

PR-B5 B / PR-B5 BN

Back Pressure Valve for Paint Recirculation






GB Before use, adjustment or maintenance, it is important to read this instruction manual very carefully. This manual must be stored in a safe place for any future reference that may be necessary.

IMPORTANT

This Paint Regulator 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 in 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 Paint Regulator operations, or if any missing parts or any damage during transportation is found, please contact your nearest ANEST IWATA Company (see last cover page).

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:	6.0 bar (87 PSI)
Max. Temperature range:	Atmosphere 5°C ~ 40°C / Fluid 5°C ~ 43°C

TECHNICAL SPECIFICATIONS

Model	Paint passages *pressure gauge: brass	Pressure range (secondary) bar (PSI)	Max. primary pressure bar (PSI)	Max. flow l/min.	Connection	Weight g
PR-B5 B	Aluminium*	6.0 (87)	6.0 (87)	2.0	Inlet: G3/8"	850
PR-B5 BN	Stainless Steel				Outlet: G3/8"	1020

SAFETY WARNINGS



FIRE AND EXPLOSION

- Sparks 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.



- With PR-B5 B never use the following HALOGENATED HYDROCARBON SOLVENTS.

With PR-B5 BN, make sure its exterior does not come into contact with the following halogenated hydrocarbon solvents, which can cause cracks or dissolution of paint regulator body (in aluminium) caused by chemical reaction:

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 can supply a list of materials used to manufacture the product.)

- Securely ground back pressure valve by connecting to grounded metal bracket or to grounded fluid 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.



SAFETY WARNINGS



IMPROPER USE OF EQUIPMENT

1. **Before operation, confirm that each section is properly fitted and adjusted.**
Install a pressure relief valve to connected piping route, to relieve paint pressure in an emergency.
2. **Never spray towards people or animals.** 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 fix the back pressure valve 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 that can withstand Max. primary working pressure 6.0 bar.**



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 0 bar 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 gear 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, see a doctor immediately.

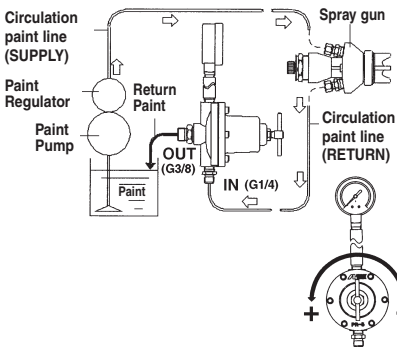


OTHER PRECAUTIONS

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 of 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.**

HOW TO CONNECT

IMPORTANT: Fit back pressure valve so that its pressure gauge is vertical. If not, paint can enter pressure gauge and cause failure.



Connecting Example:

- 1) Firmly connect PR-B5 B/ PR-B5 BN to paint recirculation pipeline.
- 2) Connect fluid hose to Back Pressure Valve according to IN and OUT indication as shown in the table beside.
 - a. Connect return line to fluid inlet (IN) of PR-B5 B/PR-B5 BN.
 - b. Connect the fluid hose from fluid outlet (OUT) of PR-B5 B/PR-B5 BN to paint tank.

How to operate:

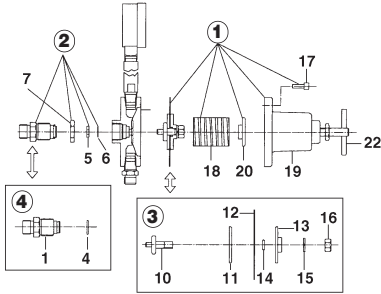
- Turning handle set to " + " side, recirculation volume increase.
Turning handle set to " - " side, recirculation volume decrease.

DISASSEMBLY AND ASSEMBLY

IMPORTANT

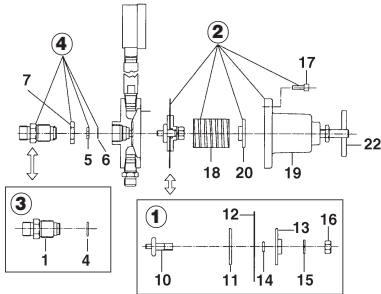
- **When you reassemble main body, rising pipe and pressure gauge, apply sealing agent to each threaded section to keep it airtight.**
If not, paint can enter pressure gauge and hardened paint can cause pressure gauge failure.
- **Whenever disassembling tungsten carbide seat, make sure that there is no wear or damage.**
If there is any wear or damage, replace with new one.

DISASSEMBLING



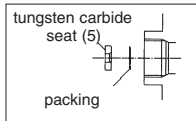
1. Fully loosen handle set (22), and remove bolts with hex.hole (17), diaphragm cap (19), spring holder (20), adjusting spring (18) and diaphragm section.
2. Loosen jam nut (7), and remove joint (1), tungsten carbide seat (5) and packing (6).
3. Fix hex. section of diaphragm bolt (10), and remove hex.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

ASSEMBLING



CHECK FOR DAMAGE AND FOREIGN MATTER ON EACH SECTION.

1. 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: 9.8 Nm (100 kgf.cm)
2. Assemble diaphragm section, spring (18) spring holder (20), and diaphragm cap (19) on main body (8), and evenly tighten bolts with hex. hole (17), diagonally.
3. Fit O'ring (4) to joint (1).
4. Fit packing (6) and tungsten carbide seat (5) into main body (8) and then fit joint (1) to main body (8). Tightening torque of joint 14.7 Nm (150 kgf.cm)
5. Fix joint (1) with jam nut (7).



IMPORTANT

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

Incorrect assembly can cause faulty movement of pressure gauge pointer due to leakage from seat, resulting in insufficient performance.

Pay attention to tightening torque when fitting joint. Too much tightening can damage main body. Tightening torque of joint: 14.7 Nm

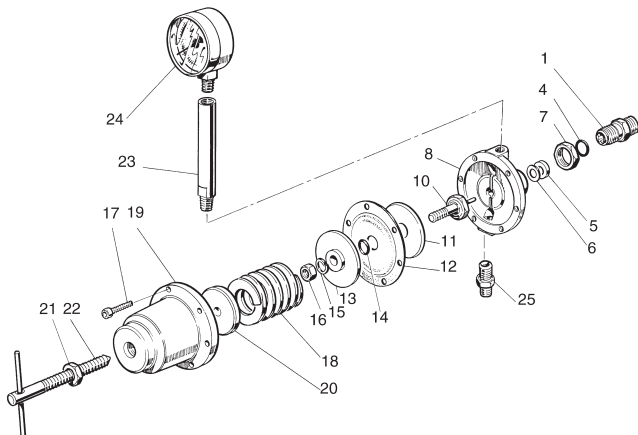
PROBLEMS AND REMEDIES

IMPORTANT: Contact and ask the shop which sold it to you regarding * marked items. Wrong remedies can cause insufficient performance.

Problems	Causes	Remedies
Pressure gauge pointer exceeds max. pressure	<ol style="list-style-type: none"> 1. Paint regulator not properly seated, or foreign matter 2. Wear or damage on seat (5). 3. Packing (6) is damaged. 	<ol style="list-style-type: none"> 1. Clean and assemble again. 2. Replace. 3. Replace.
Paint leaks	<ol style="list-style-type: none"> 1. Joint (1) is loosened. 2. Bolts with hex. hole (17) loosened. 3. Nut (16) is loosened. 4. Diaphragm (12) is damaged. 5. O'ring (4) is damaged. 	<ol style="list-style-type: none"> 1. Tighten. 2. Tighten. 3. Tighten. 4. Replace* 5. Replace.
Secondary pressure does not increase	<ol style="list-style-type: none"> 1. The supply paint volume or pressure are too low. 2. Pressure gauge failure (24). 3. Hardened paint in rising pipe (23). 	<ol style="list-style-type: none"> 1. Increase supply paint volume or pressure. 2. Replace. 3. Clean.

SPARE PARTS LIST

DESCRIPTION	REF.
JOINT	1
O'RING	4 •
SEAT in Tungsten Carbide	5 •
PACKING	6 •
JAM NUT	7
MAIN BODY	8 *
DIAPHRAGM BOLT	10 •
DIAPHRAGM HOLDER outer	11
DIAPHRAGM	12 •
DIAPHRAGM HOLDER inner	13
O'RING	14
SPRING WASHER	15
HEX. NUT	16
BOLT WITH HEX. HOLE	17
SPRING	18
DIAPHRAGM CAP	19
SPRING HOLDER	20
HEX. NUT	21
HANDLE SET	22
RISING PIPE	23
PRESSURE GAUGE	24
JOINT	25



* As the only difference between models is the main body

PR-B5 B : Main body in Aluminium

PR-B5 BN : Main body in Stainless Steel

Please specify model name ref. no. and part name when ordering parts.

• Marked parts are wearable parts.

- Never use commercial or other parts instead of ANEST IWATA original spares.
- When unpacking, make sure there is no damage and that parts are not missing.
- If parts are missing, or have been damaged during transportation, do not use the equipment and contact the shop which sold it to you.

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