

INSTRUCTION MANUAL
FOR
REVERSIBLE REGULATOR
MODEL NO. 2401

Please read this operation manual carefully before using this product, particularly the section describing safety.

Retain this operation 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.

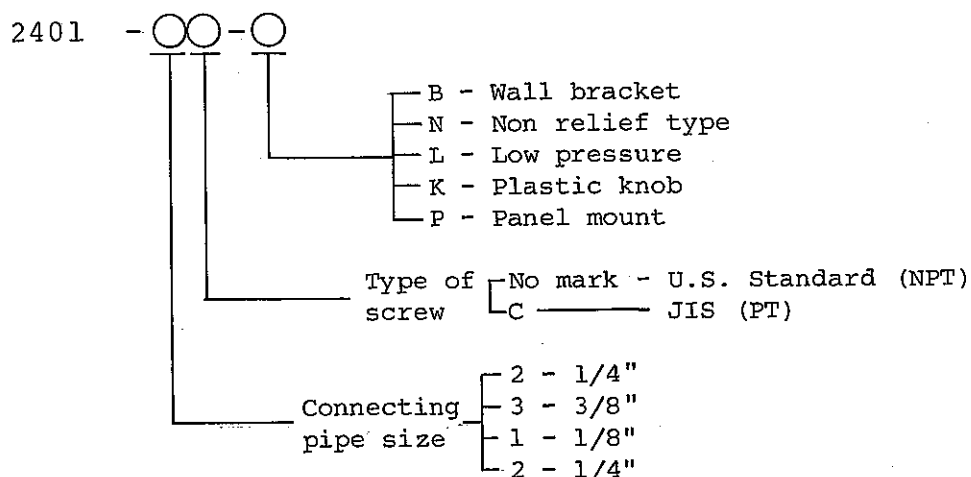
Thank you very much for purchasing the CKD's products.
This REGULATOR is a fruit of our long years of accumulated experience.

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

Our products are produced under severe quality control

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

HOW TO READ MODEL NUMBER



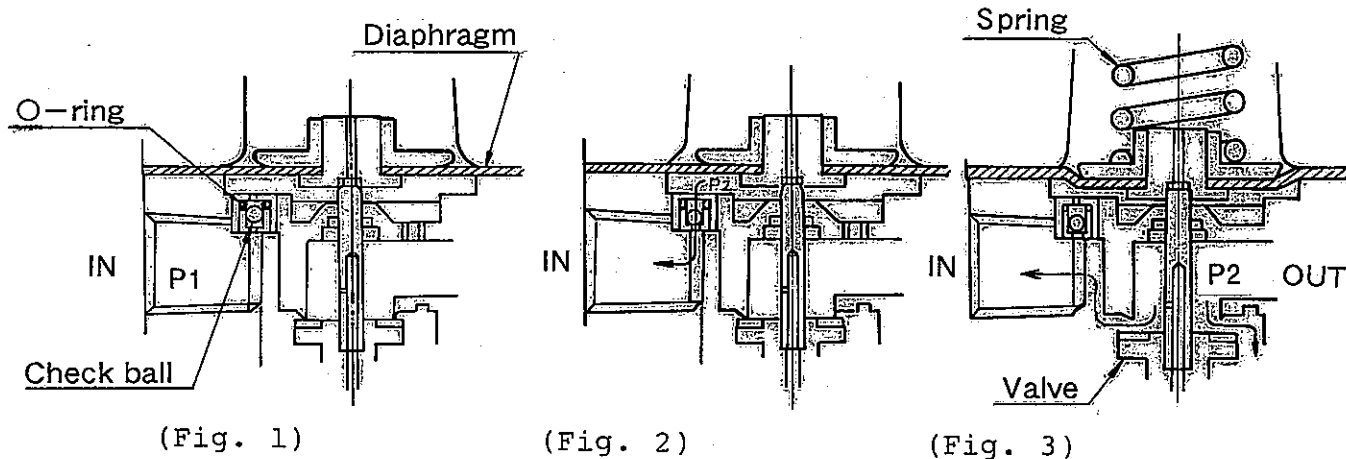
(1) CAUTIONS FOR INSTALLATION

- 1-1) Install the regulator so that the air flowing direction and the arrow direction on the air inlet port conform.
- 1-2) Avoid the use of pipes whose connecting pipe size is smaller than that of the regulator.
- 1-3) Keep sufficient space of more than 70 mm from the bottom plug so that it can be removed in the case of overhauling.
- 1-4) Install a regulator to a position easily visible. A hole on the opposite side shall be blocked with a plug.
- 1-5) Be careful that the primary side pressure does not exceed 10 kgf/cm². Clockwise turning of the adjusting screw makes the secondary side pressure high and counterclockwise turning of it makes the secondary side pressure low.
- 1-6) Be sure to attach a filter before the regulator so that dust, water, etc. may not enter.

1-7) Install the regulator as close as possible to a pneumatic device to be used together.

1-8) Avoid the use of regulator under the ambient temperature more than 65°C.

(2) PRINCIPLE OF OPERATION



As a primary pressure is applied to IN side, the check ball is pushed against the O-ring to close, acting as an ordinary regulator.

As the primary pressure is discharged, the pressure in the diaphragm chamber is then passing through the check valve and discharged to IN side.

As the pressure is discharged, the pressure in the diaphragm chamber decreases, and thus the valve opens to discharge the compressed air at OUT side by means of the spring through the diaphragm assembly.

(3) CAUTIONS FOR MAINTENANCE

3-1) Disassembling procedure

- a) Stop air supply to the regulator.
- b) Remove the adjusting screw assembly ②① by turning it counterclockwise.
- c) Remove screw ②③, cover ⑥, spring disc ①⑧, spring ①⑨, and diaphragm assembly ⑦ - ①⑩.
- d) Remove the bottom plug ①③, and disassemble the spring ①⑦, and valve assembly ①① and ①②.

3-2) In case the pressure adjustment becomes hard to make or the pressure drop becomes peculiar;

- a) Remove the bottom plug ①③, spring ①⑦, and valve assembly ①①, ①②.
- b) Clean the O-ring ①④ and valve assembly ①① and ①②, and check them for damage.

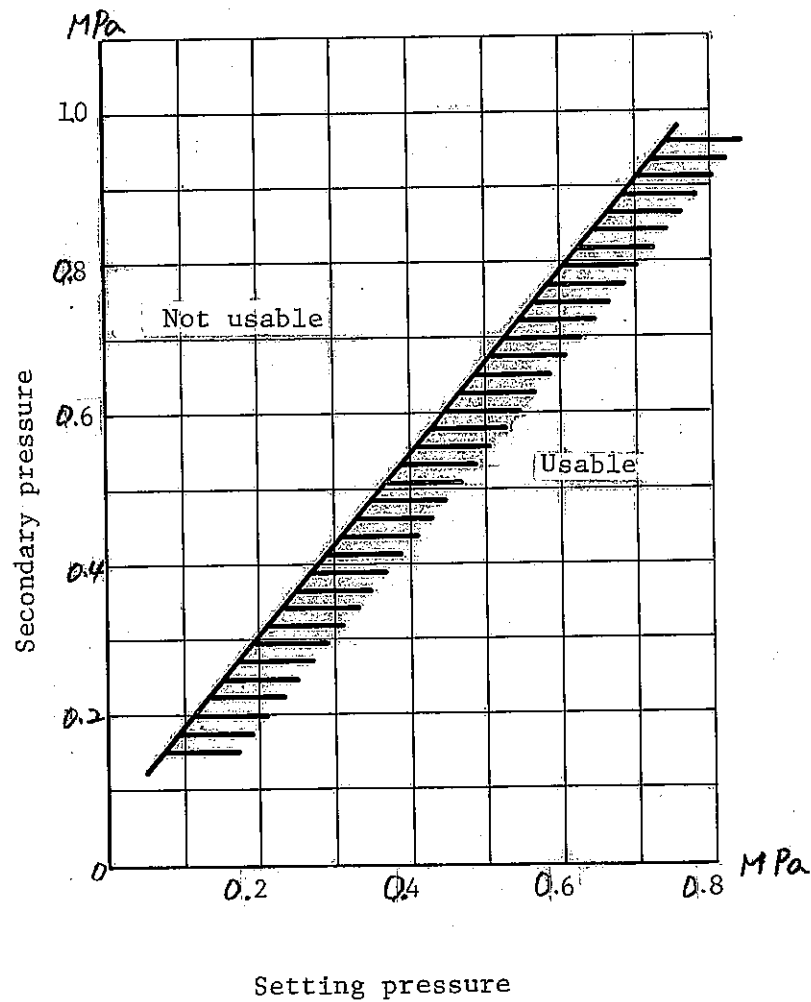
3-3) If the air leaks from the relief port;

- a) In this case, the cause may be defective assembly or damage of valve assembly ①①, ①②, O-ring ①④, diaphragm assembly ⑦ - ①⑩.

4. Cautions for Use

When the pressure is applied from behind to the secondary side, air does not always relief to the primary side.

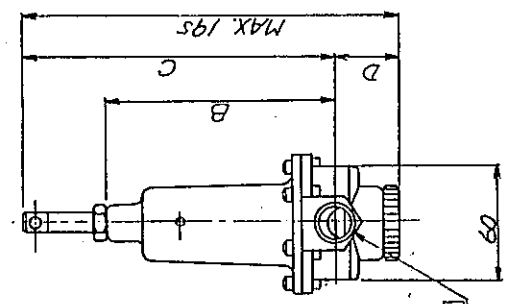
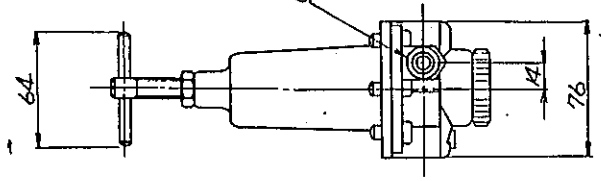
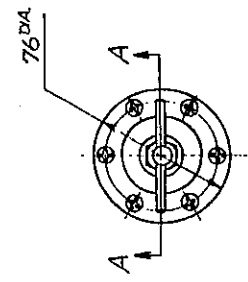
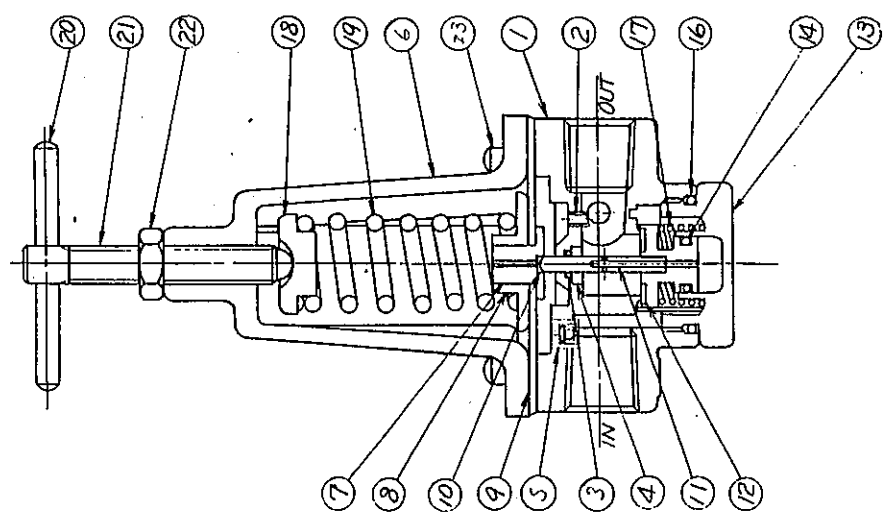
Use within a range of the oblique line of the graph as shown below.



A B C D E F G H

記号 MARK	変更理由 REVISIONS	日付 DATE	提出 CHD
△	SCREEN OFF	5-25-97	TANAKA

SECTION A-A



PIPE SIZE	MODEL
PT 1/4	2401-2C
PT 3/8	2401-3C
PT 1/2	2401-4C
PT 3/4	2401-6C

DIMENSIONS B.C.D.

	B	C	D
FOR 234C	116	160	35
FOR 6C	118	162	33

No.	品名 PARTS NO.	仕掛 SPEC. NO.	材料 MATERIAL	数量 QTY	備考 REMARK
23	45-5033		SCREW	6	
22	41-5034		NUT	1	
21			ADJUSTING SCREEN	1	
20			GLOVE PIN	1	15-5463
	15-5463		ADJUSTING SCREEN ASSY	1	
19	70-5018		SPRING	1	
18	06-434		SPRING DISK	1	
17	70-053		SPRING	1	
16	78-084		O-RING	1	
15	85-075		SCREEN	1	
14	78-029		O-RING	1	
13	06-329		BOTTOM PLUG	1	
12			VALVE SEAT ASSY BRASS	1	
11			VALVE STEM	1	15-293
10	15-293		VALVE ASSY	1	CONSUMABLE
9			DISK SEAL	1	
8			DIAPHRAGM	1	
7			DIAPHRAGM WASHER	1	
	15-5105		DIAPHRAGM STUD	1	15-5105
6	06-5141		COVER	1	CONSUMABLE
5			CHECK VALVE ASSY	1	
4			WASHER	1	
3			O-RING	1	15-5264
2			SIPHON TUBE	1	15-5160
1			BODY	1	
	15-5264		BODY ASSY	1	FOR 3/4
	15-5160-4C		BODY ASSY	1	FOR 1/2
	15-5160-3C		BODY ASSY	1	FOR 3/8
	15-5160-2C		BODY ASSY	1	FOR 1/4

承認 APP'D	査閲 CHD	設計 DES'D	計尺 SCALE	仕掛 SPEC. NO.	材料 MATERIAL	数量 QTY	備考 REMARK
1.10.97	1.10.97	1.10.97	1:1	1.10.97	2401-REGULATOR	1	

CDKD	シーケーディー株式会社 CKD Corporation	DRAW. NO.	S3-800664-A
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- NOTES
1. PIECE PARTS AND PARTS ALREADY ASSEMBLED INDICATED BY PART NUMBER ON THE LIST CAN BE DISASSEMBLED OR REPLACED RESPECTIVELY.
 2. SERVICE AND MAINTENANCE PARTS ARE INDICATED BY THE NUMBER WITH CIRCLE ON THE LIST.
 3. DIMENSIONS ARE IN MILLIMETER (mm)
 4. ONE OF THE PIPE PLUG FOR GAUGE PORT IS ENCLOSED INTO PACKAGE CASE.

Discontinue

CSM-0032-A
SM-2401