

INSTRUCTION MANUAL

SELEXVALVE

M4L3

- Please read this instruction manual carefully before using this product, particularly the section describing safety.
- Retain this instruction manual with the product for further consultation whenever necessary.

CKD Corporation

For Safety Use

To use this product safely, basic knowledge of pneumatic equipment, including materials, piping, electrical system and mechanism, is required (to the level pursuant to JIS B 8370 Pneumatic System Rules).

We do not bear any responsibility for accidents caused by any person without such knowledge or arising from improper operation.

Our customers use this product for a very wide range of applications, and we cannot keep track of all of them. Depending on operating conditions, the product may fail to operate to maximum performance, or cause an accident. Thus, before placing an order, examine whether the product meets your application, requirements, and how to use it.

This product incorporates many functions and mechanisms to ensure safety. However, improper operation could result in an accident. To prevent such accidents, read this operation manual carefully for proper operation.

Observe the cautions on handling described in this manual, as well as the following instructions :

Precautions

- Do not touch electric wiring connections (exposed live parts) : this will cause an electric shock. During wiring, keep the power off. Also, do not touch these live parts with wet hands.

Thank you very much for purchasing CKD's SELEX VALVE "M4L3 SERIES (plug-in type)".

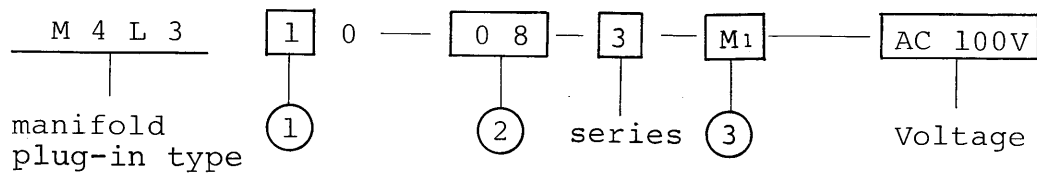
This INSTRUCTION MANUAL deals with the basic items regarding the installation, operation, maintenance, etc. required for bringing the efficiency of the SELEX VALVE into full play.

You are requested to thoroughly read through this INSTRUCTION MANUAL before use, and to perform correct operation and maintenance.

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1. How to see the model number



* The model number shown above means 2-position single solenoid valve 3 series, manifold block (A·B port side piping, P·R port PT 1/2), Manual lock, rated voltage AC 100V.

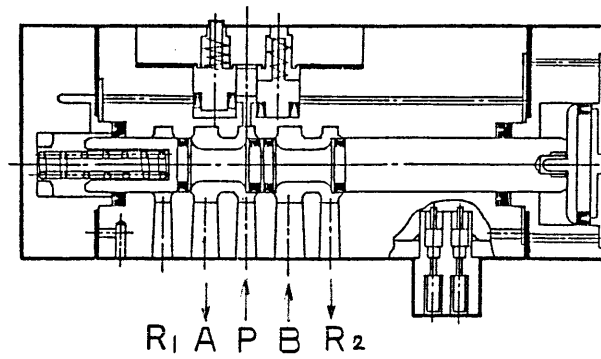
| ① | Change over position |
|---|---------------------------------------|
| 1 | 2-position single |
| 2 | 2-position double |
| 3 | 3-position closed center |
| 4 | 3-position exhaust center |
| 8 | Mix manifold (2-position, 3-position) |

| ② | Connecting port | |
|-----|--------------------|--------------------|
| | A·B port | P·R1 R2 port |
| 08 | PT 1/4 side piping | PT 1/2 side piping |
| 10 | PT 3/8 side piping | PT 1/2 side piping |
| 08Y | PT 1/4 rear piping | PT 1/2 side piping |
| 10Y | PT 3/8 rear piping | PT 1/2 side piping |
| 08Z | PT 1/4 rear piping | PT 1/2 rear piping |
| 10Z | PT 3/8 rear piping | PT 1/2 rear piping |

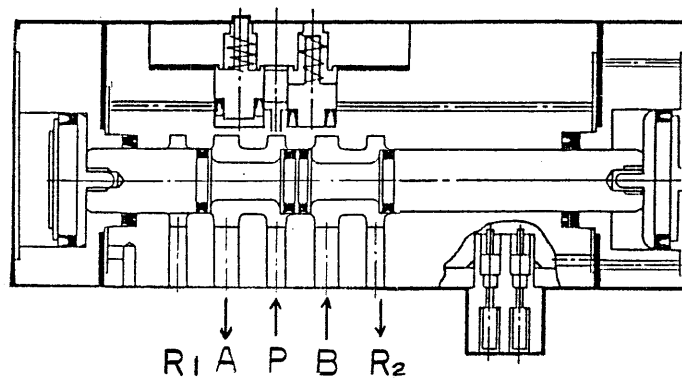
| ③ | Option |
|---------|-----------------|
| No mark | Manual non-lock |
| M1 | Manual lock |
| L | No lamp |

2. Principle of operation (at de-energized)

2-position single (M4L310)

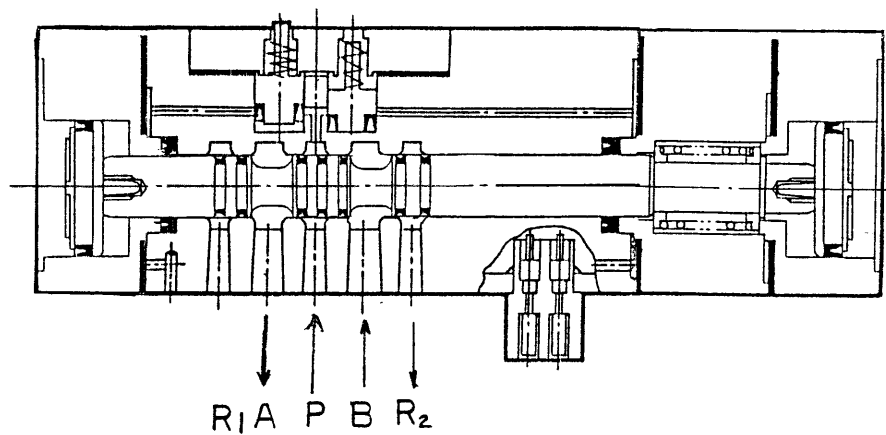


2-position double (M4L320)



3-position closed center (M4L330)

3-position exhaust center (M4L340)



3. Cautions

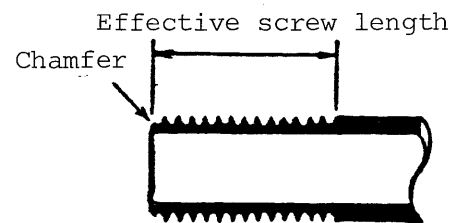
3-1 Cautions for use of manifold

- (1) In case more than 6 series of valves are simultaneously operated, get the supply pressure from both ends of the manifold block and open the exhaust port on both ends to the air.
- (2) P port (suction) or R port (exhaust) is provided on either side of the manifold block respectively. Suction or exhaust can be made from either side.
- (3) To make the 3-position exhaust center (4L340) as a manifold, provide a separate exhaust port (rear piping). (Prevention of adjacent cylinder projection by back pressure.)

3-2 Cautions for piping

- (1) Keep the effective screw length for the screw length of a gas pipe.

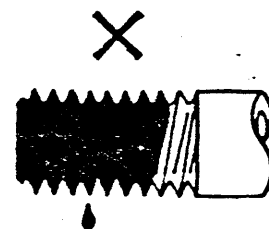
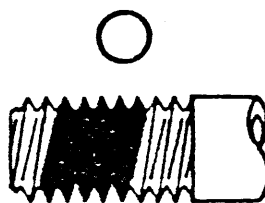
In addition, perform the chamfered finish for half a pitch from the extreme point of a screw area.



- (2) Perform flushing to remove the foreign matter, chips and the like in the pipe before piping.



- (3) When the lines are connected to the product, cautions should be taken to the amount of a sealant, the applied position, and also to the wound position of a sealing tape, so that the sealant, the sealing tape and the like may not enter the lines.



3-3 Cautions for wiring

- (1) Be sure to use electric wires whose sectional areas are more than 0.5 mm^2 .

In case of DIN terminal box, use electric wires whose sectional areas are within the range from 0.5 to 1.5 mm^2 .

In addition, we recommend you to use 9 and 11 mm outer diameter cabtyre cord for higher waterproofing performance.

- (2) The electric circuit shall adopt the switching circuit which does not produce contact point chattering.
- (3) Use 1A rating fuse in the electric circuit.
- (4) The voltage used shall be $\pm 10 \%$ of the rated voltage.
- (5) Be cautious to the leakage current when using a non contact point relay circuit.

Select the switch which meets the following conditions.

AC coil: Less than 15 % of the rated current.

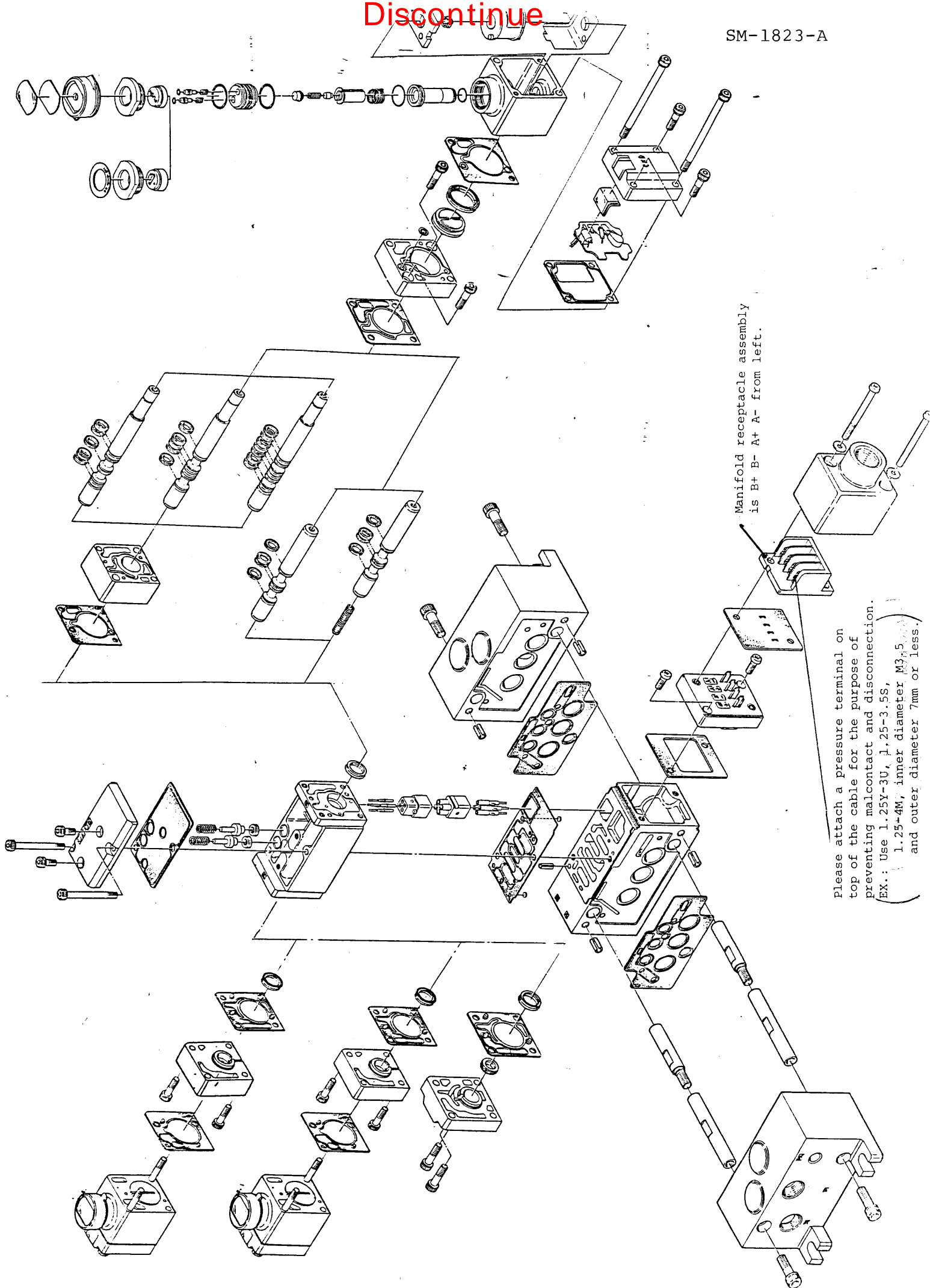
DC coil: Less than 1 % of the rated current.

4. Maintenance and inspection

4-1 Periodic inspection

- (1) In order to use the solenoid valve under the best condition, carry out periodic inspection once or twice a year.
- (2) Content of inspection
 - (a) Check to see if any dust, foreign substance, etc. is accumulated or high viscosity substance is stuck in the valve.

If any of them is found, disassemble the valve and clean it thoroughly.



Manifold receptacle assembly
is B+ B- A+ A- from left.

Please attach a pressure terminal on
top of the cable for the purpose of
preventing malcontact and disconnection.
(EX.: Use 1.25Y-3U, 1.25-3.5S,
1.25-4M, inner diameter M3.5
and outer diameter 7mm or less.)