

INSTRUCTION MANUAL

FOR

REVERSIBLE REGULATOR

MODEL NO. 2415

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).

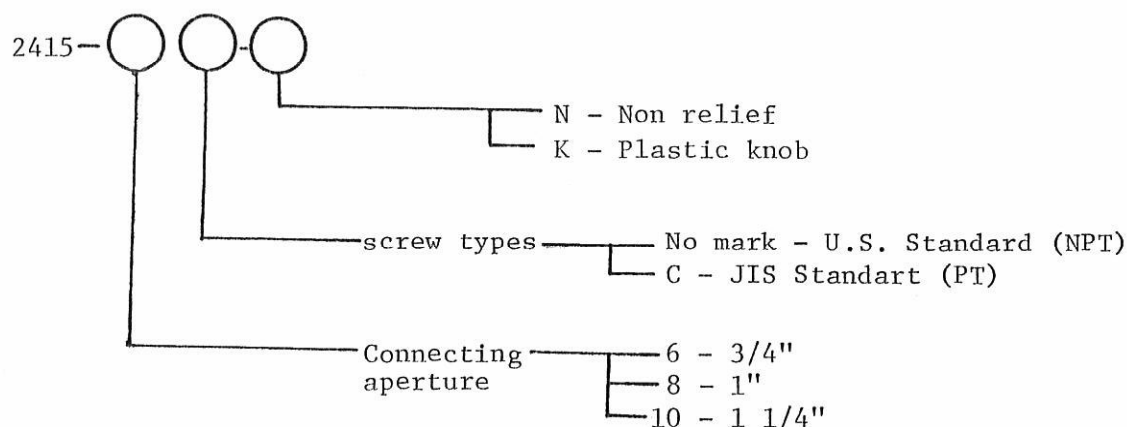
We do not bear any responsibility for accidents caused by any person without such knowledge or arising from improper operation.

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 instruction manual carefully for proper operation.

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

Model Number:



Thank you very much for using CKD products.

CKD products are all produced under strict quality control to ensure safety.

For effective use of your CKD regulator, carefully read through the items of cautions for installation and maintenance listed below.

1. Cautions for Installation

- 1-1 See to it, at the time of installation, that the air flows in the direction of arrow mark on the air entrance.
- 1-2 Refrain from using the pipe at IN side smaller than that of regulator connecting aperture.
- 1-3 Keep the space over 80 mm to enable removal of parts for overhaul.
- 1-4 Attach the pressure gauge to an easily visible place, and close the hole on the opposite side with a plug.
- 1-5 Do not increase the primary pressure more than 1.0 MPa.
The secondary pressure increases by turning the adjusting screw clockwise and decreases by turning it counterclockwise.
- 1-6 Attach the filter before the regulator to avoid dusts and water getting in.
- 1-7 Install the regulator as close to the air pressure to be used as possible.
- 1-8 Do not use the regulator at a place with the ambient temperature exceeding 65°C.

2. Principles of Operation

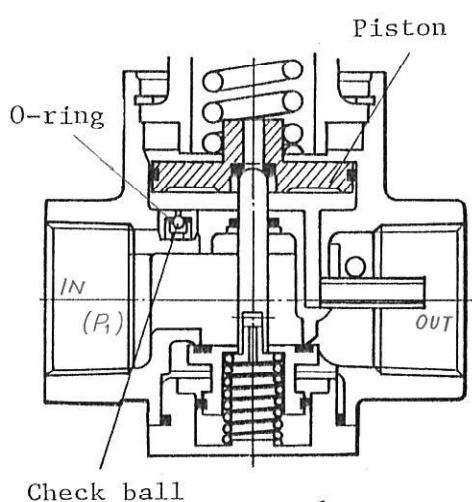


Fig. 1

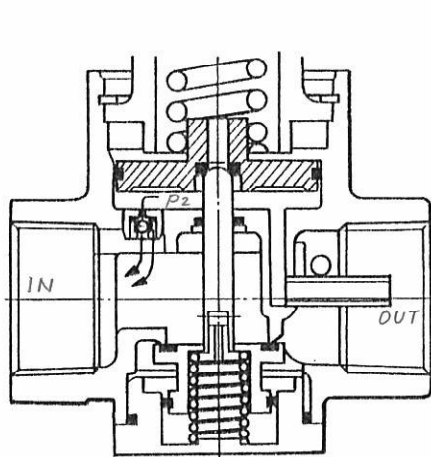


Fig. 2

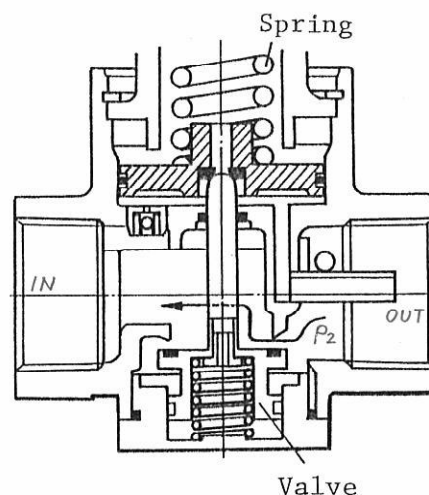


Fig. 3

As the primary pressure is applied at IN side, check ball is pressed against O-ring and operates as a common regulator. (Fig. 1)

As the primary pressure is discharged, the pressure (P_2) at the bottom of the piston is discharged to IN side through check valve. (Fig. 2)

In discharging, the pressure at the bottom of the piston lowers down and the valve opens by the adjusting spring through the piston and the compressed air of OUT side is discharged. (Fig. 3)

3. Cautions for Maintenance

3-1) Disassembling procedure

- Stop supplying air to the regulator.
- Free the adjusting screw assy 6 ~ 7 counterclockwise.
- Remove the retaining ring 13 and separate the cover 12, spring disk 9, spring 10 and O-ring 20.
- Remove the bottom ring 23 and separate spring 18 and valve assy 15 16 17.

3-2) When the pressure is unadjustable or lowers down considerably.

- Remove bottom plug 23, spring 18 and valve assy 15 16 17.
- Wash O-ring 21 and valve assy 15 16 17, to search hurt and etc.

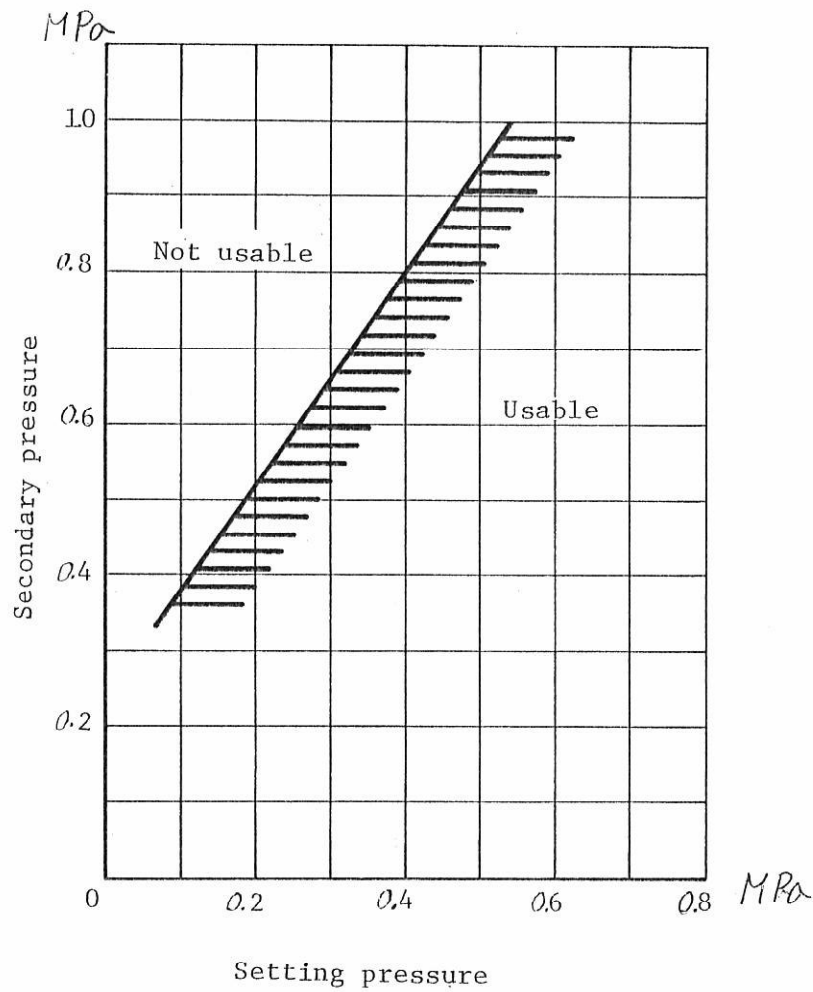
3-3) When air leaks in large quantities.

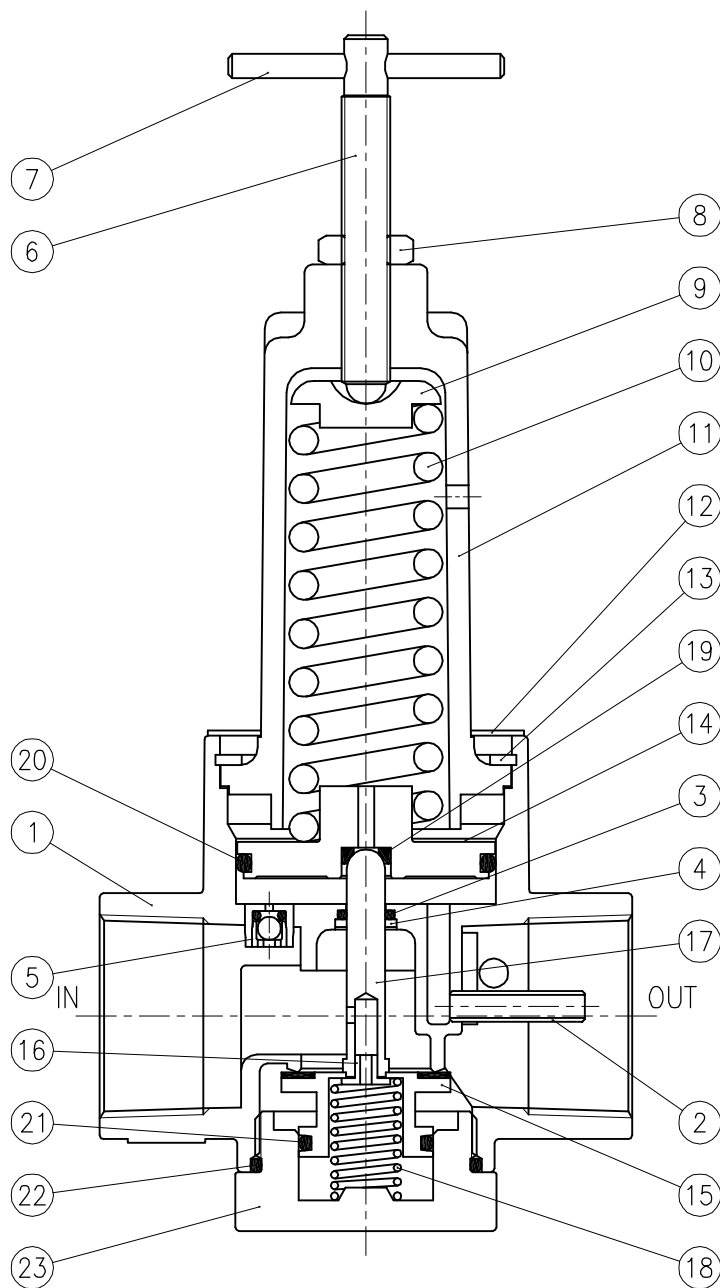
- a. The causes are from defects and/or hurt of the construction of valve assy 15 16 17 , O-ring 20 21 and piston 14 .

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.





23	BOTTOM PLUG
22	O-RING
21	O-RING
20	O-RING
19	DISK SEAL
18	SPRING
17	VALVE STEM
16	RIVET
15	VALVE SEAT ASS'Y
14	PISTON
13	RETAINING RING
12	COVER
11	BONNET
10	SPRING
9	SPRING DISK
8	NUT
7	GROOVE PIN
6	ADJUSTING SCREW
5	CHECK VALVE ASS'Y
4	WASHER
3	O-RING
2	SIPHON TUBE
1	BODY
品番 No	部 品 名 PARTS