CKD

INSTRUCTION MANUAL

SELEXVALVE

M4F3 1/2/3/4/8 0– 08/10 – n

- 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.

Revision2
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 :

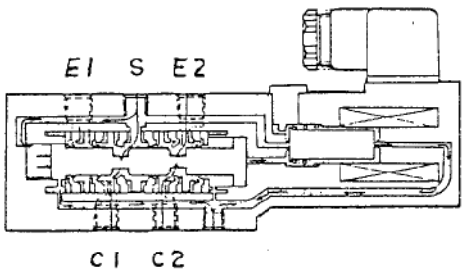
⚠ Precautions

- 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.

- Mounting brackets are attached.
  When use the product, mounting brackets must be assembled.
  Tightening torque:5.0～5.5 N·m

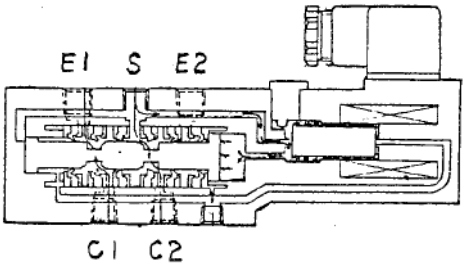
When dienergized

S(SUP) open to C 1(CYL 1), C 2(CYL 2) exhausted via E 2(EXH 2)



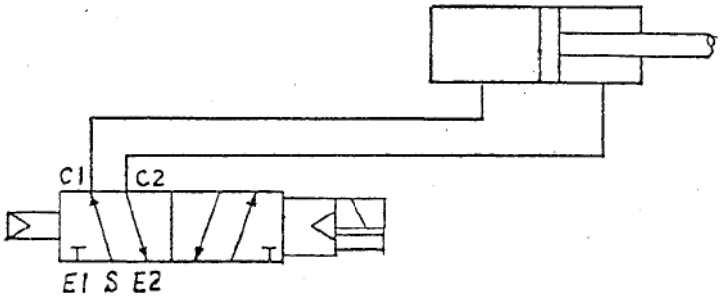
When energized

S open to C 2 , C 1 exhausted via E 1(EXH 1).



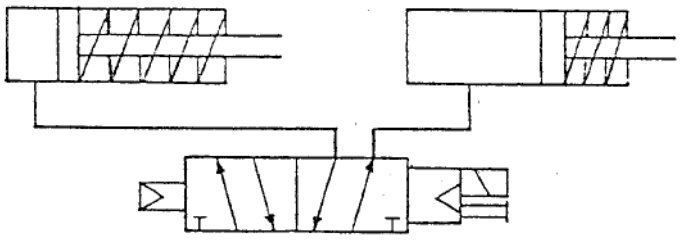
Applications

1-1. In case of operating the cylinder which the pressure is applied to its both sides.



JIS Symbol

1-2. In case of operating an one-side cylinder alternatively or a desired one out of both cylinders , as a 3-way.

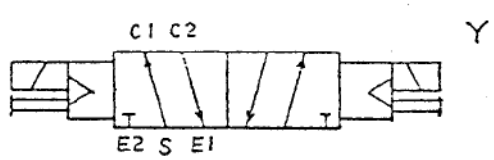


Operating Methods (4F320)

When solenoid " X " energized momentarily

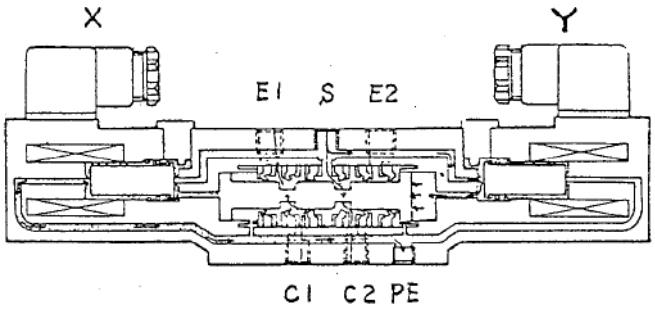
S(SUP) open to C 1(CYL 1), C 2(CYL 2) exhausted via E 1(EXH 1).

JIS symbol



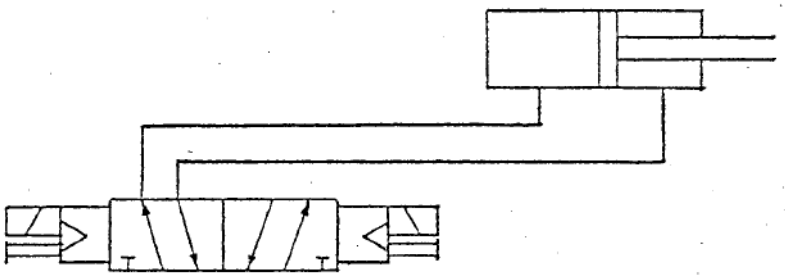
When solenoid " Y " energized momentarily

S open to C 2 , C 1 exhausted via E 1(EXH 1).

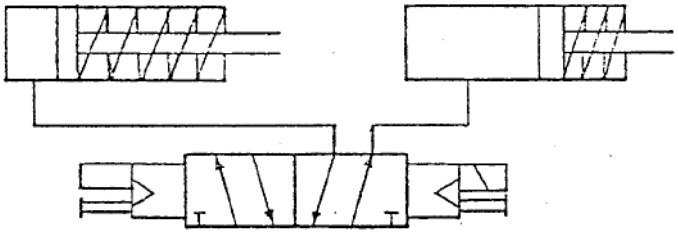


Applications

2-1. In case of operating the cylinder which the pressure is applied to its both sides.



2-2. In case of operating an one-side cylinder alternatively or a desired one out of both cylinders , as a 3-way.

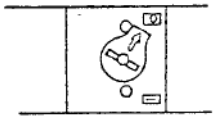


3. Others

(1) This electromagnetic valve is of two-positioned type, having no neutral position.

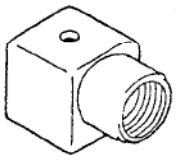
(2) When the speed control on the cylinder is required, connect speed control valves to the exhaust side.

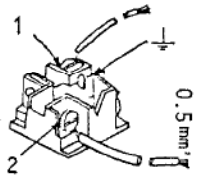
(3) Besides the operation according to electrical signals, it is possible to operate manually by means of turning a thumb-cock to the right (direction [1])with your screw-driver or coin. By all means you may put it back in its place, after finishing of business.



Wiring

1. Wires of more than 0.5 mm² at cross sectional area of core can be connected to the socket terminals (1 & 2) of the contact elements. Earth a terminal ⏚ , if necessary.

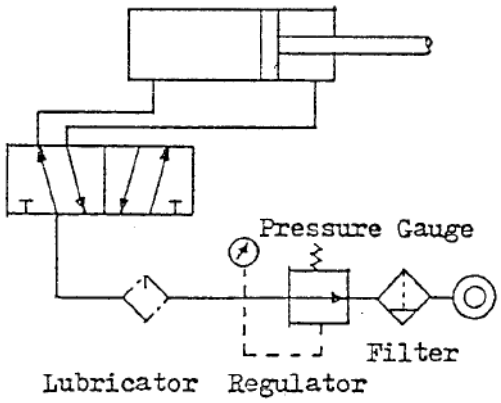




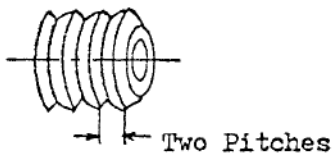
2. Insert a fuse of capacity 0.5 - 1 A for protection of electrical circuits.

3. Whenever possible, use electrical circuit switches or relays of snap action.
4. The diameter of electric cable at the lead wire inlet to connector should be ϕ 5, 7, 9 or 11, if necessary to protection against ingress of dust and splash water.

Piping



1. Pay attention to the direction of air flow.
2. Thoroughly clean up inside pipes before installation of the electromagnetic valve.
   (1) Remove dust and flashes
   (2) Do not apply the sealing agent to first two pitches of the screw.

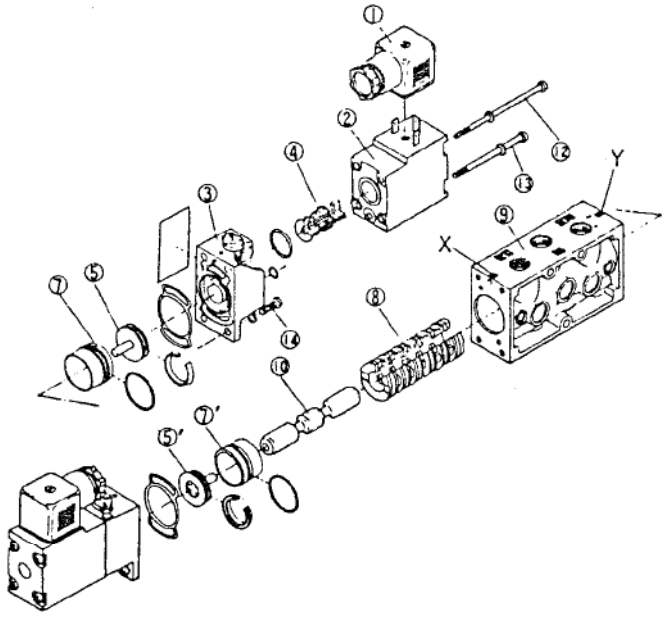


3. Do not stop up port PE from which pilot air can exhaust.
4. Install the filter and, if necessary, the lubricator with turbine oil # 90 in front of the valve.
5. Upon installation, do not apply an excessive force to the electromagnetic valve.
6. Select a place with the least possible amount of vibration or shock for installation of pipes.
7. After completion of the piping, thoroughly check every part for leakage.
8. Secure the space for tool maneuver in the event of maintenance services.

Maintenace Service

1. Disassembly of the valve
   (1) Remove the solenoids on both sides (2) which can be fixed with set-screws (12) (13).
   (2) Remove the mounted blocks on both sides (3) which can be fixed with set-screws (14).
   (3) Pull out both cylinders (7) at each side of the solenoids.
   (4) .Push out the piston (5) to the opposite side of the solenoid, thus permitting the inner assembly to be taken out from the valve body (9).

   For details refer to the below disassembly diagram.
2. Before assembly of the unit, thoroughly clean and remove dust off such places as the outer surface of the piston and the spool, and the inside of the spool packings.



3. Disassemble tools

Part No.	Tool
①	Screw Driver
㉑ ㉓	Screwdriver for Cross Recessed Head Screw
㉕	Hexagon Wrench key

4. Inspection after reassembly.

(1) Electrical check: By switching ON/OFF, operation sound shall be checked.

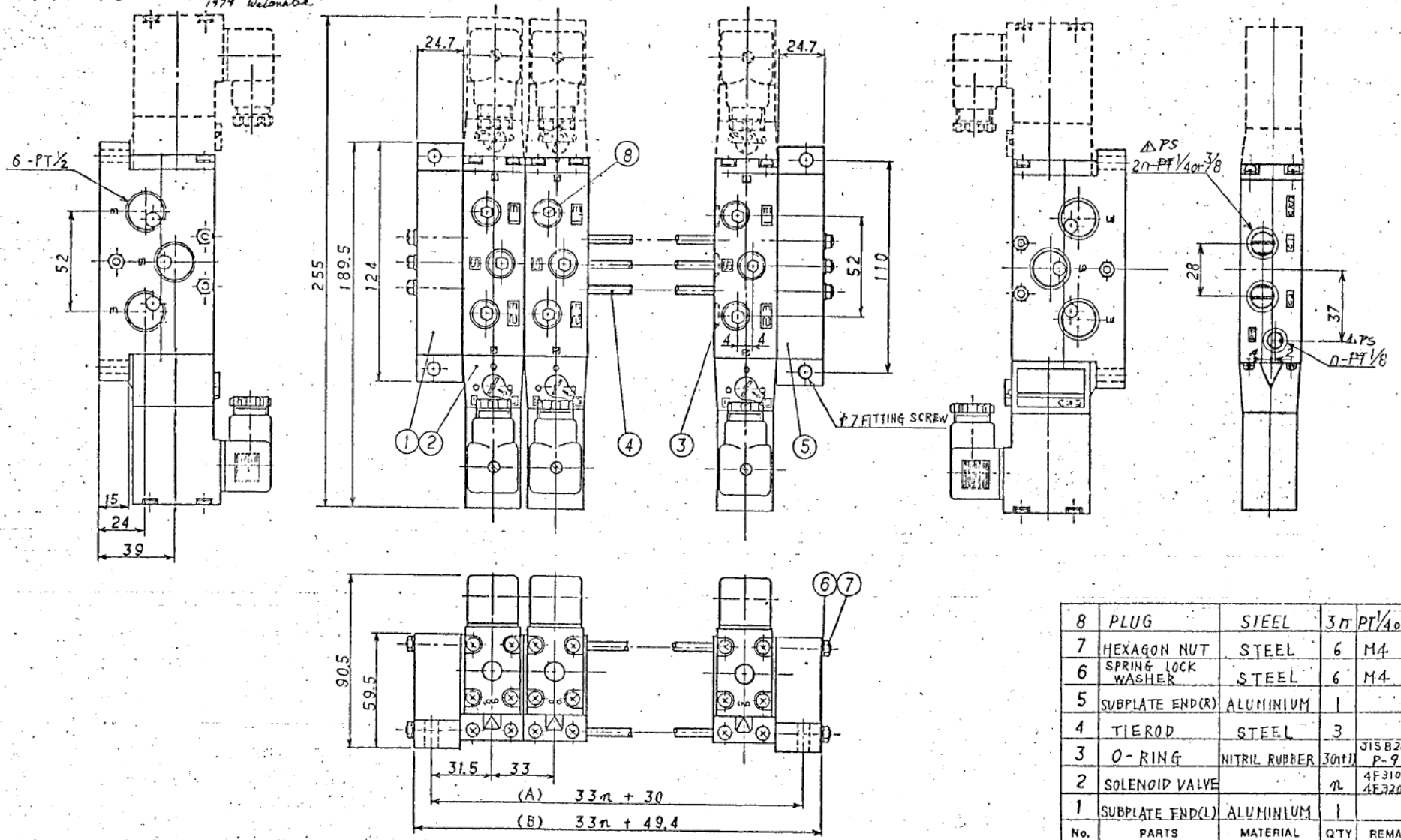
(2) Leakage check: Check leakage by suppling pressure.

(3) Operation check: By switching ON/OFF, correct operation shall be checked.

5. Periodical check

1-2 times periodical check in on year leads to its long life operation. Be cautious of obstruction of rust in the pipes, oil oxide, carbon and coaltar in the compressor, and dust, due to smooth operation and long life operation.

MARK	REVISION DESCRIPTION	DATE	CHECKED
⚠	PT → PS	Aug. 9th '79	M. Watanabe



No.	PARTS	MATERIAL	Q'TY	REMARK
8	PLUG	STEEL	3n	PT1/4 or 3/8
7	HEXAGON NUT	STEEL	6	M4
6	SPRING LOCK WASHER	STEEL	6	M4
5	SUBPLATE END(R)	ALUMINIUM	1	
4	TIEROD	STEEL	3	
3	O-RING	NITRIL RUBBER	3(n+1)	JIS B2401 P-9
2	SOLENOID VALVE		n	4F310 4E320
1	SUBPLATE END(L)	ALUMINIUM	1	

n	2	3	4	5	6	7	8	9	10
A	96	129	162	195	228	261	294	327	360
B	115.4	148.4	181.4	214.4	247.4	280.4	313.4	346.4	379.4

SPEC. No.

ISSUED ON . .

3RD ANGLE PROJECTION

SCALE 1/2

APPROVED

DESIGNED

CHECKED Y. Futami

DRAWN M. Watanabe

DESIGNATION SOLENOID VALVE

MODEL M4F3□0-□-□(n)-C

CKD Corporation

DRAWING No. CD-587009-1

SM-5134-A