Paint Regulator
PR-5B / -5BN /-5BL/-5BLN

Important

This manual contains IMPORTANT WARNINGS and INSTRUCTIONS.
Equipment in this manual is exclusively for painting purposes.
Do not use for other purposes.
The operator shall be fully conversant with the requirements stated in this instruction manual including important warnings, cautions and operation and correct handling.
Read and understand the instruction manual, before use and retain for reference.

CE ⟨Ex⟩ II 2G X

This Anest-iwata paint regulator complies to ATEX regulations 94/9/EC,
Protection level :
Ⅱ 2 GX, Suitable for use in Zones 1 and 2.
X marking :
Any static electricity discharge from the paint regulator is to be diverted to the grounded by connecting to grounded pump or to grounded fluid pipelines as stipulated.

Be sure to observe warnings and cautions in this instruction manual.
If not, it can cause paint ejection and serious bodily injury by drawing organic solvent.
Be sure to observe following ⚠ marked items which are especially important.

⚠WARNING	Indicates a potentially hazardous situation which, if not avoided, may result in serious injury or loss of life.
⚠CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or property damage.
Important	Indicates notes which we ask you to observe. The safety precautions in this instruction manual are the minimum necessary conditions. Follow national and local regulations regarding fire prevention, electricity and safety as well as your own company regulations.

■Important specifications

Max. Working Pressure	Fluid / IN ; PR-5B,-5BN = 2.5 MPa / 25 bar / 360 PSI PR-5BL ,-5BLN = 0.7MPa / 7bar / 100PSI Fluid / OUT ; PR-5B,-5BN = 0.6MPa / 6bar / 87PSI PR-5BL ,-5BLN = 0.3MPa / 3bar / 44PSI
Max. Temperature	Atmosphere ; 5℃～40℃ Fluid ; 5℃～43℃

■Main specifications

Model	Material of wet section (main body) ※pressure gauge : brass	Pressure range (secondary) MPa (bar/ PSI)	Max. primary pressure MPa (bar/ PSI)	Max. Flow L/min (cfm)	Connection	Mass g (lbs)
PR -5B / -5BN	Aluminium ※	0 ～ 0.6 (0～6/ 0～87)	2.5 (25/ 360)	2.0 (0.07)	Inlet : G3/8B Outlet : G1/4B	850 (1.9)
	Stainless steel※					1020 (2.3)
PR-5BL / -5BLN	Aluminium ※	0 ～ 0.3 (0～3/ 0～44)	0.7 (7/ 100)	1.5 (0.05)		850 (1.9)
	Stainless steel※					1020 (2.3)

■How to connect

Important

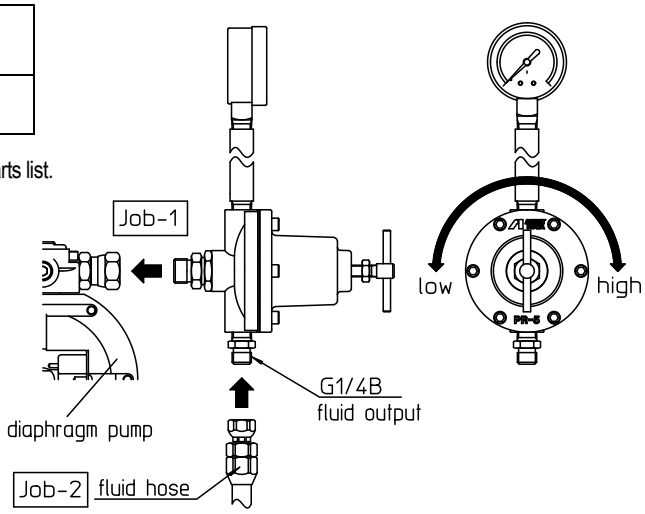
-Fit PAINT REGURATOR so that its pressure gauge will be vertical.
If not, paint can enter pressure gauge and cause failure.

(1) Connect fluid hose to PAINT REGURATOR according to IN and OUT indication in Parts list.
(2) The diagram right side shows when it is connected to pump. (ex. diaphragm pump).
If seated surface of connection is damaged, replace with new parts.

Connecting example Job-1 Connect PR-5B to fluid outlet of pump or to fluid pipelines supported firmly.
Job-2 Connect fluid hose or fluid pipelines supported firmly to fluid outlet of PR-5B.

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

Paint sometimes will exhaust from “OUT” side a little even if handle set is fully loosened. But it has no operational and functional problem.



■Safety precautions

⚠ WARNING

Fire and explosion

1. Spark and open flames are strictly prohibited.
Paints can be highly flammable and can cause fire.
Avoid any ignition sources such as smoking, open flames, electrical goods, etc.

2. In case of PR-5B / 5BL , never use the following HALOGENATED HYDROCARBON SOLVENTS.
In case of PR-5BN / 5BLN, pay attention that its exterior does not come into contact with the following halogenated hydrocarbon solvents.
which can cause cracks or dissolution on paint regulator body (aluminum) by chemical reaction.
・unsuitable solvents : methyl chloride, dichloromethane, 1.2-dichloroethane,carbon tetrachloride, trichloroethylene, 1.1.1-trichloroethane
（Be sure that all fluids and solvents are compatible with paint regulator parts.
We are ready to supply a material list used in the product）

3. Securely ground paint regulator by connecting to grounded pump or to fluid grounded pipelines.
Ground paint regulator **:** Less than 1MΩ Check the earth stability periodically.
If not, insufficient grounding can cause fire and explosion due to static electric sparking.

Wrong operation of equipment

1. Before operation, confirm that each section is properly fitted and adjusted.
Install the pressure relief valve in connected piping route to let the paints pressure relief in the emergency.
2. Never spray toward people or animal.
If done, it can cause inflammation of eyes and skin or bodily injury.

3. Never exceed maximum operating pressure and maximum operating Temperature.
4. Securely connect it to fluid hose and pump or fluid pipelines 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.
5. Be sure to use at lower than max. primary pressure.
Use at higher than max. primary pressure can cause damage which is very dangerous.
6. Be sure to use fluid hose which withstand Max. primary pressure working pressure 2.5MPa.
When the deadline of the liquid by the contact of the ball and the seat becomes defective, there is a case the secondary pressure rises to the primary pressure.
Please remedies repair referring to the paragraph of the problem and the remedies.

Protection of human body

1. Use in a well-ventilated place to avoid serious injury caused by paints or solvents .
If not, poor ventilation can cause organic solvent poisoning and catch fire.
2. Be sure to reduce fluid pressure down to 0MPa before cleaning, disassembling or servicing.
If not, remaining pressure can cause bodily injury through ejection of cleaning liquid due to wrong operation.

3. During cleaning, disassembling or servicing, be sure to wear protective cover such as glasses, masks or gloves.
If not, cleaning liquid, etc., can cause inflammation of eyes and skin.
If you feel something wrong with eyes or skin, immediately see a doctor.

Other precautions

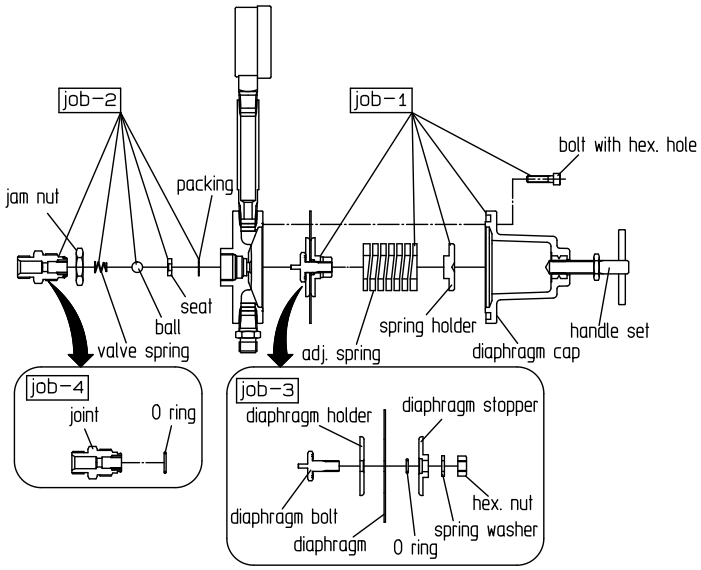
1. Never alter this equipment.
If done, it can cause insufficient performance and failure.
2. Never use it for foods or chemicals.
If done, it can cause accident by corrosion in paint passages and foreign matter can cause health problems.
3. If something goes wrong, immediately stop operation and find the cause. Do not use again until you have solved the problem.
4. Never use commercial or other parts instead of ANEST IWATA original spare parts.

■Disassembling and assembling

Important

- **When you disassemble main body～rising pipe～pressure gauge, apply sealing agent to each threaded section to keep airtightness.**
  If not, paint can enter pressure gauge and hardened paint can fail pressure gauge.
- **Whenever disassembling ball and seat of tungsten carbide, be sure to confirm that there is no wear or damage.**
  If there is any wear or damage, replace with new one.

■Disassembling



Job-1 Fully loosen handle set, and remove bolt with hex. hole, diaphragm cap, spring holder, adjusting spring and diaphragm section.

Job-2 Loosen jam nut, and remove joint, valve spring, ball, seat and packing.

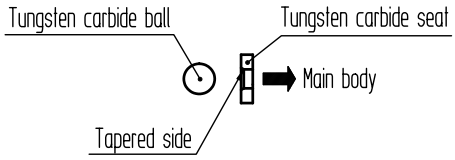
Job-3 Fix hex. section of diaphragm bolt, and remove hex. nut, spring washer, diaphragm stopper O ring, diaphragm and diaphragm holder.

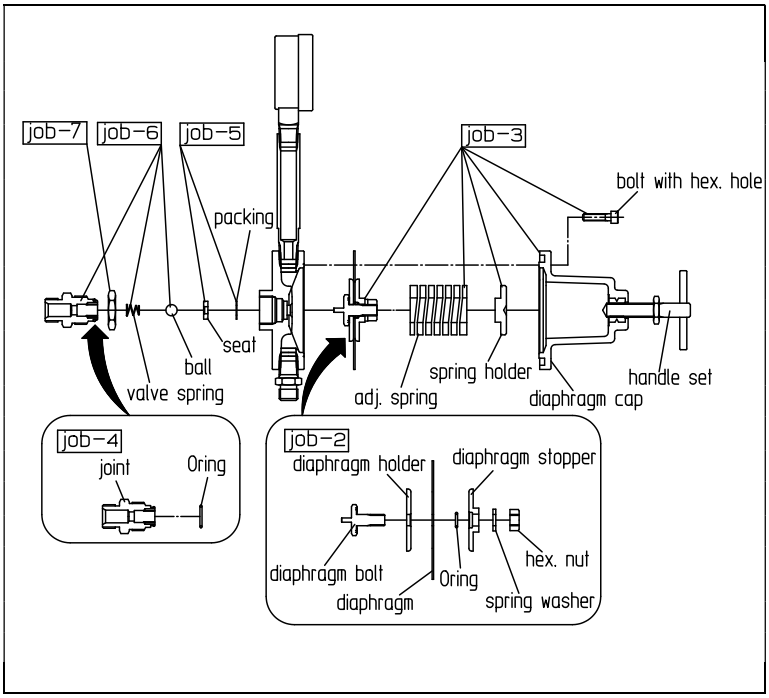
Job-4 If O ring built into joint is damaged or deformed, remove O ring from joint.

■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.**
  Too much tightening can damage main body.
  Tightening torque of joint 14.7N·m {10.8 ft-lbf}
- **When fitting joint, pay attention that tungsten carbide ball does not slip out of the seat.**





Job-1 Check for damage and foreign matter on each section.

Job-2 Fit diaphragm holder, diaphragm, O ring, diaphragm holder and spring washer into diaphragm bolt and tighten hex. nut.
Tightening torque of hex. Nut 9.8N·m {7.2 ft-lbf}

Job-3 Mount diaphragm section, adjusting spring, spring holder, and diaphragm cap on main body, and evenly tighten bolts with hex. bolt diagonally.

Job-4 Fit O ring to joint.

Job-5 Fit packing and tungsten carbide seat to body.

Job-6 Fit valve spring and ball to joint, and then fit joint to body.
Tightening torque of joint 14.7N·m {10.8 ft-lbf}

Job-7 Fix joint with jam nut.

■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.	1. Not properly seated, or foreign matter 2. Wear or damage on seat 3. Wear and damage on ball. 4. Damage to packing	1. Clean and assemble again. 2. Replace. tungsten carbide seat(N0.5) 3. Replace. tungsten carbide ball（No.3） 4. Replace. packing（No.6）
Paint leaks outside.	1. Loose joint (No.1) 2. Loose bolt with hex. Hole (No.17) 3. Loose nut (No.16) 4. Damage to diaphragm (No.12) 5. Damage to O ring (No.4)	1. Tighten. 2. Tighten. 3. Tighten. 4. Replace. ☆ 5. Replace O ring（No.4）.
Secondary pressure does not rise.	1. Low primary pressure. 2. Failure of pressure gauge (No.24) 3. Paint hardened in rising pipe(No.23)	1. Raise primary side pressure. 2. Replace pressure gauge（No.24）. 3. Clean paint out.
Pressure is unstable.	1. Damage to valve spring（No.2）	1. Replace valve spring（No.2）.

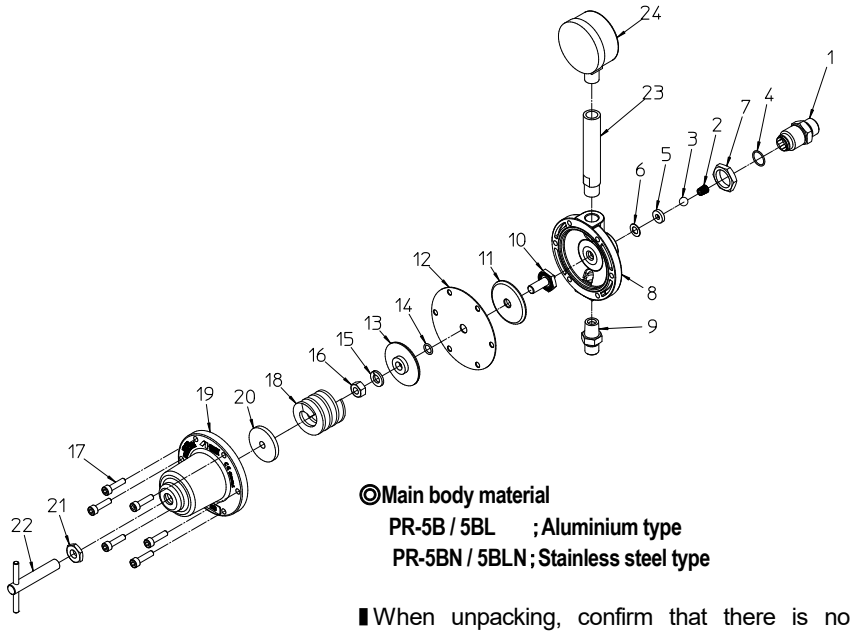
※The number in parentheses（） shows the number of parts lists.

■Parts list

As the only difference between models is No8 main body, specify model name, ref, No. and part name when ordering parts.
No18 spring for PR-5B / -5BN are difference with PR-5BL / -5BLN.

	No.	Parts name	Qty
	1	Joint	1
★	2	Valve spring	1
★	3	Ball	1
★	4	O ring	1
★	5	Seat	1
★	6	Packing	1
	7	Jam nut	1
◎	8	Main body	1
	9	Joint	1
★	10	Diaphragm bolt	1
★	11	Diaphragm holder	1
★	12	Diaphragm	1
	13	Diaphragm stopper	1
	14	O ring	1
	15	Spring washer	1
	16	Hex. nut	1
	17	Bolt with hex. hole	6
	18	Spring	1
	19	Diaphragm cap	1
	20	Spring holder	1
	21	Hex., nut	1
	22	Handle set	1
	23	Rising pipe	1
	24	Pressure gauge	1
		Accessories	
		Anti-dust cap	2
		Instruction manual	1

★marked parts are consumable parts.



◎Main body material
PR-5B / 5BL ; Aluminium type
PR-5BN / 5BLN ; Stainless steel type

- 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.
- **Never use commercial or other parts instead of ANEST IWATA original spare parts.**

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