

# ***PAIN REGULATOR***

## ***PR 5***

## **IMPORTANT**

This equipment should be operated only by an adequately trained operator, for safe use and maintenance of the equipment. Any misuse or handling other than those indicated in this Instruction Manual is not covered by guarantee.

ANEST IWATA disclaims all responsibility for any accident or damage caused by failure to observe the operational and safety procedures as from this manual. In the interest of user friendliness, this manual contains information in a brief and concise form.

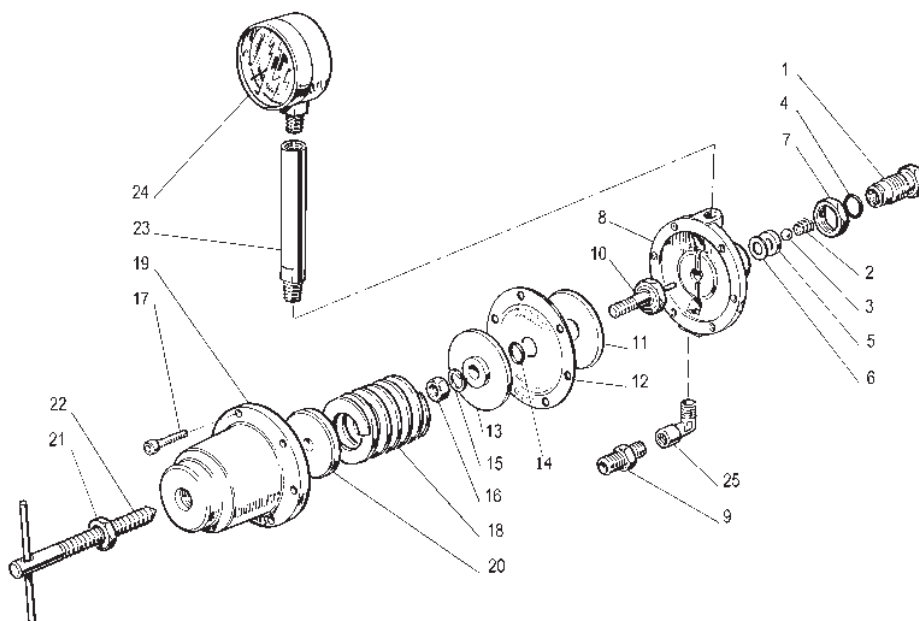
For any additional information you may require regarding PR5 operations, or if any missing parts or any damage during transportation is found, please contact your nearest ANEST IWATA Company (see last cover page).

## 1. SPECIFICATIONS

PR5

MODEL	PR5
Weight	850 g
Max. flow	2.0 l/min
Max. primary pressure	25.0 bar
Pressure range	6.0 bar
Connection IN	G 3/8"
Connection OUT	G 1/4"

## 2. PARTS LIST



DESCRIPTION	Ref.part	DESCRIPTION	Ref.part
JOINT 3/8"	1	DIAPHRAGM STOPPER	13
VALVE SPRING	2	O RING	14
BALL	3 ●	SPRING WASHER	15
O RING	4 ●	HEXAGON NUT	16
SEAT	5 ●	BOLT WITH HEXAGON HOLE	17
PACKING	6 ●	SPRING	18
JAM NUT	7	DIAPHRAGM CAP	19
MAIN BODY	8	SPRING HOLDER	20
JOINT 1/4"	9	HEXAGON NUT	21
DIAPHRAGM BOLT	10 ●	HANDLE SET	22
DIAPHRAGM HOLDER	11	RISING PIPE	23
DIAPHRAGM	12 ●	PRESSURE GAUGE	24
		"L" JOINT 1/4" MF	25

● Marked parts are wearable parts.

- When unpacking, confirm that there is no damage or shortage.
- If there is damage or shortage during transportation, do not use the equipment and contact the shop which sold it to you.



### 3 IMPORTANT INFORMATION - SAFETY PRECAUTIONS



#### **PROTECTION OF HUMAN BODIES**

During painting, be sure to wear protective cover such as glasses, masks or gloves. Operate it in a well-ventilated place to avoid serious injury caused by paints or solvents which might enter your eyes or you might inhale. If you feel any abnormality, consult a medical doctor immediately.

#### 3.1 Wrong operation of the equipment



**Before operation, confirm that each section is properly fitted and adjusted.**

**Never spray toward a person or animal.**

**If done, it can cause inflammation of eyes or skin and injury may occur.**



**Be sure to reduce fluid pressure down to 0 bar before cleaning, disassembly or maintenance.**

**If not, remaining pressure can cause injury through ejection of cleaning liquid due to wrong operation.**



**Securely connect it to fluid hose and pump to avoid leakage and looseness.**

**If not, hazardous hose movement and paint ejection can cause severe bodily injury.**

**If you are injured, see a doctor immediately without regard to the degree of injury.**



**Be sure to use at lower than max. primary pressure.**

**Use at higher than max. primary pressure can cause damage which is very dangerous.**



**Do not use it for food products or chemicals.**

**If done, it can cause accidents by corrosion in paint passages and foreign matter can cause health problems.**

**NEVER ALTER THE EQUIPMENT.**



**WHEN YOU REPLACE PARTS, BE SURE TO USE ANEST IWATA GENUINE PARTS.**

**IF NOT DONE, IT CAN CAUSE INSUFFICIENT PERFORMANCE OR FAILURE.**



**Never use the following halogenated hydrocarbon solvents.**

**(methyl chloride, ethyl chloride, dichloromethane, 1,2-dichloroethane, carbon tetrachloride, trichloroethylene, 1,1,1-trichloroethane).**

## 4. HOW TO CONNECT AND OPERATE



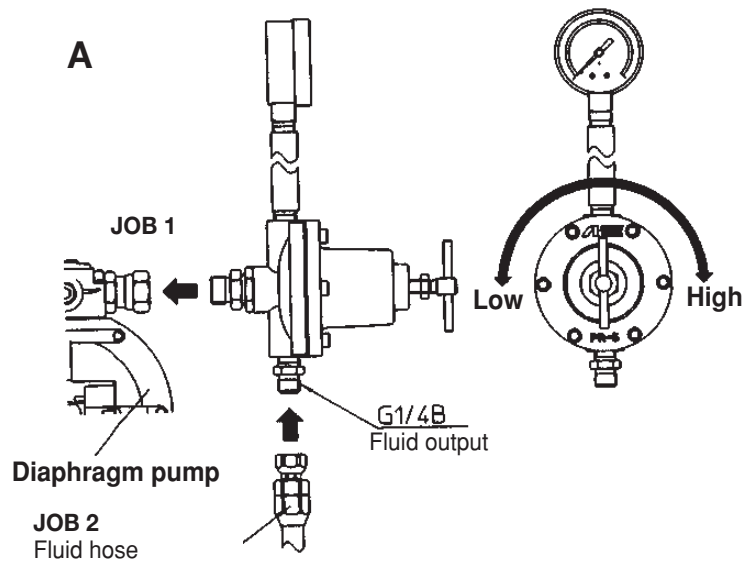
**IMPORTANT:**

Fit PR-5 so that its pressure gauge will be vertical.  
If not, paint can enter pressure gauge and cause failure.

Connect fluid hose to PR-5 according to IN and OUT indication in the Parts list.

The diagram below shows when it is connected to DPS 90D. If seated surface of connection is damaged, replace with new parts.

**A. CONNECTING EXAMPLE : Connect PR-5 to fluid outlet of diaphragm pump.**



**B. Connect fluid hose to fluid outlet of PR-5.**

**HOW TO OPERATE**

Turning handle set to "high" side can increase secondary pressure.  
Turning handle set to "low" side can decrease secondary pressure.

## 5. DISASSEMBLING AND ASSEMBLING



**IMPORTANT**

When you disassemble main body, rising pipe and pressure gauge, apply sealing agent to each threaded section to keep airtightness.



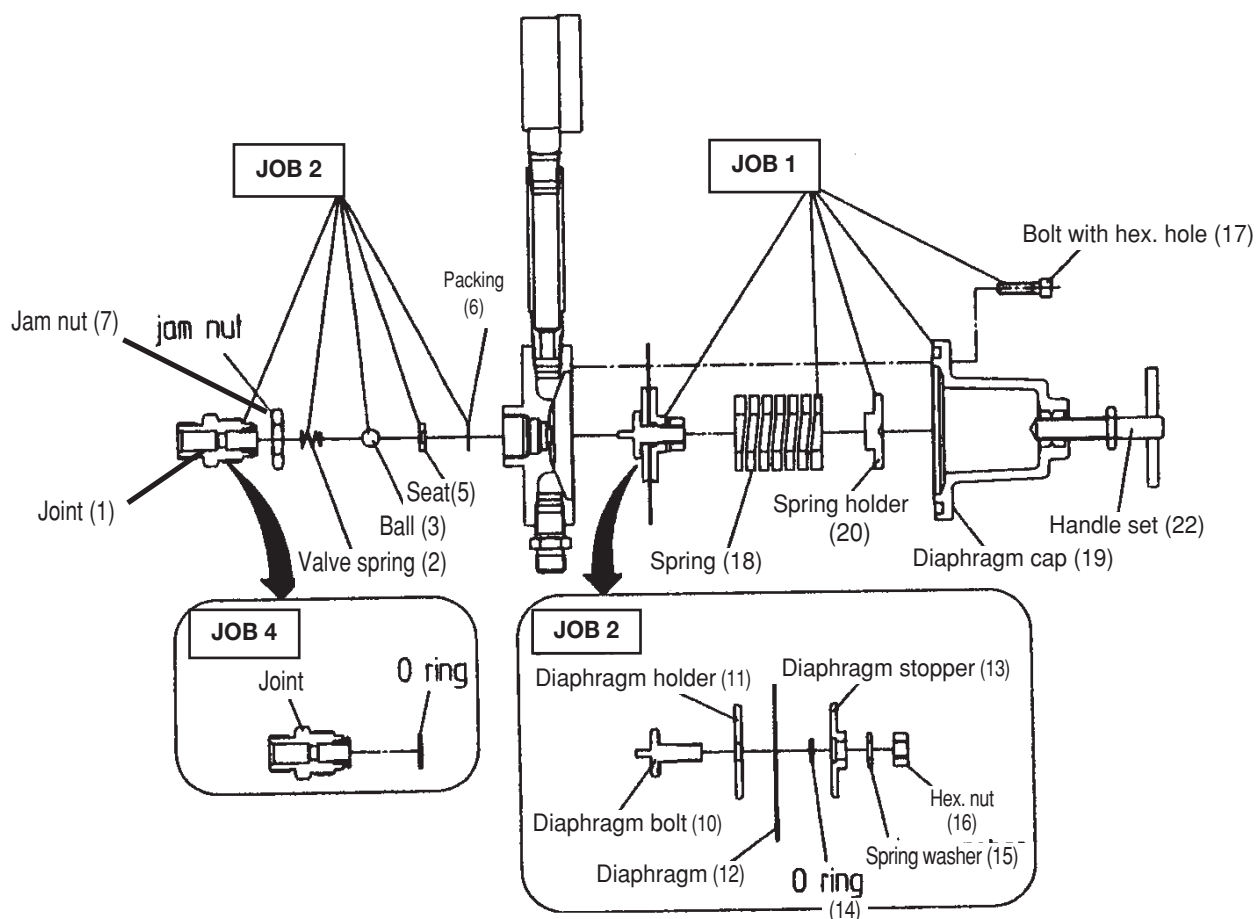
Whenever disassembling ball and seat of tungsten carbide, you have be sure to confirm that there is no wear or damage.

If there is any wear or damage, replace with new one.

## 5.1 Disassembling

1. Fully loosen handle set (22), and remove bolt with hex. hole (17), diaphragm cap (19), spring holder (20), adjusting spring (18) and diaphragm section.
2. Loosen jam nut (7), and remove joint (1), valve spring (2), ball (3), seat (5) and packing (6).
3. Fix hex. section of diaphragm bolt (10), and remove hex. nut (16), spring washer (15), diaphragm stopper (13), O ring (14), diaphragm (12) and diaphragm holder (11).
4. If O ring placed into joint is damaged or deformed, remove O ring from joint.

### DISASSEMBLING SEQUENCE



## 5.2 Assembling

### IMPORTANT



Fit tungsten carbide seat to main body so that tungsten carbide ball can be fitted on tapered side. Do not forget to fit packing.

Wrong assembling can cause wrong movement of pointer of pressure gauge due to leakage from seat, failing performance.

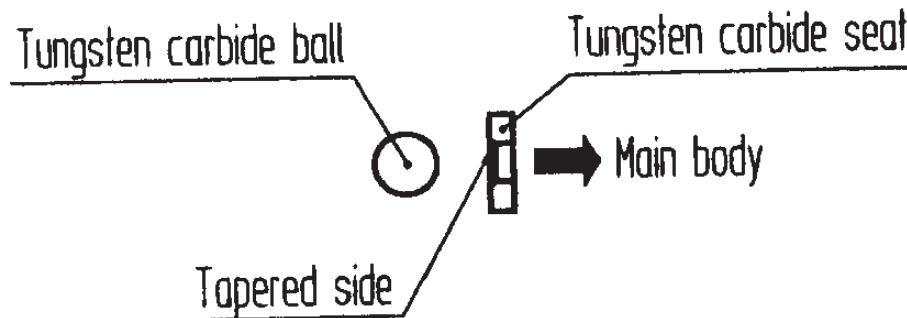


Pay attention to tightening torque when fitting joint (1).

Too much tightening can damage main body.

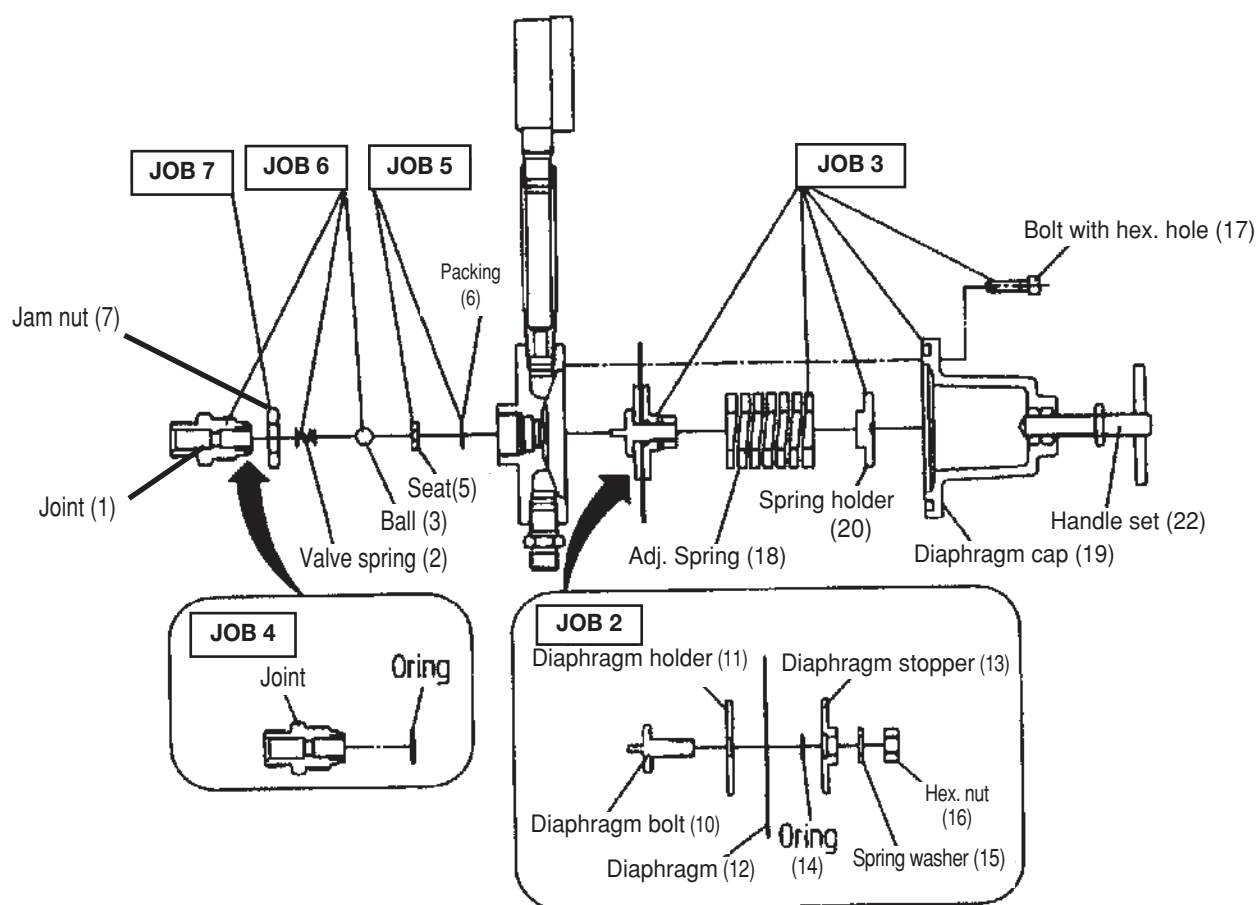
Tightening torque of joint 14.7 N-m

When fitting joint, pay attention that tungsten carbide ball does not slip out of the seat.



1. Check on each section if there are damage or foreign matter .
2. Fit diaphragm holder (11), diaphragm (12), O ring (14), diaphragm holder (13) and spring washer (15) into diaphragm bolt (10) and tighten hex. nut (16). Tightening torque of hex. nut 9.8N-m
3. Mount diaphragm section, adjusting spring (18), spring holder (20), and diaphragm cap (19) on main body (8), and evenly tighten bolts with hex. bolt (17) diagonally.
4. Fit O ring (4) to joint (1).
5. Fit packing (6) and tungsten carbide seat (5) to body (8).
6. Fit valve spring (2) and ball (3) to joint (1), and then fit joint (1) to body (8). Tightening torque of joint 14.7N-m
7. Fix joint (1) with jam nut (7).

## ASSEMBLING SEQUENCE



## 6. PROBLEMS AND REMEDIES

### Important

Contact and ask the shop which sold it to you regarding \* marked items.

Wrong remedies can cause insufficient performance.

PROBLEMS	CAUSES	REMEDIES
The pointer of pressure gauge surpasses max. pressure.	<ol style="list-style-type: none"> <li>1. Not properly seated, or foreign matter</li> <li>2. Wear or damage on seat</li> <li>3. Wear and damage on ball</li> <li>4. Seat packing (6) damaged</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean and assemble again.</li> <li>2. Replace tungsten carbide seat (5)</li> <li>3. Replace tungsten carbide ball (3)</li> <li>4. Replace packing (6)</li> </ol>
Paint leaks outside.	<ol style="list-style-type: none"> <li>1. Loose joint(1)</li> <li>2. Loose bolt with hex. hole(17)</li> <li>3. Loose nut (16)</li> <li>4. Diaphragm (12) damaged</li> <li>5. O ring (4) damaged</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten</li> <li>2. Tighten</li> <li>3. Tighten</li> <li>4. Replace* diaphragm (12)</li> <li>5. Replace O ring (4)</li> </ol>
Secondary pressure does not rise.	<ol style="list-style-type: none"> <li>1. Primary pressure is too low</li> <li>2. Failure of pressure gauge (24)</li> <li>3. Paint hardened in rising pipe (23)</li> </ol>	<ol style="list-style-type: none"> <li>1. Raise primary side pressure</li> <li>2. Replace pressure gauge (24)</li> <li>3. Clean paint out</li> </ol>
Pressure is unstable.	<ol style="list-style-type: none"> <li>1. Damage to valve spring (2)</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace valve spring (2)</li> </ol>



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