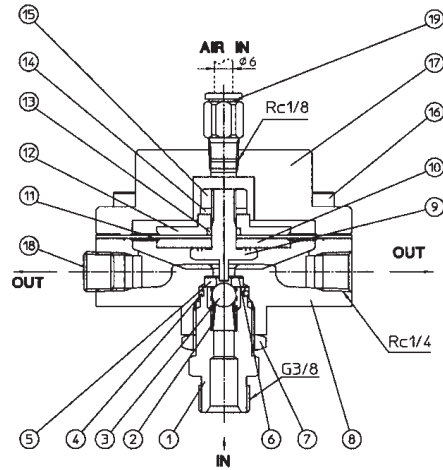


# SPARE PARTS LIST

DESCRIPTION	REF.
JOINT	1
SPRING VALVE	2 •
BALL in Tungsten Carbide	3 •
O'RING	4 •
SEAT in Tungsten Carbide	5 •
PACKING	6 •
JAM NUT	7
MAIN BODY	8 *
DIAPHRAGM BOLT	9 •
DIAPHRAGM HOLDER	10 •
DIAPHRAGM	11 •
DIAPHRAGM STOPPER	12
O'RING	13
SPRING WASHER	14
HEX. NUT	15
BOLT WITH HEX. HOLE	16
DIAPHRAGM CAP	17
PLUG WITH HEX. HOLE	18
HALF UNION	19



- Marked parts are wearable parts.
- Please specify model name ref. no. and part name when ordering 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.

IMJ-1579-EREV.03

## FCV-3 Paint Flow Control Valve

**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 flow control valve 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 flow control valve 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.	
<b>WARNING</b>	Indicates a potentially hazardous situation which, if not avoided, may result in serious injury or loss of life.
<b>CAUTION</b>	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or property damage.
<b>IMPORTANT</b>	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:	<b>Fluid IN:</b> 25 bar (360 PSI)	<b>Fluid OUT:</b> 6.0 bar (87 PSI)	<b>Adj. AIR:</b> 6.0 bar (87 PSI)
Max. Temperature range:	Atmosphere 5°C ~ 40°C Fluid/Air 5°C ~ 43°C		

### TECHNICAL SPECIFICATIONS

Model	Material of wet section	Max. primary pressure bar (PSI)	Max. Air pressure bar (PSI)	Max. secondary pressure bar (PSI)	Max. flow l/min.	Air & Paint connection	Weight g
FCV-3	Aluminium	25 (360)	6.0 (87)	0~6.0 (0~87)	2.0	FLUID IN: G3/8" FLUID OUT: Rc1/4" AIR HOSE: Ø 6x4	550

## 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.
- Never use the following HALOGENATED HYDROCARBON SOLVENTS; which can cause cracks or dissolution of 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 flow control valve parts. We can supply a list of materials used to manufacture the product.)
- Securely ground flow control valve by connecting to grounded metal bracket or to grounded pump or to grounded fluid pipelines.**  
Ground flow control valve : Less than 1MΩ. Check the earth stability periodically. If not, insufficient grounding can cause fire and explosion due to static electric sparking.

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# SAFETY WARNINGS



## IMPROPER USE OF EQUIPMENT

- 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.
- Never spray towards people or animals.** If done, it can cause inflammation of eyes and skin or bodily injury.
- Never exceed maximum operating pressure and maximum operating temperature.**  
The control of the pressure in the air supply line, is carried out by setting pressure gauge.
- Firmly connect flow control valve 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 and max. air pressure.** Use at higher than max. primary pressure and max. air pressure can cause damage which is very dangerous.
- Be sure to use fluid hose that can withstand Max. primary working pressure 25 bar.**



## PROTECTION OF HUMAN BODY

- 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.
- 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.
- 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

- Never alter this equipment.** If done, it can cause insufficient performance and failure.
- 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.
- If something goes wrong, immediately stop operation and find the cause. Do not use again until you have solved the problem.**
- Never use commercial or other parts instead of ANEST IWATA original spare parts.**

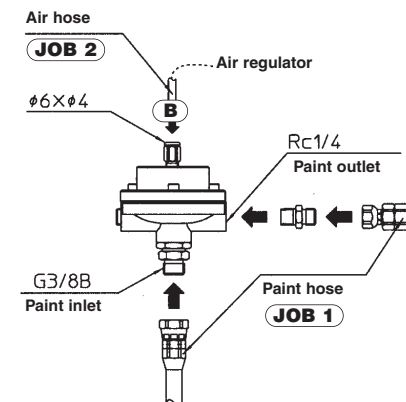
## HOW TO CONNECT

### IMPORTANT:

When connecting joints to exhaust thread section (Rc1/4"), apply medium strength adhesive to thread section or wind sealing tape around thread section to prevent liquid from leaking.

Make sure that paint does not include dirt or foreign matter. Using paint containing foreign matter can cause leakage from seated section and unstable fluid output.

Primary side fluid pressure supply must be set 0.5 bar higher than operating air pressure. If primary side fluid pressure supply is lower than operating air pressure, fluid output will be unstable.



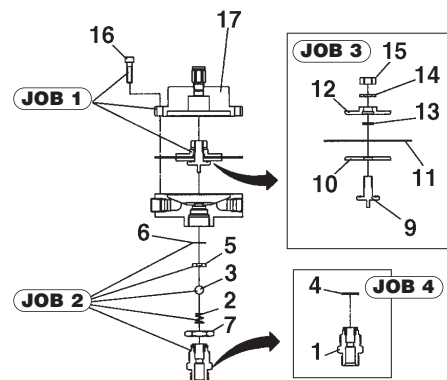
### Connecting Example:

- Firmly connect fluid hose to fluid inlet and outlet.
- Connect air hose (Ø 6x4) coming from air regulator.

### How to operate:

- Increasing air pressure to air regulator, secondary side fluid pressure will increase.
- Decreasing air pressure to air regulator, secondary side fluid pressure will decrease.

## DISASSEMBLING

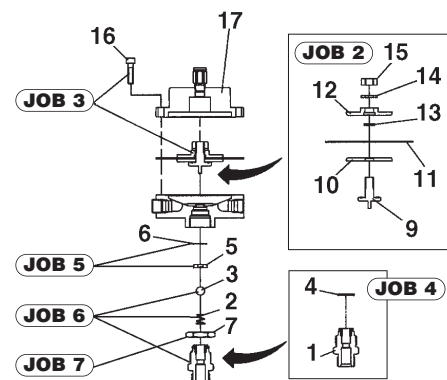


### IMPORTANT:

Whenever disassembling tungsten carbide ball and seat, make sure there is no wear or damage. If there is any wear or damage, replace with new one.

- Remove bolts with hex. hole (16), diaphragm cap (17), and diaphragm section.
- Loosen jam nut (7), and remove joint (1), valve spring (2), ball (3), seat in tungsten carbide (5) and packing (6).
- Remove hex. nut (15), spring washer (14), diaphragm stopper (12), O'ring (13), diaphragm (11) and diaphragm holder (10).
- If O'ring (4) built into joint (1) is damaged or deformed, remove O'ring from joint and replace.

## ASSEMBLING



- Check for damage and foreign matter on each section.
- Fit diaphragm holder (10), diaphragm (11), O'ring (13), diaphragm stopper (12) and spring washer (14) into diaphragm bolt (9) and tighten hex. nut (15). Tightening torque of hex. nut : 9.8 Nm (100 kgf.cm)
- Assemble diaphragm section and diaphragm cap (17) on main body (8), and evenly tighten hex. bolts (16) diagonally.
- Fit O'ring (4) to joint (1).
- Fit packing (6) and tungsten carbide seat (5) to main body (8).
- Fit valve spring (2) and ball (3) to joint (1), and then fit joint to main body (8). Tightening torque of joint 14.7 Nm (150 kgf.cm)
- Fix joint (1) with jam nut (7).

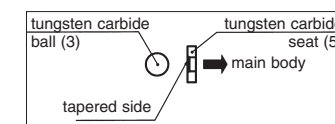
### IMPORTANT:

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

Incorrect assembly can cause leakage from seat section, 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.

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



## 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
Secondary pressure exceeds	<ol style="list-style-type: none"> <li>Flow control valve not properly seated, or foreign matter</li> <li>Wear or damage on tungsten carbide seat (5).</li> <li>Wear or damage on tungsten carbide ball (3).</li> <li>Packing (6) is damaged.</li> </ol>	<ol style="list-style-type: none"> <li>Clean and assemble again.</li> <li>Replace.</li> <li>Replace.</li> <li>Replace.</li> </ol>
Paint leaks	<ol style="list-style-type: none"> <li>Joint (1) is loosened.</li> <li>Bolts with hex. hole (16) loosened.</li> <li>Hex. Nut (15) is loosened.</li> <li>Diaphragm (11) is damaged.</li> <li>O'ring (4) is damaged.</li> </ol>	<ol style="list-style-type: none"> <li>Tighten.</li> <li>Tighten.</li> <li>Tighten.</li> <li>Replace.*</li> <li>Replace.</li> </ol>
Secondary pressure does not increase	<ol style="list-style-type: none"> <li>Primary pressure are too low.</li> </ol>	<ol style="list-style-type: none"> <li>Increase primary pressure.</li> </ol>
Pressure is instable	<ol style="list-style-type: none"> <li>Valve spring (2) is damaged.</li> </ol>	<ol style="list-style-type: none"> <li>Replace.</li> </ol>