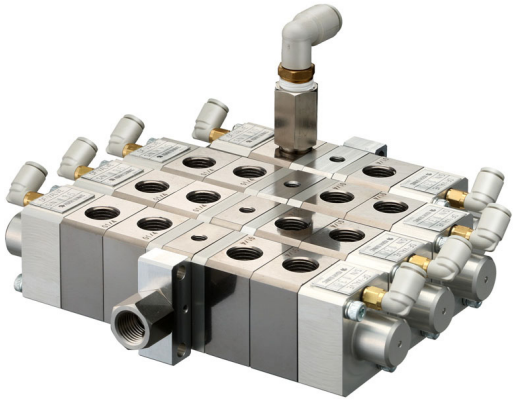
Operation and Maintenance Manual

Color change valve

CCV2PA/CCV2PS
CCV3PA/CCV3PS



This manual contains important information on warnings and cautions.
Read the manual thoroughly before starting to operate this equipment, and follow the instructions.
Always keep the manual handy until such time as the product is no longer being used. If your manual is lost or worn badly, do not hesitate to contact our agency which is closest to you, or the Asahi Sunac Corporation, directly, and ask us to send you a new one.

9th Edition: March 30, 2023

Introduction

Thank you for your purchase of our color change valve CCV2PA/CCV2PS/CCV3PA/CCV3PS.

Before you use the equipment, carefully read this manual and get to know how to use it safely, efficiently and effectively. Please pay particular attention to major specifications, warnings and precautions, including prohibited items. Use the equipment appropriately and with care, following the instructions. We hope that by doing so you win benefit from use of the product over a long period of time.

The painting equipment in this manual is for professional use only, calling for a qualified person to operate. Use of the equipment should, therefore, be limited to those who have acquired operation and application skills through an authorized training course.

Should you have any questions with regard to the manual, please give us the “Model Name” and “Serial Number” of your equipment; so that we may be able help you with your questions. You can reach us at any of the addresses, phone numbers and fax numbers shown on the back cover.

Please keep the manual handy until such time as the product is no longer being used. If your manual is lost or worn badly, do not hesitate to contact our agency or Asahi Sunac Corporation to request a new one.

Contents

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1 For Your Safety

<<Suitable range of use of the product>>

This manual is applicable to our

Color change valve CCV2PA, CCV2PS, CCV3PA, or CCV3PS.

※ In this manual, the descriptions such as (S) mean the specification if the metal touch with liquid is made of stainless.

Please read and understand this manual. Always follow the instructions in it.

Failure to do so may result in **personal injury and/or property damage**.

While all the safety precautions in the manual are very important, you should not consider them to be as cure-all.

They are nothing but general minimum requirements.

For instance, governmental laws and regulations or in-house rules shall also observe.

Shown below and in the pages that follow are the basic minimum safety precautions in connection with use of our product.

- Safety precautions are classified into three categories based on the severity of hazards involved.

⚠	**WARNING**	Alerts a hazardous situation which may result in personal injury, along with hazard avoidance measures.
⚠	**CAUTION**	Alerts a hazardous situation which may result in equipment damage, along with hazard avoidance measures.
	NOTE	Indicates important methods and practical information.

※ Safety precautions classified into the CAUTION category could cause personal injury if not properly followed.

To ensure safety and prevent equipment failure, always observe the safety precautions and follow the hazard avoidance measures in any categories.

⚠ WARNING

Suitable range of use of the product

- Please supply operation air or paint of the product as given in the specifications.
  Any application of factors not given in the specifications may cause equipment failure, damage, or malfunction.
- Do not use acid or rusting materials or halogenated hydrocarbon solvents.
  Failure to do so may result in equipment explosion, fire, malfunction, or failure.
- If you have any question about the intended use or paint of the product, please consult us.
- The use under conditions other than specified above is all considered misuse unless specially approved by us and may lead to an unexpected accident.

<<General safety notes>>

- Do not exceed the highest fluid pressure or high air pressure given in the specifications when you apply to the equipment.
  Please ensure that all other components and accessories withstand the maximum operating pressure specified above.
- Class D grounding work (contact resistance of 100Ω or less) is required for the equipment.
  However, this does not apply to paint lines where electric insulation is required. Please follow safety standards of the system.
- Repair or parts replacement shall be conducted if an error is detected within the range of the specified maintenance works.
  If not within the range of the specified maintenance works, please contact our agency or Asahi Sunac Corporation.
- When inspecting or repairing the equipment, paint paths shall be cleaned, and the fluid pressure and air pressure (gauge pressure, etc.) shall be reduced to zero.
- In order to run the system safely, all operators shall read and have understanding of this manual, labels of each device, and individual manuals of all paint systems. Use of the equipment should, therefore, be limited to those who have acquired operation and application skills through an authorized training course.
- All works shall be performed in accordance with national or local governmental regulations and safety regulations including protection laws, electrical equipment technical standards.

<< Cleaning safety >>

- Please maintain your work areas well-ventilated and avoid accumulating inflammable atmosphere (solvent atmosphere).
- Please wear a gas mask for organic solvent, safety glasses, and protective cloths.

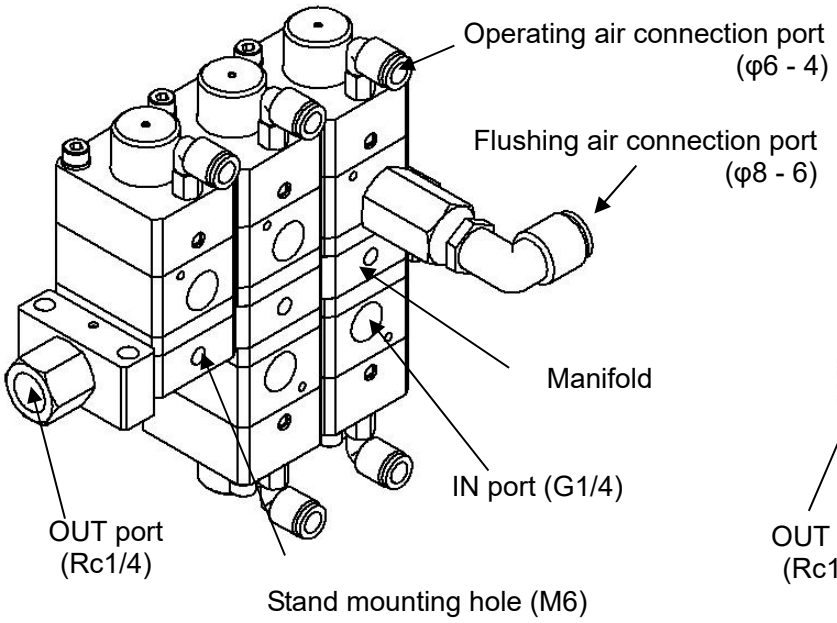
⚠ CAUTION

- Please maintain the operating air pressure of the 3P valve no less than 0.4MPa.
  The pressing force of the seat on the circulation port side falls insufficient and that leads to a failure in switching paths.
- Do not install in a place where thinner or paint mist can splash on.
- Preventative measures shall be taken to stop dirt or metal pieces from running in the valves.
  Failure to do so may lead to valve seat failures or diaphragm damage.

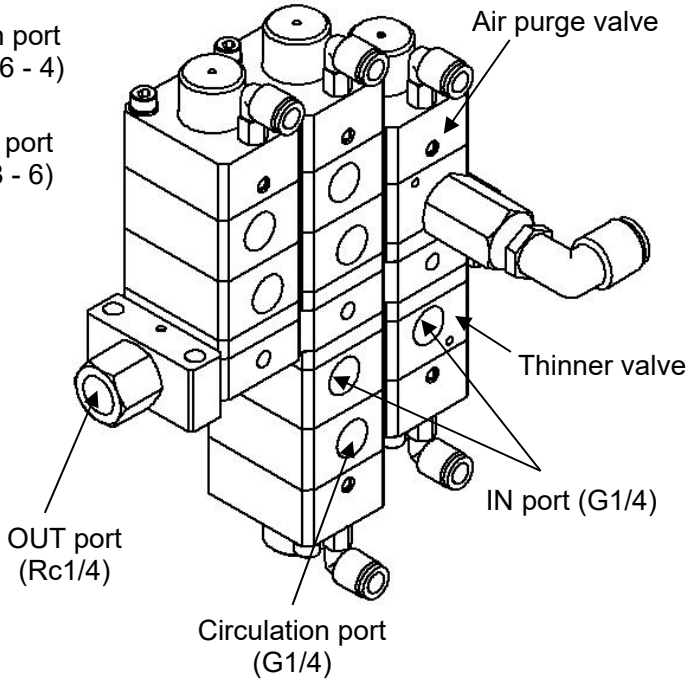
2 Specifications

2.1 CCV

<<2P valve specification: CCV2PA, CCV2PS>>
Ex. For three colors without circulation



<<3P valve specification: CCV3PA, CCV3PS>>
Ex. For three colors with circulation

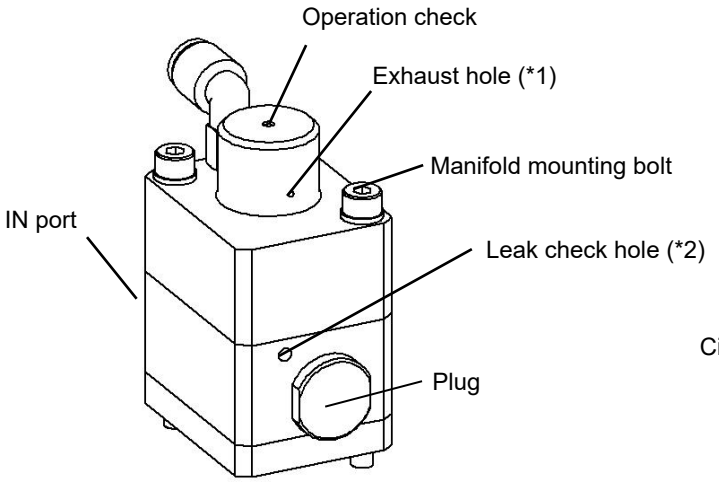


Mounting valve specification	2P valve specification		3P valve specification	
Name	**CCV2PA**	**CCV2PS**	**CCV3PA**	**CCV3PS**
Parts No.	**0850 -□**	**0851 -□**	**0852 -□**	**0853 -□**
Metal for liquid	Aluminum	Stainless steel	Aluminum	Stainless steel
Operating air pressure	0.3 to 0.5 MPa		0.4 to 0.5 MPa	
Used fluid pressure	0 to 1.2 MPa			
Max. flow rate	1500 mL/min (paint pressure: 0.5 MPa; viscosity: 80 mPa·s = Approx. 30 sec/FC#4)			
Paint path diameter	φ5.5 mm (valve opening diameter: φ4 mm)			
Used fluid temperature	0 to 40°C			
Used fluid viscosity	15 to 300 mPa·s			
Recommended flushing air rate (*)	60 L/min or more ※ Bell gun specifications shall be observed if any bell gun is used.			

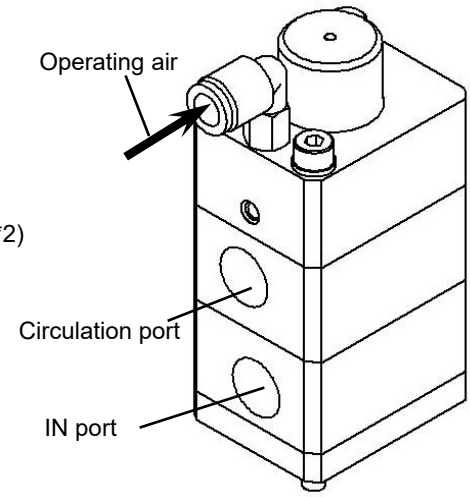
※ See pages 12 to 13 for "□" of the parts No.

2.2 Valve unit

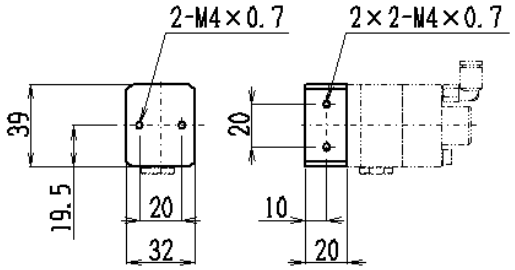
<<2P valve DFA, 2P valve DFS>>



<<3P valve DFA, 3P valve DFS>>



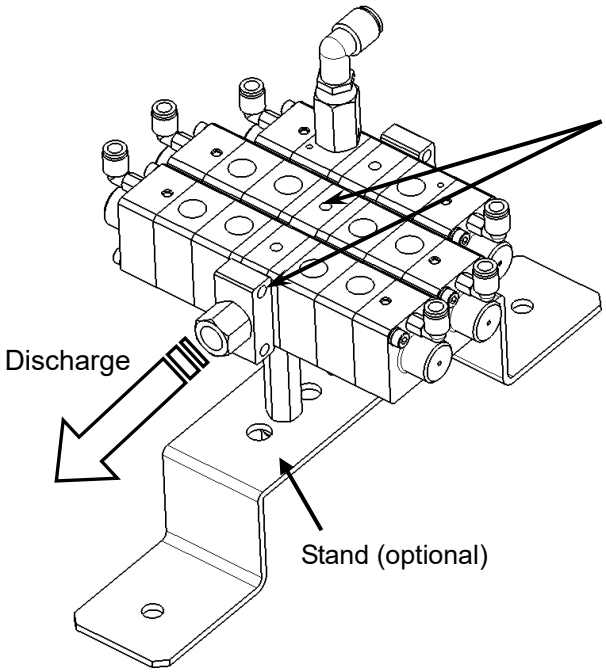
Position of the hole for mounting the one valve manifold.



※1: Keep the exhaust hole free from pant dirt clog, etc.
※2: Available to connect a φ4 × 2.5 tube with a M3 valve joint. It prevents fluid leak to outside.
※3: It can be used as a circulation port by removing the plug.

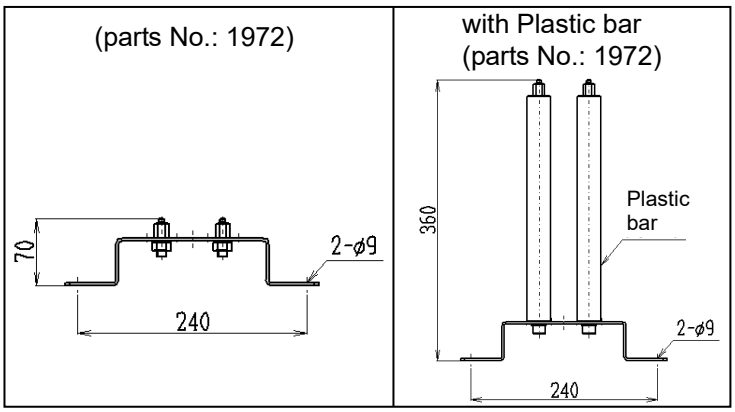
Name	2P valve DFA	2P valve DFS	3P valve DFA	3P valve DFS
Model	**2PV-A**	**2PV-S**	**3PV-A**	**3PV-S**
Wetted metal specification	Aluminum	Stainless steel	Aluminum	Stainless steel
Mass	180 g	230 g	220 g	375 g
Outside dimensions	65 mm (H) × 31 mm (W) × 39 mm (D)		85mm (H) × 31 mm (W) × 39 mm (D)	
Fluid pressure	0 to 1.2 MPa			
Operating air pressure	0.3 to 0.5 MPa		0.4 to 0.5 MPa	
Max. flow rate	1.5 L/min (30 sec/FC#4, 0.5MPa)			
Cv value	0.6			
Port diameter	G1/4 (PF1/4)			
Paint outlet diameter	φ4 mm			
Operating air opening diameter	Outer diameter: φ6 mm Joint mounting side: M5 × 0.8			
Supply air requests	Solid particle size: 0.1 μm or below Residual amount of oil: 0.01 mg/m^3 or less Water amount: 0.5 mg/m^3 or less			
Used fluid temperature	0 to 40°C			
Used fluid viscosity	25 to 300 mPa·s			

3 Installation

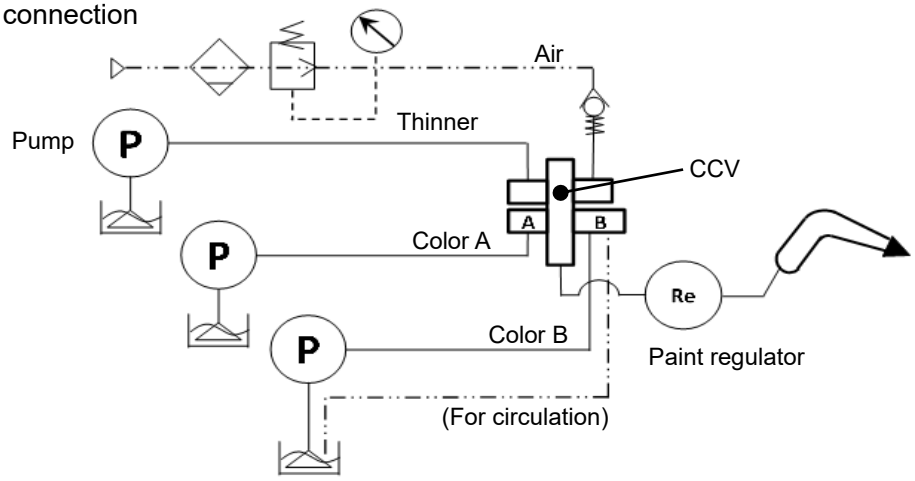


Install on a stand using the holes for M6 x 1.0, 6 mm depth (hole pitch 32 mm) on the manifold side or plated through holes (φ5.5) of the front and rear plates.

Stand

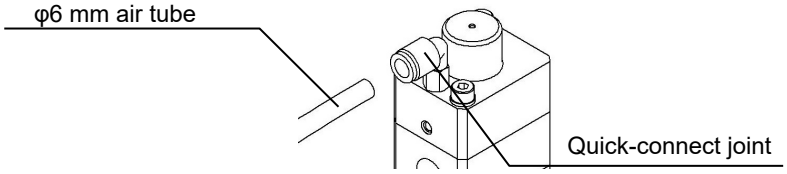


3.1 Example of connection



3.2 Connection of operating air

Air tubes shall be connected to a quick-connect joint.



⚠ CAUTION

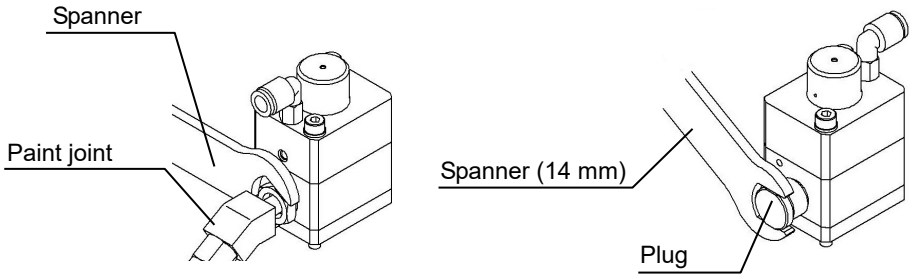
Once the valve is activated with air, it does not close until the air source is shut and air is discharged from the cylinder internal. Please ensure to use a solenoid valve with exhaust port air for an air source.

3.3 Paint hose connection

<<2P Valve DFA, 2P Valve DFS>>

・Mount a paint joint onto the port (G1/4) on the side of the valve.

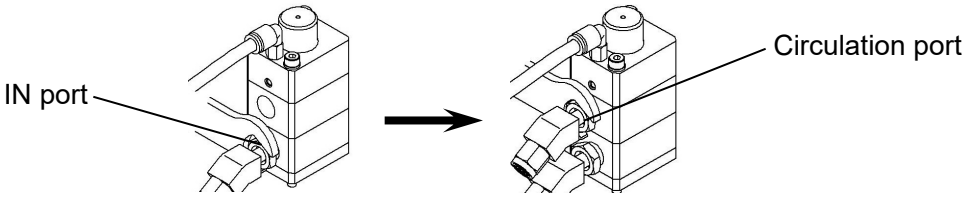
・With the circulation type, remove the plug and connect a paint joint to the port (G1/4).



<<3P valve DFA, 3P valve DFS>>

・Mount a paint joint on the paint feeder onto the IN port on the side of the valve.

・Mount a paint joint on the paint circulation path onto the circulation port on the side of the valve.



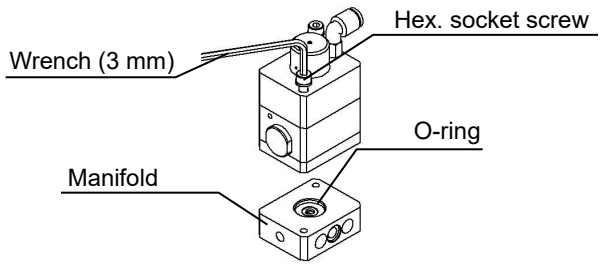
⚠ WARNING

Danger of paint jet-out

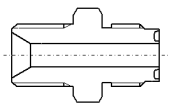
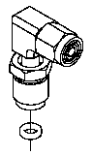
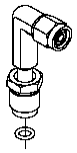
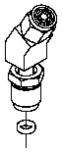
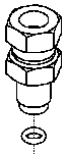
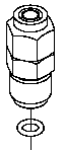
- **Please wear a gas mask for organic solvent, safety glasses, and protective clothes.**
- **Please use a adjustable wrench or spanner to tighten the paint joints. Also, please fasten swivel type elbow joints while fixing the hose direction with a double spanner.**

3.4 Connection to the manifold

The O-ring (130-2005) on the manifold shall be checked and tightened with two hexagon socket screws (03-80470).



<List of applicable paint joints>

Part name	Appearance	Parts No.	Tube/port size	Port size	Specification/remarks
Hose joint straight		342-0068	G1/4	G1/4	・By O-rings (Parts No. 101-2006) ・Material: Stainless ・Withstand pressure: 2.0 MPa
Swing elbow		342-0190	φ4 to 2.5		・With gasket (Parts No. 342-0212) ・Material: Stainless ・Withstand pressure: 2.0 MPa
		342-0191	φ6 to 4		
		342-0192	φ8 to 6		
		342-0193	φ10 to 8		
Swing elbow L		342-0194	φ4 to 2.5		
		342-0195	φ6 to 4		
		342-0196	φ8 to 6		
		342-0197	φ10 to 8		
Swing elbow 40		342-0198	ϕ6-4		
		342-0199	ϕ8-6		
		342-0200	ϕ10-8		
Male/female G joint		342-0201	G1/4		・With gasket (Parts No. 342-0210) ・Material: Stainless ・Withstand pressure: 2.0 MPa
		342-0202	G3/8		
Hose joint G		342-0203	φ4 to 2.5		
		342-0204	φ6 to 4		
		342-0205	φ8 to 6		
		342-0206	φ10 to 8		

4 Maintenance and Inspection

⚠ CAUTION

Please protect the valves, paint joints and manifolds clean from dirt or paint and maintain them clean at all time. Moreover, constant attention is required to keep them away from mechanic impacts.
Do not let the valve units dip in washing solvent because the solvent enters the working air path, resulting in operation errors.

4.1 Periodical inspection

For the full performance of the equipment, periodical inspection shall be performed according to the table.
The inspection timings are only shown as a guide and may vary depending on the conditions of use.

Items	State	Treatment	Timing
Diaphragm inspection	Paint leak from leak check hole	Replace the diaphragm with a new one.	Accordingly
Paint seat inspection	Paint seat leak ・ Paint valve: Wrong color mixed. ・ Thinner valve: Washing thinner inclusion. ・ Air purge valve: Washing valve air inclusion.	<<2PV-A(S)>> Replace the seats and the head with new ones. <<3PV-A(S)>> Replace the seats, the head, and the rod.	

4.2 Consumables

Prepare spare parts according to the conditions of use, referring to the rank classification in the following.

Rand classification	Parts No.	Part name	Qty.	Remarks
0845/0845-1				
A	0845-002	Head	1	
	0845-009	Seat	1	
B	0845-004	Diaphragm	1	
D	101-9005	O-ring	1	Piston O-ring
	101-6022	O-ring	1	Piston O-ring
	130-6024	O-ring	1	Retainer O-ring
0846/0846-1				
A	0845-002	Head	1	
	0845-009	Seat	1	
	0846-004	Seat	1	Return side seat
B	0845-004	Diaphragm	1	
D	101-9005	O-ring	1	Piston O-ring
	101-6022	O-ring	1	Piston O-ring
	130-6024	O-ring	1	Retainer O-ring

Rank A：Daily consumables
Rank B：Medium-term consumables
Rank C：Parts which may be damaged/lost when used
Rank D：Parts required to be replaced when disassembled

⚠ WARNING

Danger of paint jet-out

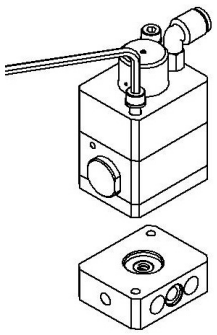
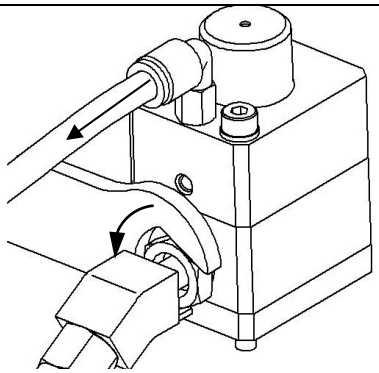
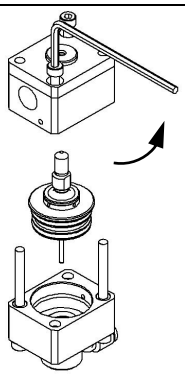
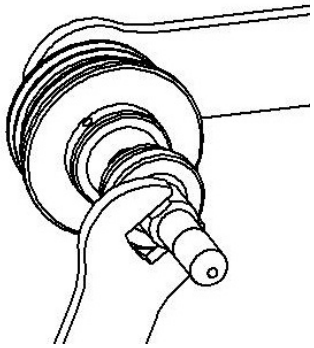
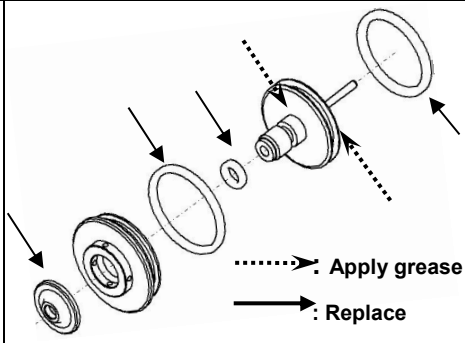
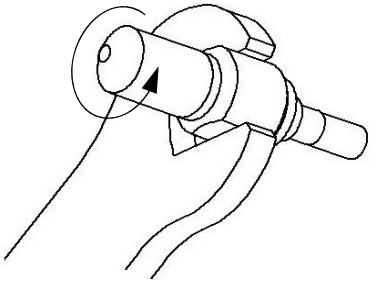
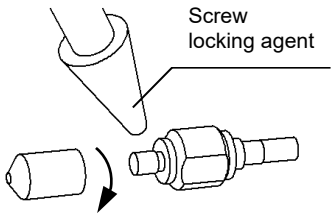
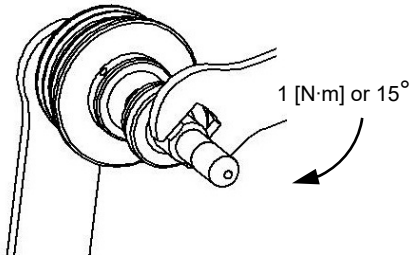
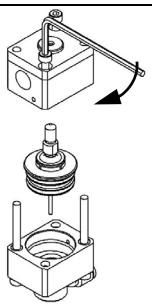
- **Preventative maintenance for the diaphragms shall be practiced in conformity with the list above.**
- **Do not face the leak check hole toward electric equipments, fire, or people.**

4.3 Parts replacement

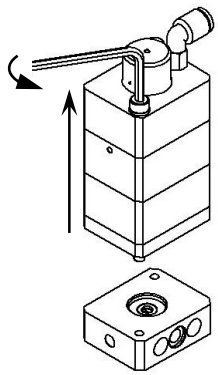
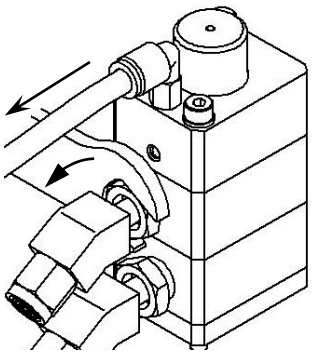
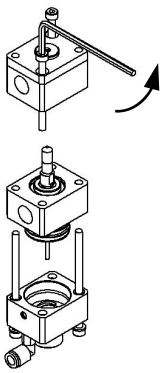
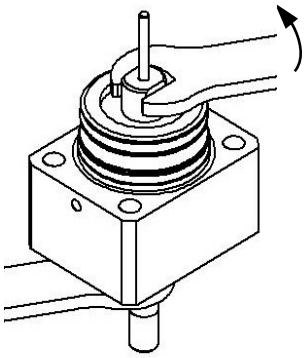
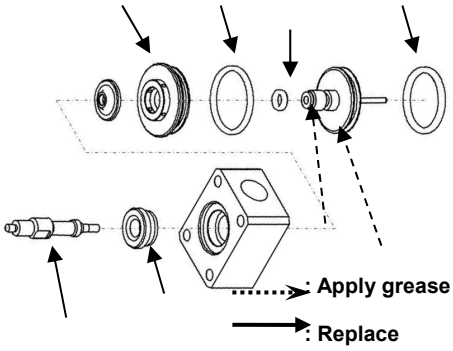
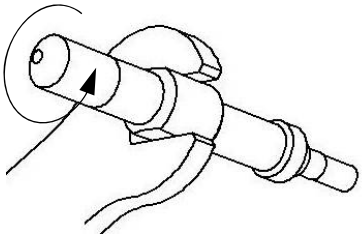
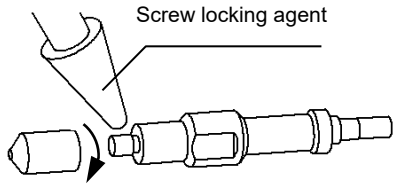
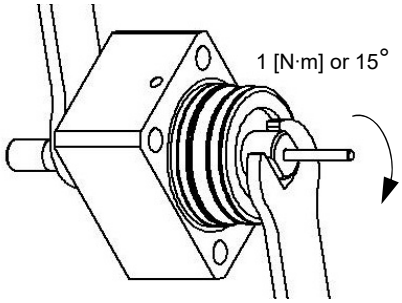
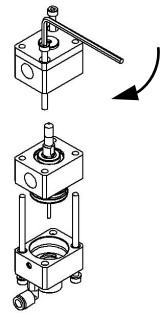
⚠ WARNING

<u>Unexpected motion of the paint machine may cause danger to human body or accident.</u>
Please, when replacing or repairing parts, ensure to reduce the operating air pressure, which is supplied to the valve, to zero after discharging and cleaning paint off the paint path and eliminating residual pressure.

<<2PV-A(S) disassembly/assembly>>

		
(1) Reduce the fluid pressure and operating air pressure to zero. Use a wrench (3 mm) to fasten two hexagon socket screws.	(2) Remove the air tube. Use a spanner (14 or 17 mm) to remove the paint joint.	(3) Use a wrench (3 mm) to remove two hexagon socket screws by loosening each screw bit by bit alternately. Wipe off the grease of Piston with a soft cloth.
		
(4) Use a spanner (7 mm) to disassemble the needle 2P.	(5) Replace the diaphragm, seats, and O-rings. Apply grease (※1) to grooves for the O-rings.	(6) Use pliers to remove the head while fixing the width across the flat (7mm) of the rod.
		
(7) Apply screw locking agent (※ 2) and mount the head by hand. Do not damage to the taper portion of head.	(8) Use a torque wrench (1 N·m) to mount the needle 2P. If a torque wrench is not available, re-tighten it for 15° after the screw section is settled on the seat.	(9) Assemble in the reversed order from the disassembly. Put two hexagon socket screws by tightening each screw bit by bit alternately to prevent the bent of the pin for operation check.

<< 3PV-A(S) diassembly /assembly>>

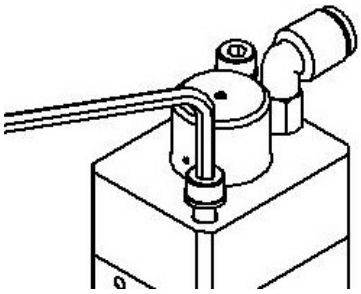
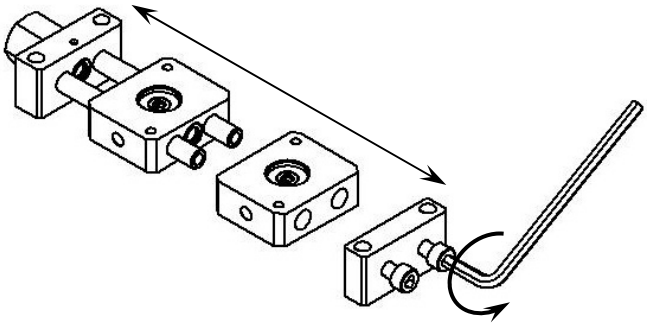
		
(1) Reduce the fluid pressure and operating air pressure to zero. Use a wrench (3 mm) to fasten two hexagon socket screws.	(2) Remove the air tube. Use a spanner (14 or 17 mm) to remove the paint joint.	(3) Use a wrench (3 mm) to remove two hexagon socket screws by loosening each screw bit by bit alternately. Wipe off the grease of Piston with a soft cloth.
		
(4) Use a spanner (7 mm) to disassemble the needle 3PA(S).	(5) Replace the diaphragm, seats, needle, and O-rings. Apply grease (※1) to grooves for the O-ring.	(6) Use pliers to remove the head while fixing the width across the flat (7 mm) of the rod.
		
(7) Apply screw locking agent (※2) and mount the head by hand. Do not damage to the taper portion of head.	(8) Use a torque wrench (1N·m) to mount the needle 3PA(S). If a torque wrench is not available, re-tighten it for 15° after the screw section is settled on the seat.	(9) Assemble in the reversed order from the disassembly. Put two hexagon socket screws by tightening each screw bit by bit alternately to prevent the bent of the pin for operation check.

※ 1: Recommended grease: Showa Shell Sunlight Grease 2
※ 2: Recommended screw locking agent: ThreeBond 1303B
* Wipe off excessive screw locking agent with a soft cloth that has cleaning solvent absorbed.

⚠ WARNING

<u>Unexpected motion of the paint machine may cause danger to human body or accident.</u>
Please, when replacing or repairing parts, ensure to shut the compressed air, which is supplied to the valve, after discharging and cleaning paint off the paint path and eliminating residual pressure.

<<Manifold disassembly>>

	
(1) Use a wrench (3 mm) to remove two hexagon socket screws and disassemble the valve form the manifold.	(2) Use a wrench (4 mm) to remove two hexagon socket screws to disassemble the valve from the manifold.

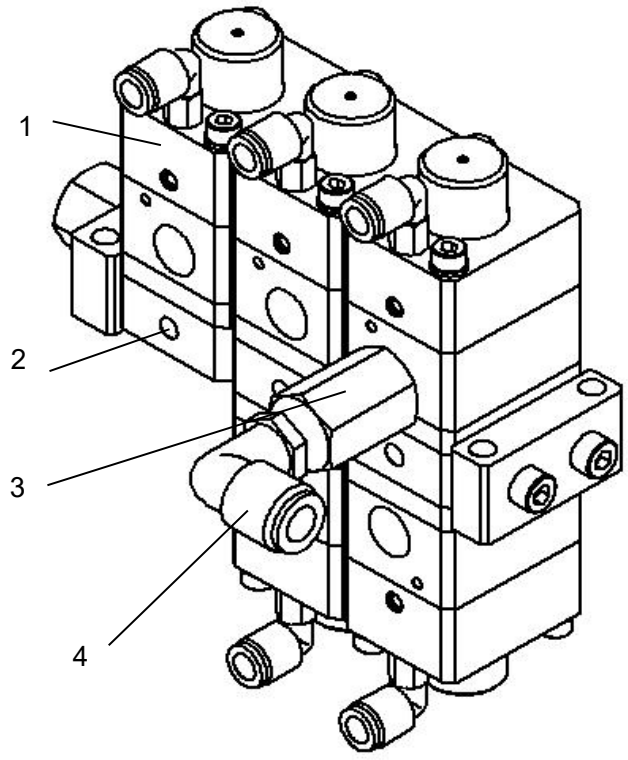
※ Please pay attention to avoid losing O-rings.

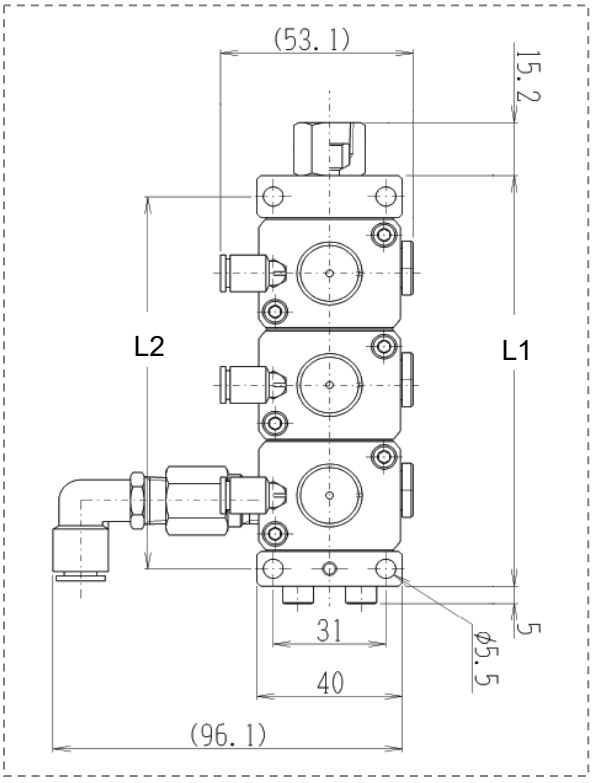
5 Structure

CCV2PA	CCV2PS
0850 -☐	0851 -☐

※ The number of valves or applicable manifolds vary according to the numerical number in "☐" of part No. See the model list below.

(Unit: mm)





<Structure table>

No.	Parts No.	Part name	Qty.	Remarks
1	0845 (0845-1)	2P valve DFA (2P valve DFS)	-	Refer to the right chart.
2	3808-☐ (3810-☐)	Manifold	1	
3	3625	Check valve	1	It is not included in 0850 or 0851.
4	384-0802	Quick-connect joint	1	

※(1) The brackets ( ) indicate the number for the stainless specification, 0851-□.
(2) Only paint valve for CCV2-20A and CCV2-20S.
(3) See page 14 for manifold details.

<Model list>

Model	Parts No.	Applicable manifold parts No.	L1 (mm)	L2 (mm)	Number of valves
CCV2-20A (CCV2-20S)	0850 (0851)	3808-2 (3810-2)	54	43	2
CCV1-30A (CCV1-30S)	0850-1 (0851-1)	3808-3 (3810-3)	86	75	3
CCV2-40A (CCV2-40S)	0850-2 (0851-2)	3808-4 (3810-4)			4
CCV3-50A (CCV3-50S)	0850-3 (0851-3)	3808-5 (3810-5)	118	107	5
CCV4-60A (CCV4-60S)	0850-4 (0851-4)	3808-6 (3810-6)			6
CCV5-70A (CCV5-70S)	0850-5 (0851-5)	3808-7 (3810-7)	150	139	7
CCV6-80A (CCV6-80S)	0850-6 (0851-6)	3808-8 (3810-8)			8
CCV7-90A (CCV7-90S)	0850-7 (0851-7)	3808-9 (3810-9)	182	171	9

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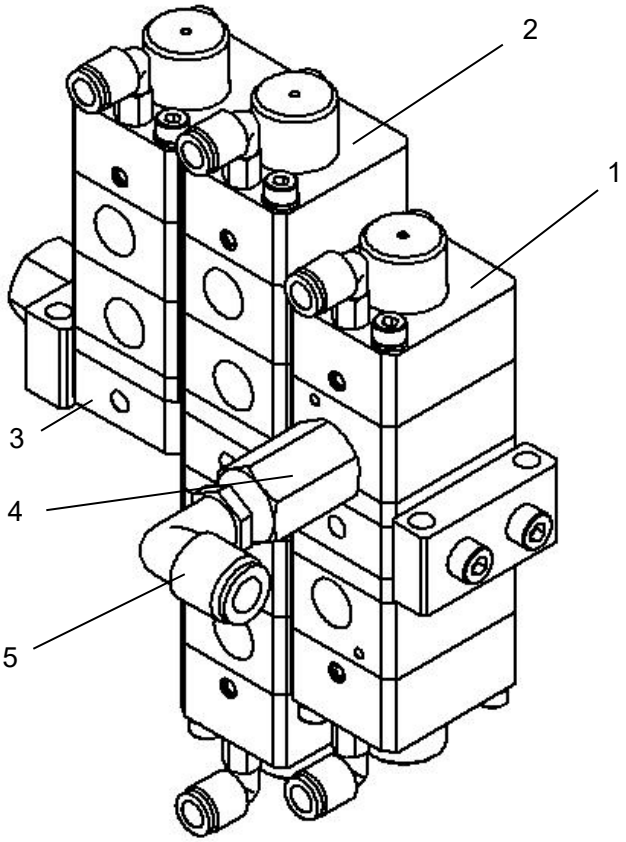
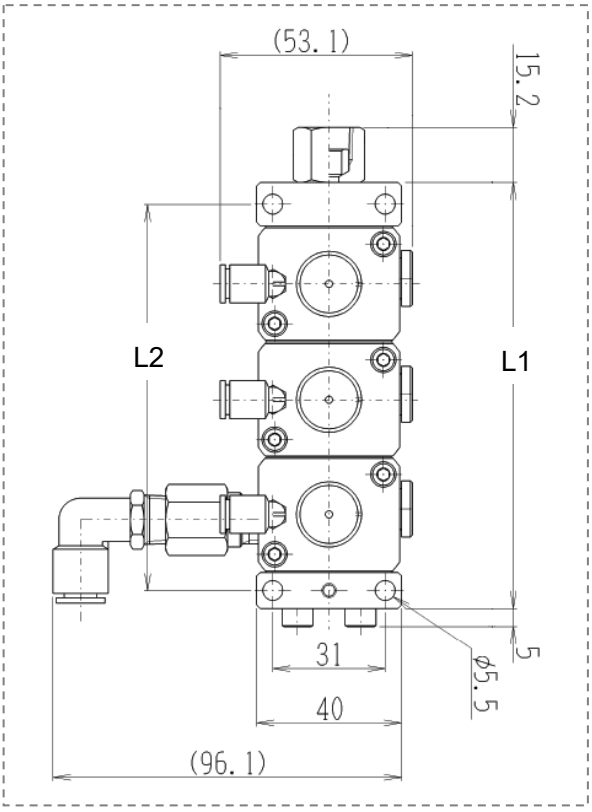
CCV3PA	CCV3PS
0852 -☐	0853 -☐

※ The number of valves or applicable manifolds vary according to the numerical number in "☐" of part No. See the model list below.

(Unit: mm)





<Structure table>

No.	Parts No.	Part name	Qty.	Remarks
1	0845 (0845-1)	2P valve DFA (2P valve DFS)	-	Ref. to the right list.
2	0846 (0846-1)	3P valve DFA (3P valve DFS)	-	
3	3808-□ (3810-□)	Manifold	1 set	
4	3625	Check valve	1	
5	384-0802	Quick-connect joint	1	

※(1) The brackets ( ) indicate the number for the stainless specification, 0853-□.
(2) Only air thinner valves for CCV0-20A and CCV0-20S.
(3) See page 14 for manifold details.

<Model list>

Model	Parts No.	Applicable manifold parts No.	L1 (mm)	L2 (mm)	2P valve (Qty)	3P valve (Qty)
CCV0-20A (CCV0-20S)	0852 (0853)	3808-2 (3810-2)	54	43	2	0
CCV1-21A (CCV1-21S)	0852-1 (0853-1)	3808-3 (3810-3)	86	75		1
CCV2-22A (CCV2-22S)	0852-2 (0853-2)	3808-4 (3810-4)				2
CCV3-23A (CCV3-23S)	0852-3 (0853-3)	3808-5 (3810-5)	118	107		3
CCV4-24A (CCV4-24S)	0852-4 (0853-4)	3808-6 (3810-6)				4
CCV5-25A (CCV5-25S)	0852-5 (0853-5)	3808-7 (3810-7)	150	139		5
CCV6-26A (CCV6-26S)	0852-6 (0853-6)	3808-8 (3810-8)				6
CCV7-27A (CCV7-27S)	0852-7 (0853-7)	3808-9 (3810-9)	182	171		7

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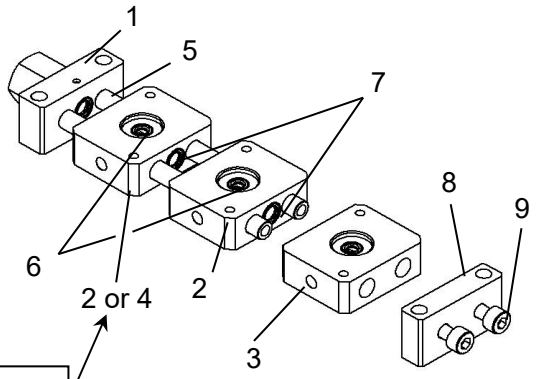
Manifold
3808-□
(3810-□)



See page 15 for the manifold structure.

※Number in the "□" of the parts No. indicates the number of mounting valves. See the table below.

Components			No. of mounted valve (paces)							
			2	3	4	5	6	7	8	9
No.	Parts No.	Part name	Manifold Parts No.							
			3808-2 (3810-2)	3808-3 (3810-3)	3808-4 (3810-4)	3808-5 (3810-5)	3808-6 (3810-6)	3808-7 (3810-7)	3808-8 (3810-8)	3808-9 (3810-9)
			Number of parts							
1	3808-001	Plate RC set	1 set							
2	3808-010 (3810-010)	Manifold ADM (Manifold SDM)	-	-	1	1	2	2	3	3
3	3808-011 (3810-011)	Manifold ADE (Manifold SDE)	1							
4	3808-012 (3810-012)	Manifold ASM (Manifold SSM)	-	1	-	1	-	1	-	1
5	3808-041	Pipe 1	2	-	-	-	-	-	-	-
	3808-042	Pipe 2	-	2		-	-	-	-	-
	3808-043	Pipe 3	-	-	-	2		-	-	-
	3808-044	Pipe 4	-	-	-	-	-	2		
	3808-045	Pipe 5	-	-	-	-	-	-	-	2
6	130-2005	O-ring	2	3	4	5	6	7	8	9
7	130-2006	O-ring	-	1		2		3		4
8	3808-021	Plate E	1							
9	03-80515	Hex. socket screw	2							

※The bracket ( ) indicates the stainless steel type.

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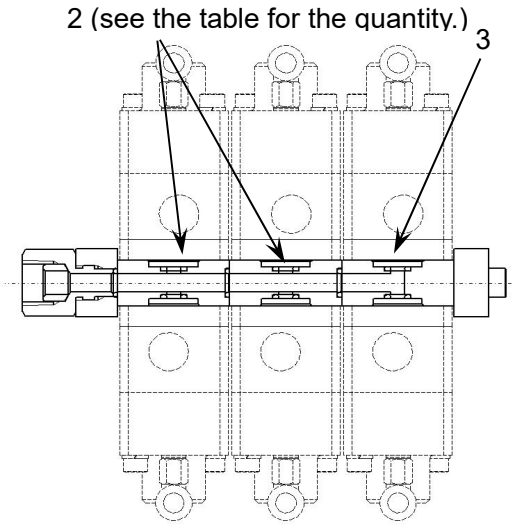
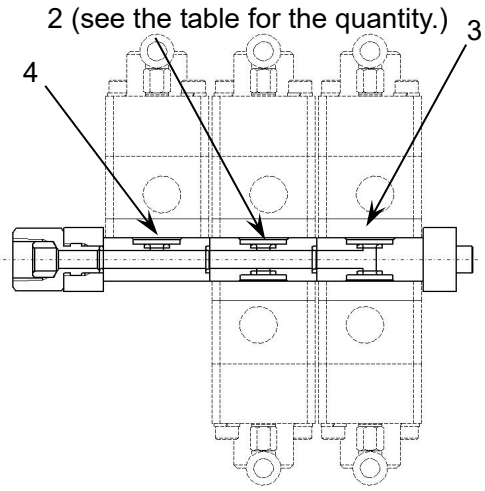
<<Manifold parts structure>>

- Number of mounted valves is 2, 4, 6, or 8.

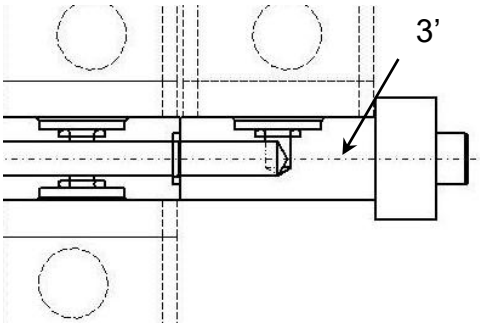


- Number of mounted valves is 3, 5, 7, or 9.



- When changing the number of valves to one at the position 3

Change 3 to 3' (optional) manifold.

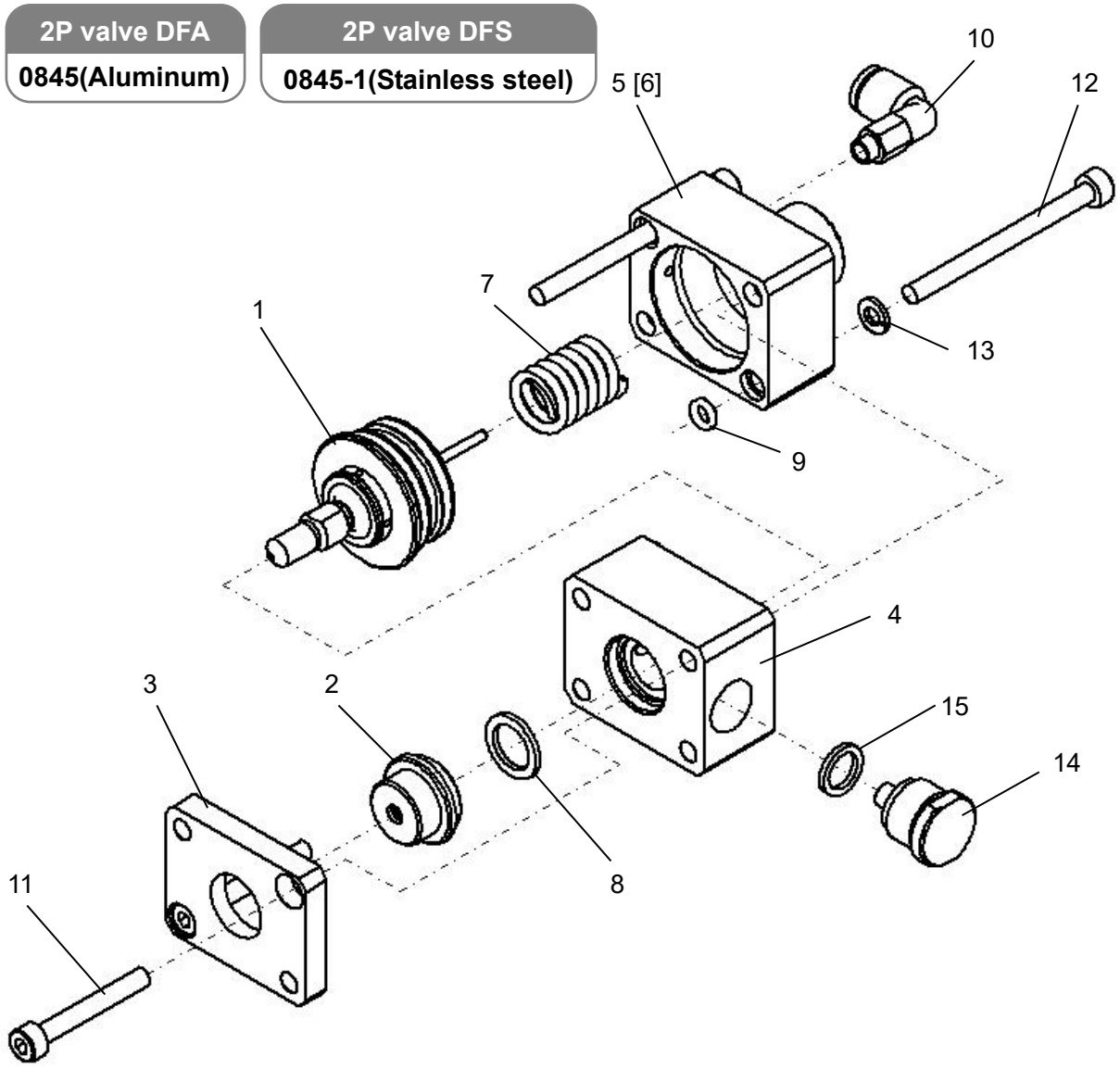


No.	Parts No.	Part name
3'	3808-013 (3810-013)	Manifold ASE (Manifold SSE)

※The bracket ( ) indicates the stainless steel type.

2P valve DFA
0845(Aluminum)

2P valve DFS
0845-1(Stainless steel)



No.	Parts No.	Part name	Qty.	Remarks
1	0845-001	Needle 2P	1	
2	0845-009	Seat	1	
3	0845-010	Housing	1	
4	0845-011 (0845-111)	Body A (Body S)	1	
5	0845-012	Cylinder	1	
6	0845-013	Nameplate	1	
7	1294-014	Spring	1	
8	155-2010A	Back-up ring	1	

No.	Parts No.	Part name	Qty.	Remarks
9	130-6004	O-ring	2	
10	384-0600	Quick-connect joint	1	
11	03-80430	Hex. Socket screw	2	
12	03-80450	Hex. Socket screw	2	
13	41-80400	Spring washer	2	
14	0845-014	Plug	1	
15	155-2008	Back-up ring	1	

※The brackets ( ) indicate for the stainless type, 0845-1.

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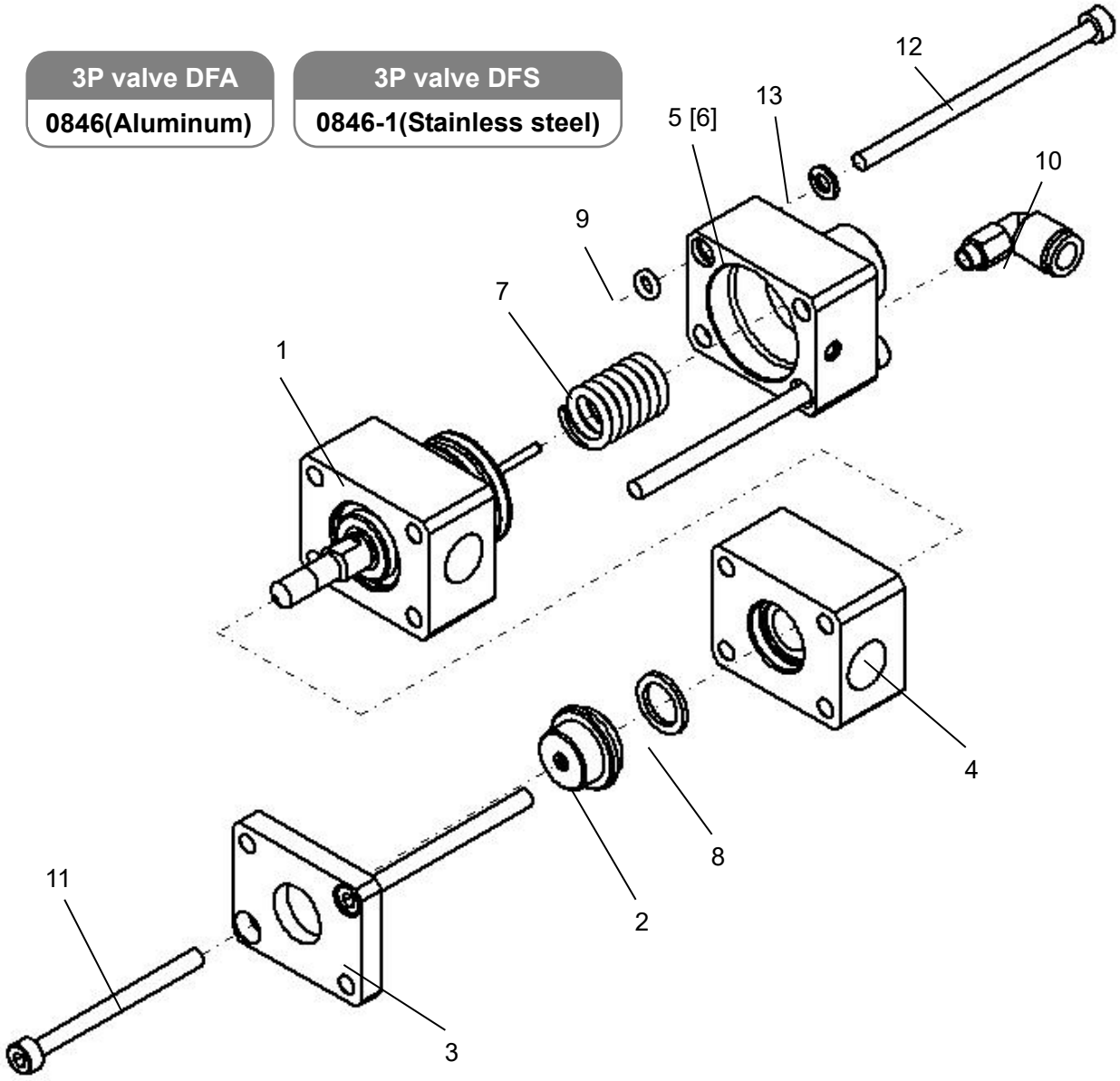
3P valve DFA
0846(Aluminum)

3P valve DFS
0846-1(Stainless steel)



No.	Parts No.	Part name	Qty.	Remarks
1	0846-001 (0846-101)	Needle 3PA (Needle 3PS)	1	
2	0845-009	Seat	1	
3	0845-010	Housing	1	
4	0846-011 (0846-111)	Body 1A (Body 1S)	1	
5	0845-012	Cylinder	1	
6	0845-013	Nameplate	1	
7	1294-014	Spring	1	

No.	Parts No.	Part name	Qty.	Remarks
8	155-2010A	Back-up ring	1	
9	130-6004	O-ring	2	
10	384-0600	Quick-connect joint	1	
11	03-80450	Hex. Socket screw	2	
12	03-80470	Hex. Socket screw	2	
13	41-80400	Spring washer	2	

※The brackets ( ) indicate for the stainless type, 0846-1.

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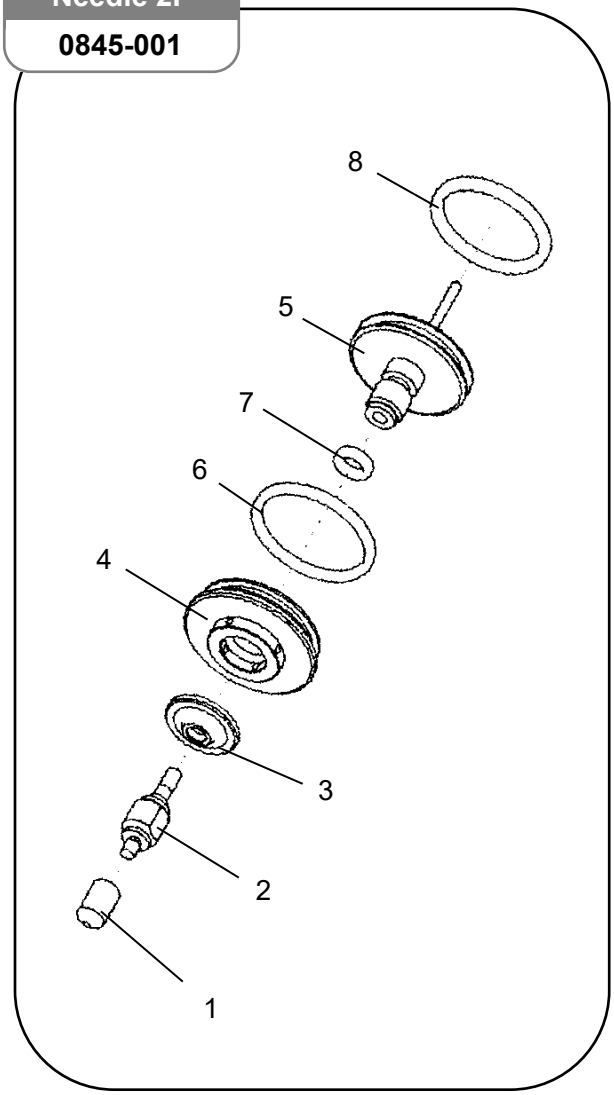
Needle 2P

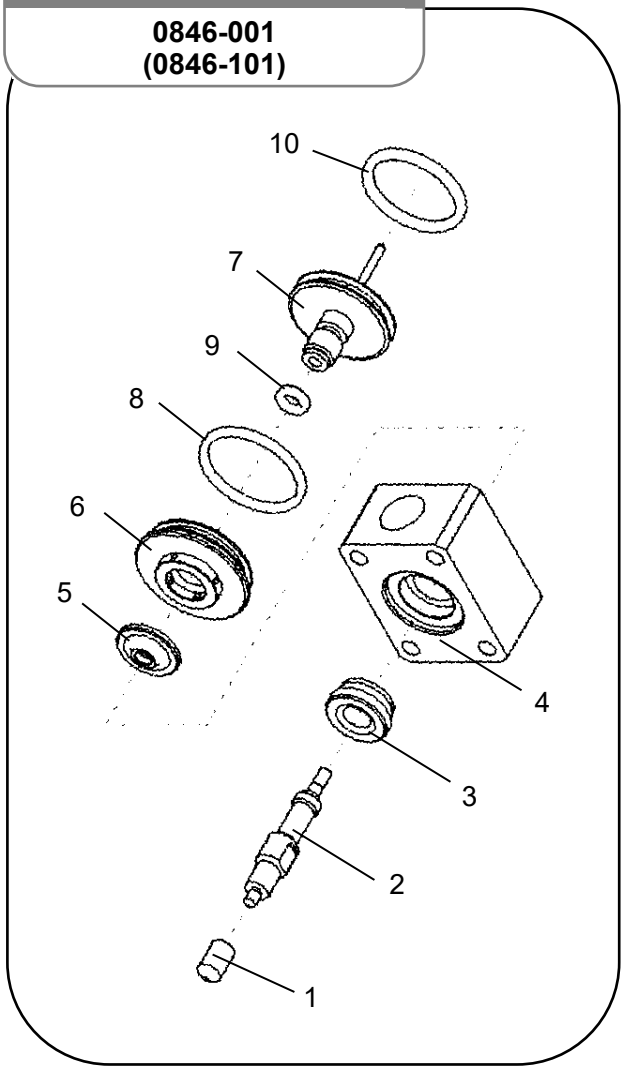
0845-001



No.	Parts No.	Part name	Qty.	Remarks
1	0845-002	Head	1	
2	0845-003	Rod	1	
3	0845-004	Diaphragm	1	
4	0845-005	Retainer	1	
5	0845-006	Piston	1	
6	130-6024	O-ring	1	
7	101-9005	O-ring	1	
8	101-6022	O-ring	1	

Needle 3PA, needle 3PS

0846-001
(0846-101)



No.	Parts No.	Part name	Qty.	Remarks
1	0845-002	Head	1	
2	0846-003	Rod	1	
3	0846-004	Seat	1	
4	0846-005 (0846-105)	Body 2A (Body 2S)	1	
5	0845-004	Diaphragm	1	
6	0845-005	Retainer	1	
7	0845-006	Piston	1	
8	130-6024	O-ring	1	
9	101-9005	O-ring	1	
10	101-6022	O-ring	1	

※The brackets ( ) indicate for the stainless type, 0846-1.

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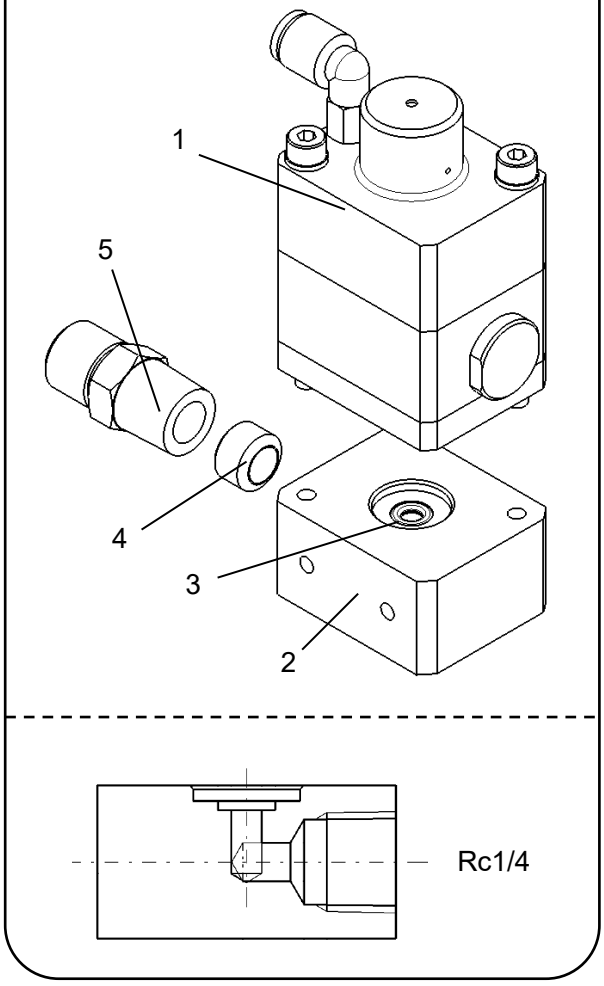
D valve A-R (D valve S-R)

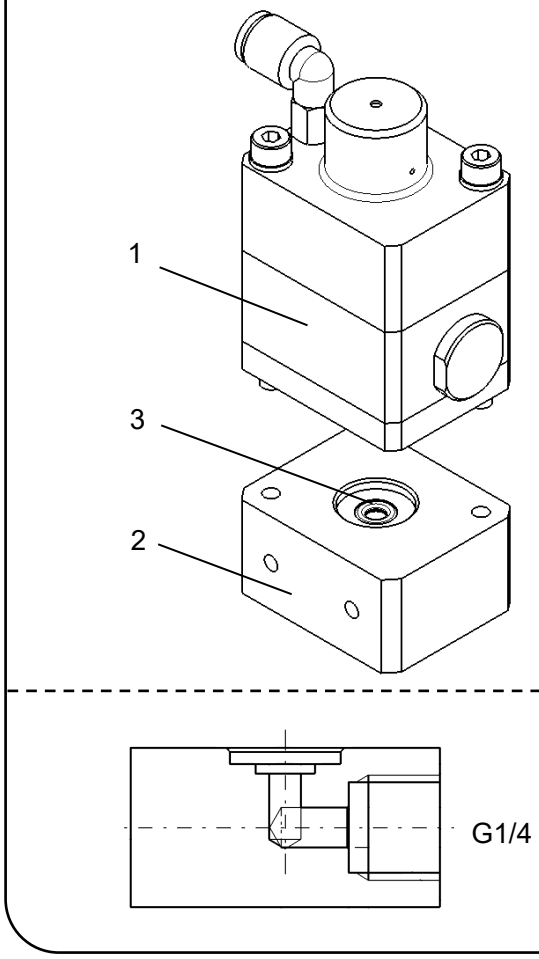
0847 (0847-1)



No.	Parts No.	Part name	Qty.	Remarks
1	0845 (0845-1)	2P valve DFA (2P valve DFS)	1	
2	380８-014 (3810-014)	Manifold A1R (Manifold S1R)	1	
3	130-2005	O-ring	1	
4	4920-031	Collar A	1	
5	347-0001-1 (247-4202)	Nipple (Hose joint)	1	

D valve A-G (D valve S-G)

0847-2 (0847-3)



No.	Parts No.	Part name	Qty.	Remarks
1	0845 (0845-1)	2P valve DFA (2P valve DFS)	1	
2	3808-015 (3810-015)	Manifold A1G (Manifold S1G)	1	
3	130-2005	O-ring	1	

※The bracket ( ) indicates the stainless steel type

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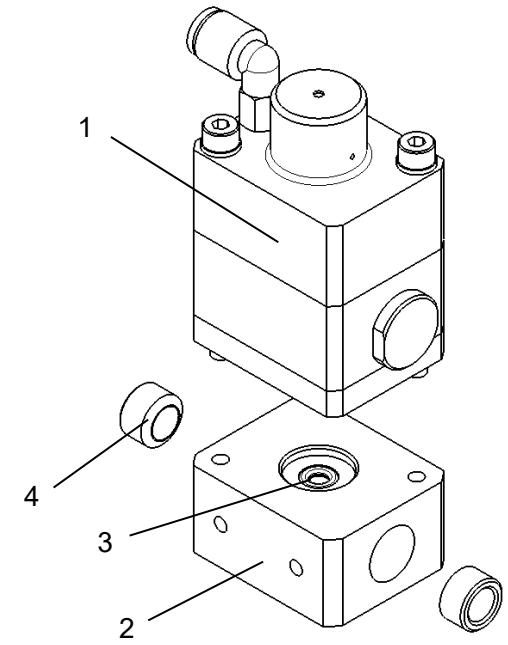
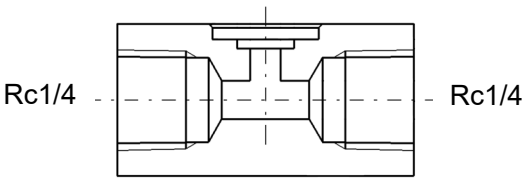
G valve A-R (G valve S-R)

0848
(0848-1)

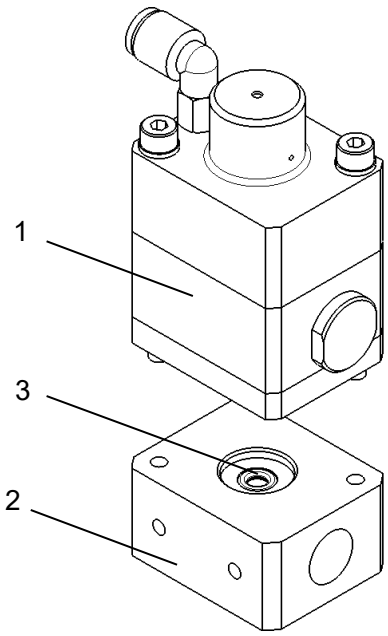


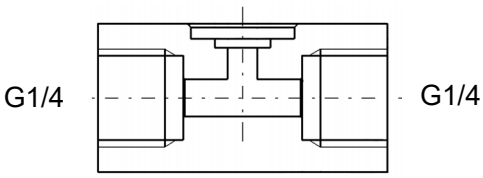


No.	Parts No.	Part name	Qty.	Remarks
1	0845 (0845-1)	2P valve DFA (2P valve DFS)	1	
2	3808-016 (3810-016)	Manifold A2R (Manifold S2R)	1	
3	130-2005	O-ring	1	
4	4920-031	Collar A	2	

G valves A-G (G valve S-G)

0848-2
(0848-3)





No.	Parts No.	Part name	Qty.	Remarks
1	0845 (0845-1)	2P valve DFA (2P valve DFS)	1	
2	3808-017 (3810-017)	Manifold A2G (Manifold S2G)	1	
3	130-2005	O-ring	1	

※The bracket ( ) indicates the stainless steel type

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6 Warranty

ASAHI SUNAC CORPORATION (the “Company”) shall provide the original purchaser (the “Purchaser”) with warranty service for a period of 6months from the date of purchase of the product, as follows:

- Should you find defects in design or workmanship with regard to parts, ship them back to the Company, with freight prepaid. The Company shall repair or replace the parts free of charge and reimburse the freight charges, provided that, as a result of an inspection and investigation of the parts conducted by the Company, the defects are deemed to be to attributable to the factors within the Company’s responsibility.

- In the following cases, free after-sales service is not provided.

  1. Failure resulting from an inappropriate method of installing this equipment.
  2. Failure resulting from a use method not conforming to this instruction manual or mishandling.
  3. Failure resulting from insufficient maintenance management of this equipment and incorrect handling such as non-conformance to the procedures specified in this instruction manual.
  4. Failure resulting from unauthorized alteration or structure change of this equipment without the Company’s consent.
  5. Failure due to force majeure such as earthquake, disaster, flood disaster or lightening.
  6. Warranty for consumables worn or deteriorated even in the case where this equipment is used correctly.
  7. Repair after the machine has been used outside Japan, and shipping cost.
  8. In addition to the above, failure due to circumstances beyond our control.

- As for items such as parts purchased by the Company from another manufacturer, the warranty of that manufacturer shall apply.

- As for any parts deemed to be defective, the Company shall not be held liable for any expenses beyond the provision of repair or replacement parts free of charge.

- The Company shall not be held liable for any damage to the Purchaser caused by factors not attributable to the Company, such as misuse of product, etc.

- When a transfer of title of this equipment takes place, please see to it that this Operation and Maintenance Manual is handed over to the new owner.
- This equipment is manufactured in compliance with the Laws and Regulations of Japan. Thus, use this equipment only in Japan.
  In the rare eventuality of this equipment being used outside Japan, compliance with the safety standards of the relevant countries is of course mandatory.

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ASAHI SUNAC

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