nut	2
10	Hexagon socket head cap screw	4
11	Rough spring	4

Note: Some packing style may change depending on size.

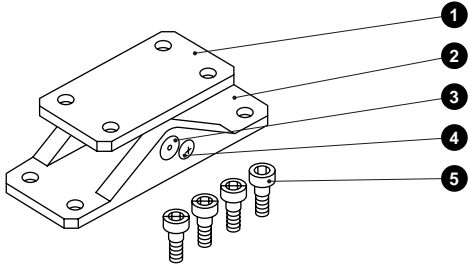
SRL2 Series

Components table

Floating joint set

• Floating joint set

SRL2 - (B) Bore size - (Y)



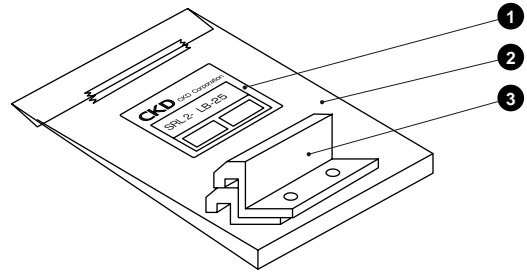
No.	Part name	Qty
1	Mount	1
2	Mount base	1
3	Pin	1
4	Pan head machine screw with spring washer	1
5	Mounting bolt	4

Note: Some packing style may change depending on size.

Intermediate support bracket

• LB

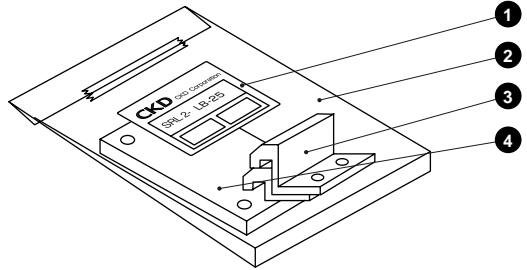
SRL2 - (B) Bore size - (L) Two/set



No.	Part name	Qty
1	Package label (S)	1
2	Plastic bag	1
3	Intermediate support bracket	2

• LB1

SRL2 - (B) Bore size - (N) Two/set



No.	Part name	Qty
1	Package label (S)	1
2	Plastic bag	1
3	Intermediate support bracket	2
4	Plate	1

Rodless cylinder

The version of "electric catalog file list" is "CAD DATA 2001.9".

Product model No.	DXF			
	Folder name	File name		
SRL2-00-12	SRL2	CKD_CG01		
SRL2-00-16		CKD_CG02		
SRL2-00-20		CKD_CG03		
SRL2-00-25		CKD_CH01		
SRL2-00-32		CKD_CH02		
SRL2-00-40		CKD_CH03		
SRL2-00-50		CKD_CH04		
SRL2-00-63		CKD_CH05		
SRL2-00-80		CKD_CH06		
SRL2-00-100		CKD_CH07		
SRL2-LB-12		CKD_CG04		
SRL2-LB-16		CKD_CG05		
SRL2-LB-20		CKD_CG06		
SRL2-LB-25		CKD_CH08		
SRL2-LB-32		CKD_CH09		
SRL2-LB-40		CKD_CH10		
SRL2-LB-50		CKD_CH11		
SRL2-LB-63		CKD_CH12		
SRL2-LB-80		CKD_CH13		
SRL2-LB-100		CKD_CH14		
SRL2-LB1-12		CKD_CG07		
SRL2-LB1-16		CKD_CG08		
SRL2-LB1-20		CKD_CG09		
SRL2-LB1-25		CKD_CH15		
SRL2-LB1-32		CKD_CH16		
SRL2 accessory, 12mm bore <small>(Shock absorber/floating joint/intermediate support bracket/C mount bracket)</small>			CKD_CG97	
SRL2 accessory, 16mm bore <small>(Shock absorber/floating joint/intermediate support bracket/C mount bracket)</small>			CKD_CG98	
SRL2 accessory, 20mm bore <small>(Shock absorber/floating joint/intermediate support bracket/C mount bracket)</small>			CKD_CG99	
SRL2 accessory, 25mm bore <small>(Shock absorber/floating joint/intermediate support bracket/C mount bracket)</small>			CKD_CH93	
SRL2 accessory, 32mm bore <small>(Shock absorber/floating joint/intermediate support bracket/C mount bracket)</small>			CKD_CH94	
SRL2 accessory, 40mm bore <small>(Shock absorber/floating joint/intermediate support bracket/C mount bracket)</small>			CKD_CH95	
SRL2 accessory, 50mm bore <small>(Shock absorber/floating joint/intermediate support bracket/C mount bracket)</small>			CKD_CH96	
SRL2 accessory, 63mm bore <small>(Shock absorber/floating joint/intermediate support bracket/C mount bracket)</small>		CKD_CH97		
SRL2 accessory, 80mm bore <small>(Shock absorber/floating joint/intermediate support bracket/C mount bracket)</small>		CKD_CH98		
SRL2 accessory, 100mm bore <small>(Shock absorber/floating joint/intermediate support bracket/C mount bracket)</small>		CKD_CH99		

SRL2 Series

Electric catalog file list

Rodless cylinder

- Double acting/full cowling type

The version of "electric catalog file list" is "CAD DATA 2001.9".

Product model No.	DXF		
	Folder name	File name	
SRL2-J-00-25	SRL2	CKD_CN01	
SRL2-J-00-32		CKD_CN02	
SRL2-J-00-40		CKD_CN03	
SRL2-J-00-50		CKD_CN04	
SRL2-J-00-63		CKD_CN05	
SRL2-J-LJ-25		CKD_CN06	
SRL2-J-LJ-32		CKD_CN07	
SRL2-J accessory, 25mm bore (Floating joint/intermediate support bracket/shock absorber)		CKD_CN95	
SRL2-J accessory, 32mm bore (Floating joint/intermediate support bracket/shock absorber)		CKD_CN96	
SRL2-J accessory, 40mm bore (Floating joint/intermediate support bracket/shock absorber)		CKD_CN97	
SRL2-J accessory, 50mm bore (Floating joint/intermediate support bracket/shock absorber)		CKD_CN98	
SRL2-J accessory, 63mm bore (Floating joint/intermediate support bracket/shock absorber)		CKD_CN99	

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喜開理(上海)機器有限公司

CKD (SHANGHAI) CORPORATION

營業部 / 上海事務所 SALES HEADQUARTERS / SHANGHAI OFFICE
PHONE +86(0) 21-58798266 FAX +86(0) 21-58797507
北京事務所 / BEIJING OFFICE
PHONE +86(0) 10-63951008 FAX +86(0) 10-63957378
天津事務所 / TIANJIN OFFICE
PHONE +86(0) 22-27492788 FAX +86(0) 22-27483916
無錫事務所 / WUXI OFFICE
PHONE +86(0) 510-2753506 FAX +86(0) 510-2750156

南京事務所 / NANJING OFFICE

PHONE +86(0) 25-86633426 FAX +86(0) 25-83733596
重慶事務所 / CHONGQING OFFICE
PHONE +86(0) 23-68610533 FAX +86(0) 23-68631161
成都事務所 / CHENGDU OFFICE
PHONE +86(0) 28-86624906 FAX +86(0) 28-86620216
西安事務所 / XI'AN OFFICE
PHONE +86(0) 29-88793422 FAX +86(0) 29-88709982
深圳事務所 / SHENZHEN OFFICE
PHONE +86(0) 755-83646644 FAX +86(0) 755-83646699

廣州事務所 (GUANGZHOU OFFICE)

PHONE +86(0) 20-83313461 FAX +86(0) 20-83313462
大連事務所 / DALIAN OFFICE
PHONE +86(0) 411-83779312 FAX +86(0) 411-83779313
長春事務所 / CHANG CHUN OFFICE
PHONE +86(0) 431-2909875 FAX +86(0) 431-2909875
杭州事務所 (HANGZHOU OFFICE)
PHONE +86(0) 571-85800055 FAX +86(0) 571-85800054

CKD CORPORATION EUROPE BRANCH

PHONE +31(0) 23-5541490
FAX +31(0) 23-5541491

CKD UK REPRESENTATIVE
PHONE +44(0) 121-4219330
FAX +44(0) 121-4220475

CKD BELGIUM REPRESENTATIVE
PHONE +32(0) 2-541-4768
FAX +32(0) 2-541-4702

CKD CO.,LTD.,o.s.CZECH OFFICE
PHONE +420-321-612-001
FAX +420-321-800-000

CKD THAI CORPORATION LTD.

SALES HEADQUARTERS-BANGKOK OFFICE
PHONE +66(0) 2-267-6300 FAX +66(0) 2-267-6305
LAEMCHABANG OFFICE
PHONE +66(0) 38-330-133 FAX +66(0) 38-330-079
NAVANAKORN OFFICE
PHONE +66(0) 2-909-2158 FAX +66(0) 2-909-1168
RAYONG OFFICE
PHONE +66(0) 38-608-549 FAX +66(0) 38-609-299
LAMPHUN OFFICE
PHONE +66(0) 53-582-116 FAX +66(0) 53-582-079
KORAT OFFICE
PHONE +66(0) 4424-8860 FAX +66(0) 4424-8862

CKD KOREA CORPORATION

PHONE +82(0) 2-783-5201 ~ 5203 FAX +82(0) 2-783-5204

日商喜開理股份有限公司台灣分公司

CKD CORPORATION TAIWAN BRANCH
PHONE +886(0) 2-2523-0374 FAX +886(0) 2-2523-5081

CKD SINGAPORE PTE. LTD.


PHONE +65-6744-2623 FAX +65-6744-2486

M-CKD PRECISION SDN.BHD.

HEADQUARTERS
PHONE +60(0) 3-5541-1468 FAX +60(0) 3-5541-1533
JOHOR BAHRU OFFICE
PHONE +60(0) 7-352-9129 FAX +60(0) 7-352-9144
MELAKA OFFICE
PHONE +60(0) 6-286-9989 FAX +60(0) 6-288-2700
PENANG OFFICE
PHONE +60(0) 4-399-9611 FAX +60(0) 4-390-9811

CKD USA CORPORATION

HEADQUARTERS
PHONE +1-847-368-0539 FAX +1-847-788-0575
CINCINNATI OFFICE
PHONE +1-859-283-2776 FAX +1-859-283-2785
AUSTIN OFFICE
PHONE +1-512-821-9900 FAX +1-512-821-9903
SAN JOSE OFFICE
PHONE +1-510-659-9245 FAX +1-510-659-9485

 Distributors

CKD Corporation

OVERSEAS DPT. SALES DIV. 2-250 Uji Komaki, Aichi 485-8551, Japan PHONE +81-(0)568-74-1338 FAX +81-(0)568-77-3461

U.S.A

CKD USA CORPORATION

HEADQUARTERS
4080 Winnetka Avenue, Rolling Meadows, IL 60008 USA
CINCINNATI OFFICE
1420 Jamike Drive, Erlanger, KY 41018 USA
AUSTIN OFFICE
8403 Cross Park Drive, Suite 3G, Austin, TX 78754, USA
SAN JOSE OFFICE
48501 Warm Spring Boulevard, Suite 114
Fremont, CA 94539 USA

EUROPE

CK EUROPE BRANCH

De Friittuinen 28 Hoofddorp 2132NZ The Netherlands

Malaysia

M-CKD PRECISION SDN.BHD.

HEADQUARTERS
Lot No.6, Jalan Modal 23/2, Seksyen 23, Kawasan, MIEL,
Fasa 8, 40300 Shah Alam, Selangor Darul Ehsan, Malaysia
JOHOR BAHRU OFFICE
116&118 Jalan Rosmerah 2/17, Taman Johor Jaya, 81100
Johor Bahru, Malaysia
MELAKA OFFICE
No.B-10, Ground Floor, Bachang Permai, Jalan Tun Fatimah
Batu Berendam 75350 Melaka, Malaysia
PENANG OFFICE
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13600 Prai, Penang, Malaysia

Thailand

CKD THAI CORPORATION LTD.

SALES HEADQUARTERS-BANGKOK OFFICE
Suwan Tower, 14/1 Soi Saladaeng 1, North Sathorn Rd.,
Bangrak, Bangkok 10500 Thailand
LAEMCHABANG OFFICE
53/67, 69 Moo 9, Tung sukla, Sriracha, Chonburi
20230 Thailand

NAVANAKORN OFFICE

176/4-6, Moo 13, Paholyothin Rd., Klongneung,
Klongluang, Prathumthani 12120 Thailand

RAYONG OFFICE

125/32 M.Charoen Nakorn, T.Maptapud, Rayong 21150, Thailand

LAMPHUN OFFICE

133 Moo 4, Banklang Muang, Lamphun, 51000, Thailand

KORAT OFFICE

982/3-4 Mittraphab Rd., Naimuang, Muang,
Nakhonratchasima 30000, Thailand

Singapore

CKD SINGAPORE PTE LTD.

705 Sims Drive #03-01/02, Shun Li Industrial Complex,
387384 Singapore

Taiwan

日商喜開理股份有限公司台灣分公司

CKD CORPORATION TAIWAN BRANCH

中華民國台灣省台北市中山北路二段96號嘉新大樓第14樓1405室
Rm. 1405, 14F, No.96, Sec.2, Chung Shan N.Rd., Taipei,
Taiwan, R.O.C.

China

喜開理(上海)機器有限公司

CKD (SHANGHAI) CORPORATION

營業部 / 上海事務所 (SALES HEADQUARTERS / SHANGHAI OFFICE)
中國上海市浦東新區張楊路188號 滬臣商務中心3樓304室
Room 304, 3rd Floor, Tomson Business Center, No.188,
ZhangYang Road, PuDong, ShangHai, 200120, China
北京事務所 (BEIJING OFFICE)
中國北京市復興路12號 恩菲科技大廈1015室
En-Fei-Ke-Ji Bdg. Room #1015, Fu-xing-Lu-Wu 12,
Beijing, 100038, China

天津事務所 (TIANJIN OFFICE)

中國天津市南開區白堤路148號
Bai-Di-Lu, 148, Nankai-Qu, Tianjin, 300193, China

無錫事務所 (WUXI OFFICE)

中國江蘇省無錫市中山路389號吟春大廈1708室
Room 1708, Yin-Chun Bdg., Zhongshan Road No.389,
Wuxi, Jiangsu Province, 214001, China

南京事務所 (NANJING OFFICE)

中國南京市山西路57號杰源山西路商務中心502室
Room 502, Jieyuan Shanxi Road Business Center
No.57, Shanxi Road, Nanjing, 210009, China

重慶事務所 (CHONGQING OFFICE)

中國重慶市石橋鋪榆州路8號泰興科技廣場1634號
Taixing Keji Square Room 1634, Yuzhou Road No. 8
Shiqiaopu, ChongQing, 400039, China

成都事務所 (CHENGDU OFFICE)

中國四川省成都市西玉龍街210號成都外貿大廈22樓2207號
Chengdu Waimao Bdg. 22F, Room #2207, Xi-Yu-Long-
Jie 210, Chengdu city, Sichuan Prov., 610015, China

西安事務所 (XI'AN OFFICE)

中國陝西省西安市勞勳南路296號西北民航大廈610號
Xi-bei-min-hang Bldg. Room #610, Lao-dong-nan-lu
296, Xian city, Shangxi Prov., 710082, China

深圳事務所 (SHENZHEN OFFICE)

中國廣東省深圳市華富路1006號航都大廈7B單元
HangDu Building 7B, No.1006 HuaFu Road, Shenzhen, 518031, China

廣州事務所 (GUANGZHOU OFFICE)

中國廣東省廣州市環市東路339號廣東國際大酒店A樓24C
Guangdong Guoji Dajudian A-24C, No.339, Huanshidong-Lu,
Guangzhou city, Guangdong, 510098 China

大連事務所 (DALIAN OFFICE)

中國遼寧省大連市西崗區新開路99號大連連江國際大廈808室
DaLian ZhuJiang GuoJi-Bld. Room #808, XinKai-Lu 99,
DaLian city, Liaoning Province, 116011, China

長春事務所 (CHANG CHUN OFFICE)

中國吉林省長春市長春一汽越野路16號單元4樓中門16-1
16-1Dan Yuan 4-Lou Zhong Men, 16, Chang Chun Yi Qi
Yue Ye Lu, Chang Chun City, JiLin Province, 130011, China

杭州事務所 (HANGZHOU OFFICE)

中國浙江省杭州市分曉路108號浙江省出版印刷大廈410室
Zhejiangsheng Chuban Yinshua Daxia Room 410, No.108,
Fenhui-Lu, Hangzhou City, Zhejiang, 310004 China

Korea

CKD KOREA CORPORATION

Room No.1105, 11th FL, The Korea Teachers Pension B/L.
27-2, Yoido-Dong, Youngdeungpo-Gu, Seoul, 150-742, Korea

Home Page Address <http://www.ckd.co.jp/>

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