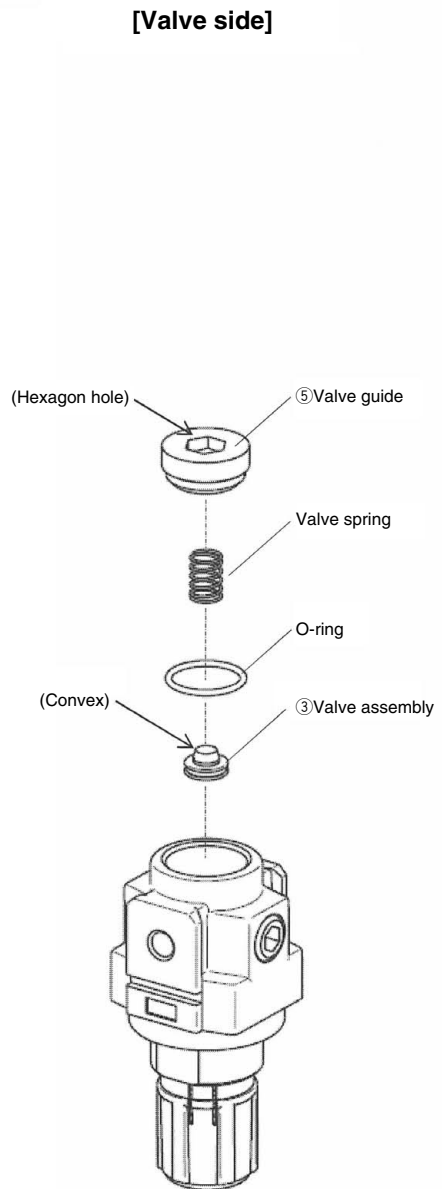
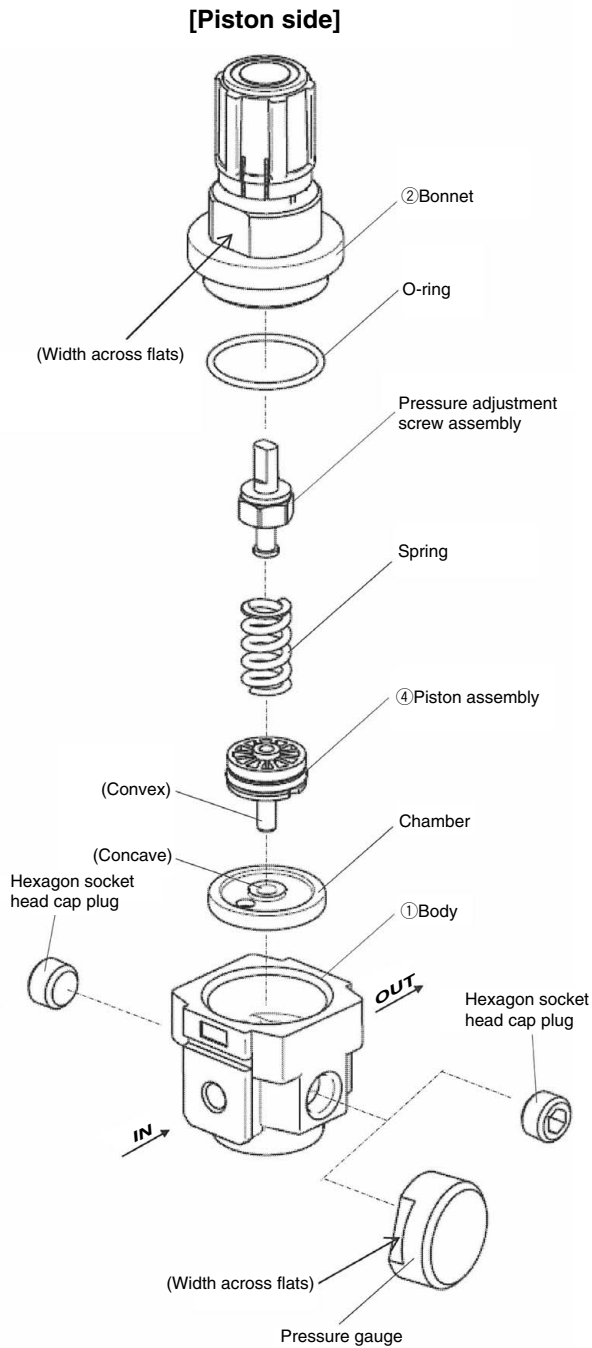
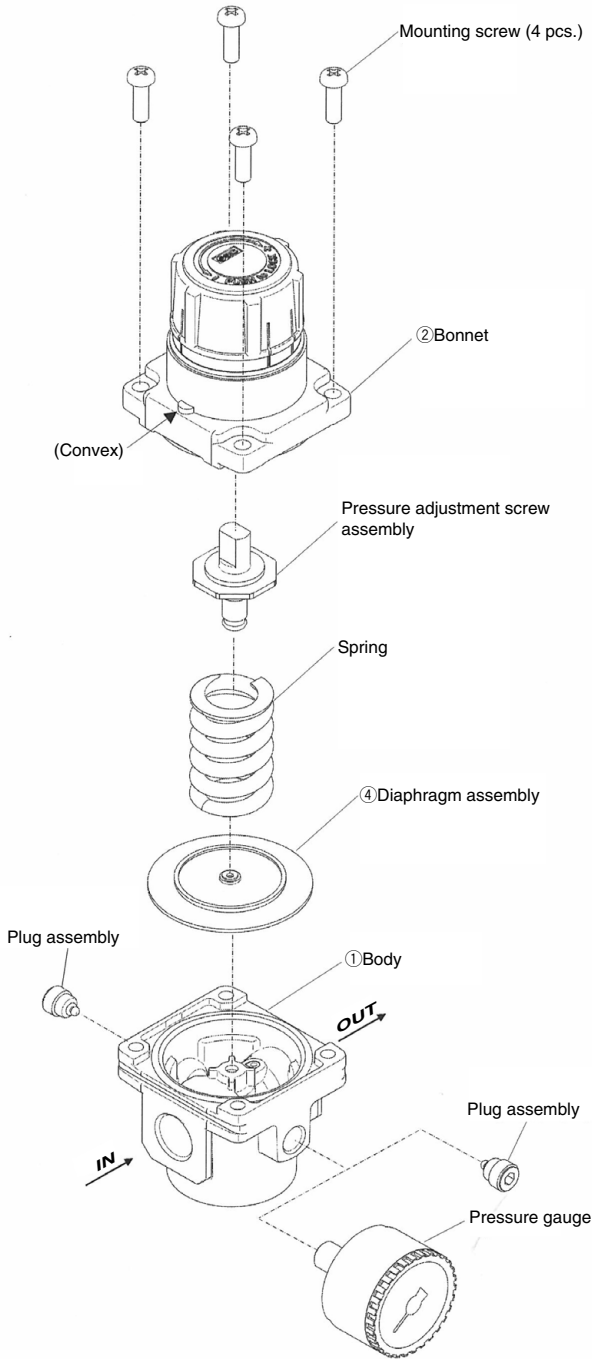


AR10-A Exploded View 1

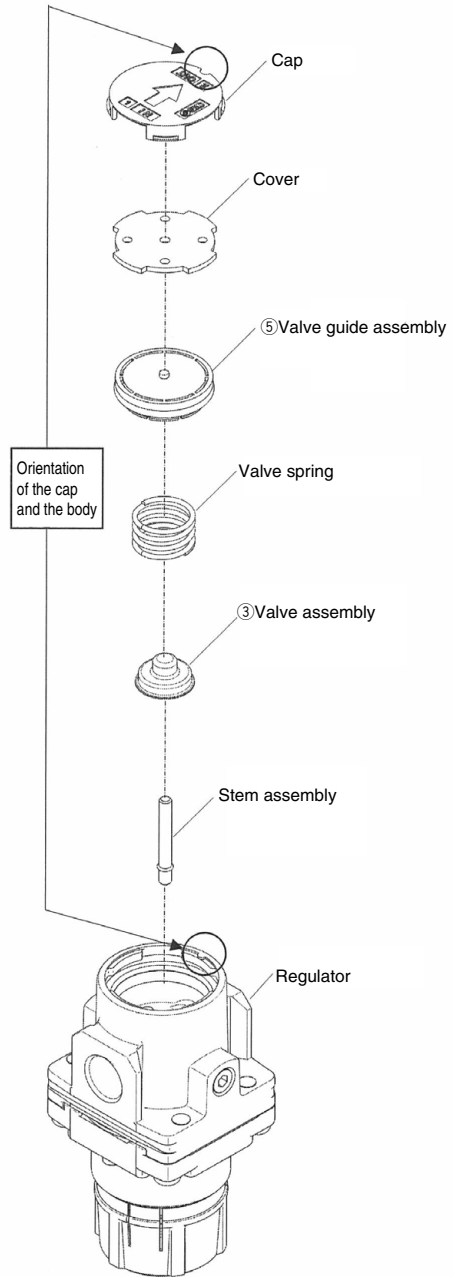


AR20-A/25-A/30-A/40-A Exploded View 2

[Diaphragm side]



[Valve side]



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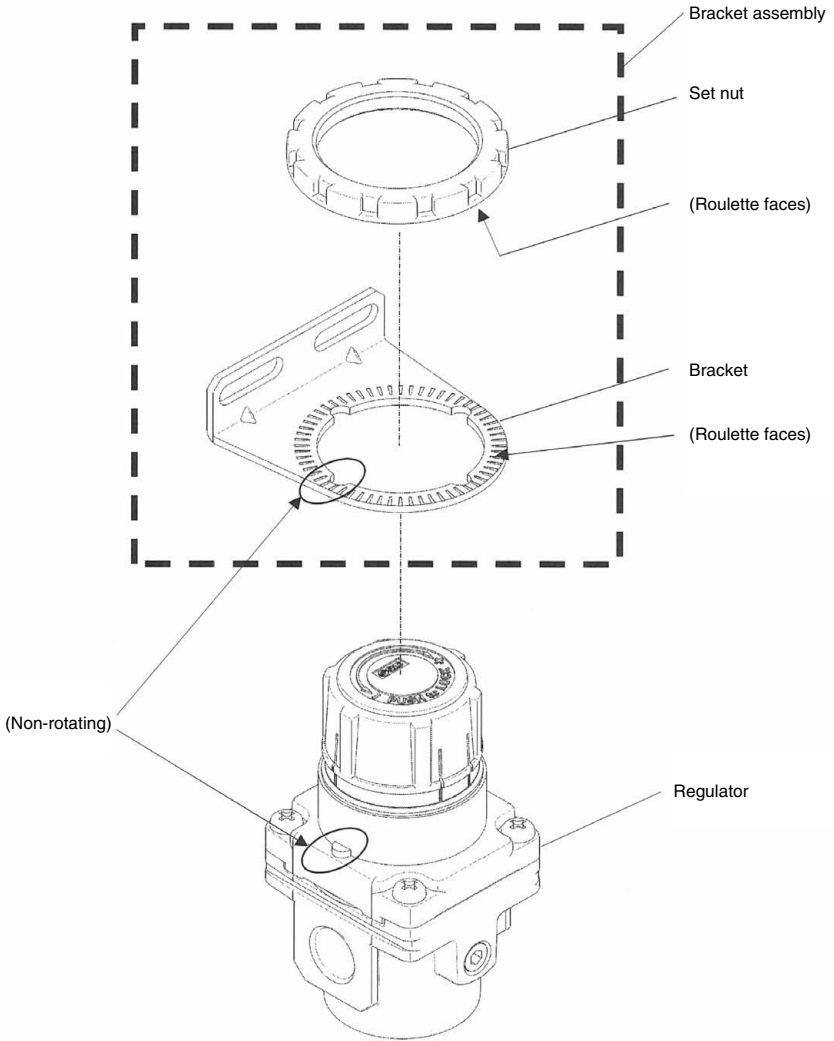
Actuators

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AR10-A/20-A/25-A/30-A/40-A

Bracket Assembly, Panel Mount Exploded View 3



AR10-A to 40-A Series Replacement Procedure 1

Warning

Before replacement, ensure that the regulator is not pressurized.

Rotate the pressure adjusting knob to zero.

Replace while referring to the “Exploded View.”

After replacement, ensure that the specified function is satisfied and that no external leakage is found before resuming operation.

1. Diaphragm Assembly (Piston Assembly)

Applicable model	Process	Procedure	Tools	Check item						
AR10-A	Disassembly	1) Remove the bonnet assembly. Hold the bonnet with a spanner on the width across flat, and rotate counterclockwise to remove the bonnet assembly.	Spanner Nominal: 16							
		2) Remove the piston assembly from the bonnet. Pull out the piston assembly with the knob facing downwards. Otherwise, the pressure adjustment screw assembly or spring may fall out.	—							
	Assembly	3) Mount the piston assembly to the bonnet assembly. Insert the piston assembly into the bonnet so that the piston assembly convex faces the body. If the pressure adjustment screw or spring is not mounted on the bonnet, mount it before mounting the piston assembly.	—							
		4) Ensure the chamber is mounted on the body. If the chamber is removed during disassembly, mount the chamber ensuring that it's facing the right direction. The convex of the chamber should face the bonnet side.	—	Presence of the chamber Mounting direction						
		5) Mount the bonnet assembly to the body. Hold the bonnet assembly with a spanner on the spanner flat, and rotate the body clockwise to secure it. Refer to the “Check item” for the tightening torque.	Spanner Nominal: 16	Tightening torque: 1.8 ± 0.3 N·m						
AR20-A AR25-A AR30-A AR40-A	Disassembly	1) Removing bonnet Remove all 4 screws, and then remove the bonnet. Carefully store the bonnet parts. <Bonnet parts> · Pressure adjustment screw assembly · Spring · Diaphragm assembly	Phillips head screwdriver							
	Assembly	2) Mount the disassembled parts onto the body. Perform mounting while referring to the “Exploded View” (page 450).	—	Direction of the diaphragm assembly and the pressure adjustment screw assembly						
		3) Mounting bonnet Mount the convex IN side of the bonnet to the body, and tighten the 4 mounting screws half way with a Phillips head screwdriver. Then, tighten the screws completely in a diagonal pattern with the indicated tightening torque.	Phillips head screwdriver	Tightening torque: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">AR20-A</td> <td style="text-align: center;">0.62 ± 0.3 N·m</td> </tr> <tr> <td>AR25-A</td> <td></td> </tr> <tr> <td>AR30-A</td> <td style="text-align: center;">3.5 ± 0.3 N·m</td> </tr> <tr> <td>AR40-A</td> <td style="text-align: center;">2.6 ± 0.3 N·m</td> </tr> </table>	AR20-A	0.62 ± 0.3 N·m	AR25-A		AR30-A	3.5 ± 0.3 N·m
AR20-A	0.62 ± 0.3 N·m									
AR25-A										
AR30-A	3.5 ± 0.3 N·m									
AR40-A	2.6 ± 0.3 N·m									

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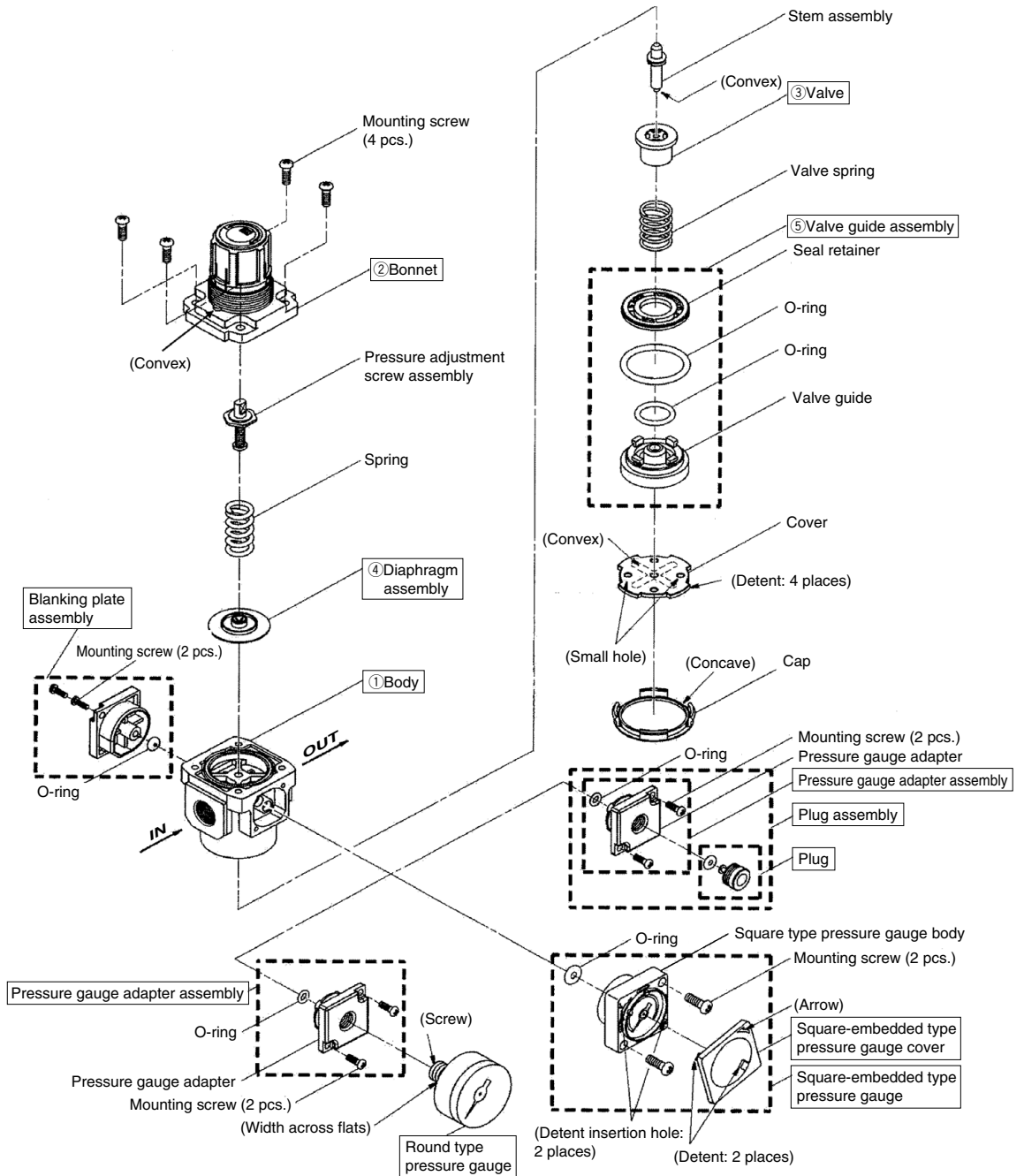
Industrial Filters

AR10-A to 40-A Series Replacement Procedure 2

2. Valve Guide (Assembly), Valve Assembly

Applicable model	Process	Procedure	Tools	Check item
AR10-A	Disassembly	1) Remove the valve guide. Insert the hexagon wrench key into the valve guide hexagon socket, and rotate counterclockwise to remove it.	Hexagon wrench key Nominal: 6	—
		2) Remove the valve spring.	—	—
		3) Remove the valve.	—	—
	Assembly	4) Mount the valve. Set the valve so that the convex surface faces the valve guide.	—	The concave surface is the valve guide side (top).
		5) Mount the valve spring. Insert the valve so that the inner circumference of the valve spring fits in the convex surface of the valve.	—	—
		6) Ensure the O-ring is mounted. Ensure the valve guide seal O-ring is mounted. Mount the O-ring if the ring is missing.	—	Presence of the O-ring
		7) Mount the valve guide. Insert the hexagon wrench key into the valve guide hexagon socket, and rotate the spanner clockwise to tighten the guide. Refer to the "Check item" for the tightening torque.	Hexagon wrench key Nominal: 6	Tightening torque: 0.75 ± 0.15 N·m
AR20-A AR25-A AR30-A AR40-A	Disassembly	1) Remove the cap. Insert the watchmaker's screwdriver into the gap between the body and the cap and dig up the cap.	Watchmaker's screwdriver (-)	—
		2) Remove the cover. Insert the circular pliers into the 2 small holes of the cover, rotate 45 degrees to one side or the other, and then lift.	Circular pliers Nominal: 125	—
		3) Remove the valve guide assembly. Lift the outer periphery with a watchmaker's screwdriver or similar for removal.	Watchmaker's screwdriver (-)	—
		4) Remove the valve spring.	—	—
		5) Remove the valve assembly.	—	—
	Assembly	6) Mount the disassembled parts onto the body. Perform mounting while referring to the "Exploded View."	—	<ul style="list-style-type: none"> · Orientation of the valve · Orientation of the cap

AR20-B to 60-B Exploded View 1



Note) It is possible to mount a square-embedded type pressure gauge, a pressure gauge adapter assembly, or a plug assembly instead of a blanking plate assembly.

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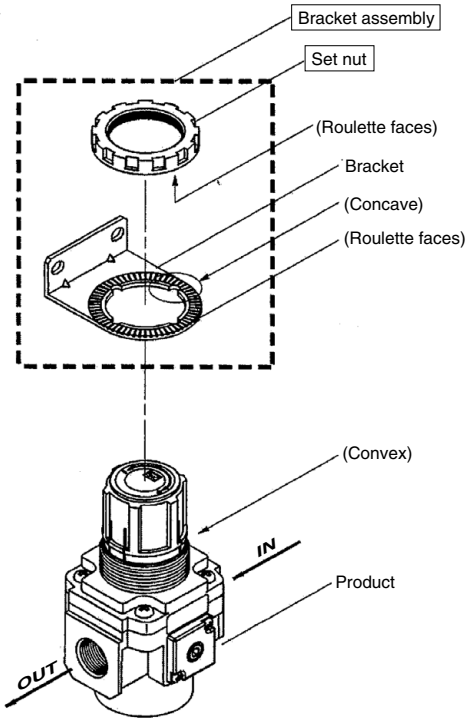
Actuators

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Pressure Control Equipment

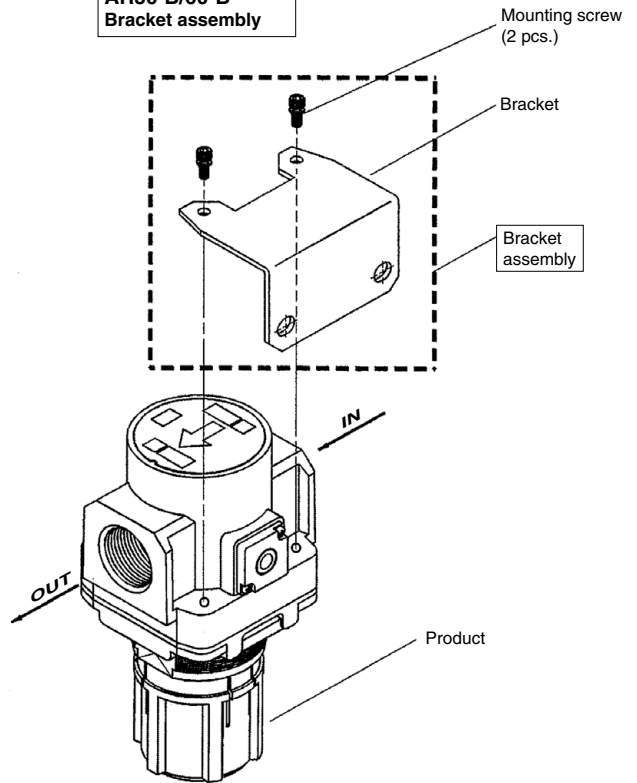
Industrial Filters

AR20-B to 60-B Bracket Assembly, Panel Mount Exploded View 2

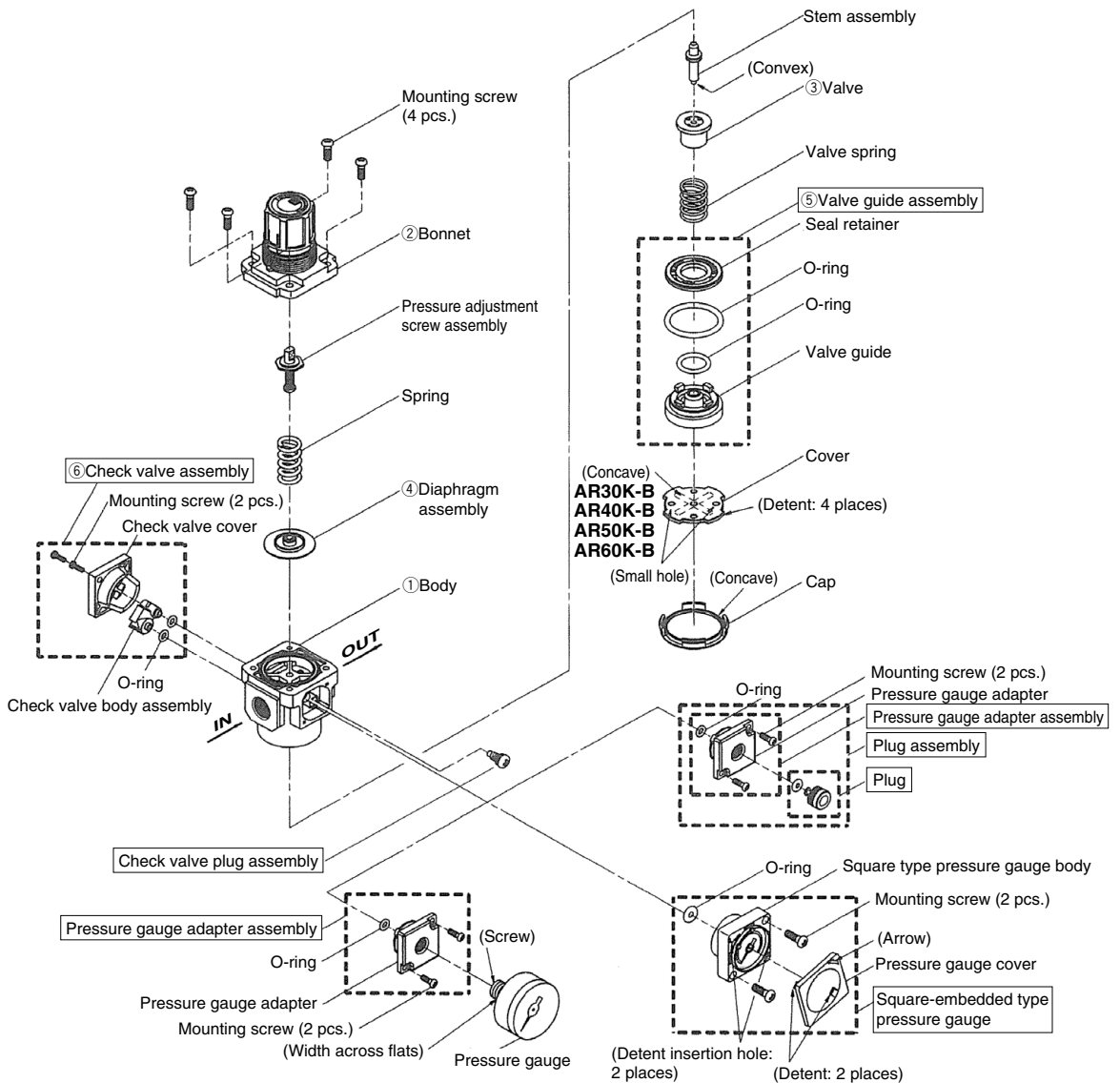
AR20-B/25-B/30-B/40-B
Bracket assembly



AR50-B/60-B
Bracket assembly



AR20K-B to 60K-B Exploded View 1



Note) ⑥ The flow direction can be changed by removing the check valve assembly and replacing it with the square-embedded type pressure gauge, pressure gauge adapter assembly, and plug assembly.

Actuators

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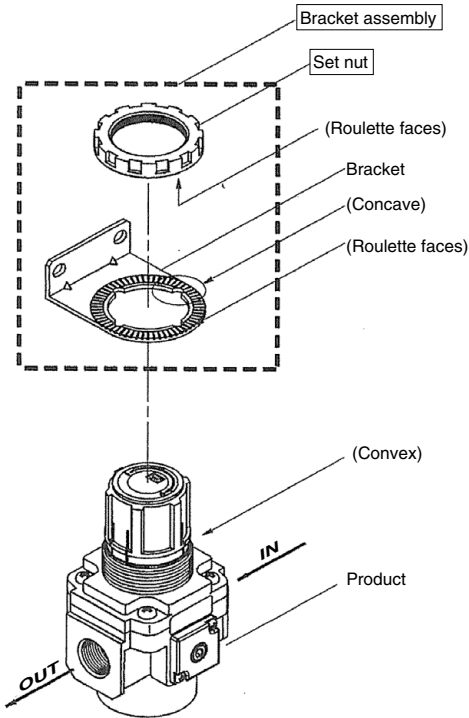
Actuators

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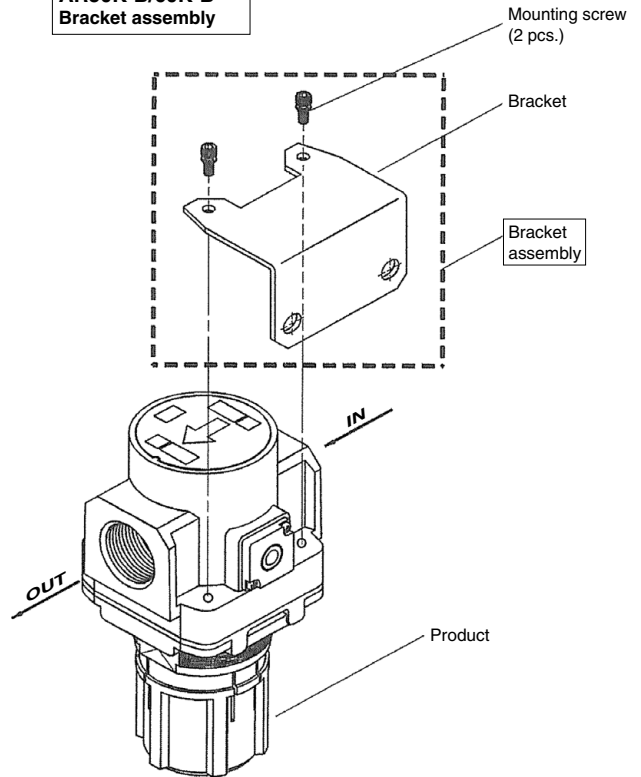
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AR20K-B to 60K-B Bracket Assembly, Panel Mount Exploded View 2

**AR20K-B/25K-B/30K-B/40K-B
Bracket assembly**



**AR50K-B/60K-B
Bracket assembly**



AR20(K)-B to 60(K)-B Series Replacement Procedure 1

Warning

Before replacement, ensure that the regulator is not pressurized.
 Rotate the pressure adjusting knob to zero.
 Replace while referring to the “Exploded View.”
 After replacement, ensure that the specified function is satisfied and that no external leakage is found before resuming operation.

1. Diaphragm Assembly

Applicable model	Process	Procedure	Tools	Check item										
AR20(K)-B AR25(K)-B AR30(K)-B AR40(K)-B AR50(K)-B AR60(K)-B	Disassembly	1) Remove the bonnet. Rotate the set screw counterclockwise with a Phillips head screwdriver to remove the bonnet from the body.	Phillips head screwdriver	—										
		2) Remove parts in order of the pressure adjustment screw assembly, spring, and the diaphragm assembly. Please note that the diaphragm assembly will be attached to the bonnet if disassembled with the knob facing down.	—	—										
	Assembly	3) Mount parts to the body in order of the diaphragm assembly, spring, and pressure adjustment screw.	—	Direction of the diaphragm assembly and the pressure adjustment screw assembly										
		4) Mount the bonnet to the body. Mount the convex IN side of the bonnet to the body, and tighten the 4 mounting screws half way with a Phillips head screwdriver. Then, tighten the screws completely in a diagonal pattern with the indicated tightening torque.	Phillips head screwdriver	Tightening torque: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-weight: bold;">AR20(K)-B</td> <td>2.35 ±0.3 N·m</td> </tr> <tr> <td style="font-weight: bold;">AR25(K)-B</td> <td>2.35 ±0.3 N·m</td> </tr> <tr> <td style="font-weight: bold;">AR30(K)-B</td> <td>2.35 ±0.3 N·m</td> </tr> <tr> <td style="font-weight: bold;">AR40(K)-B</td> <td>3.5 ±0.3 N·m</td> </tr> <tr> <td style="font-weight: bold;">AR50(K)-B</td> <td>3.5 ±0.3 N·m</td> </tr> <tr> <td style="font-weight: bold;">AR60(K)-B</td> <td>3.5 ±0.3 N·m</td> </tr> </table>	AR20(K)-B	2.35 ±0.3 N·m	AR25(K)-B	2.35 ±0.3 N·m	AR30(K)-B	2.35 ±0.3 N·m	AR40(K)-B	3.5 ±0.3 N·m	AR50(K)-B	3.5 ±0.3 N·m
AR20(K)-B	2.35 ±0.3 N·m													
AR25(K)-B	2.35 ±0.3 N·m													
AR30(K)-B	2.35 ±0.3 N·m													
AR40(K)-B	3.5 ±0.3 N·m													
AR50(K)-B	3.5 ±0.3 N·m													
AR60(K)-B	3.5 ±0.3 N·m													

2. Valve Guide (Assembly), Valve Assembly

Applicable model	Process	Procedure	Tools	Check item
AR20(K)-B AR25(K)-B AR30(K)-B AR40(K)-B AR50(K)-B AR60(K)-B	Disassembly	1) Remove the cap. Insert the watchmakers screw driver in the gap between the body and the cap and dig up the cap.	Watchmakers screw driver (–)	—
		2) Remove the cover. Insert the circular pliers into the 2 small holes of the cover, rotate 45 degrees to one side or the other and lift.	Circular pliers Nominal: 125	—
		3) Remove the valve guide assembly. Hold the valve guide with a needle nose pliers, and lift it.	Needle nose pliers	—
		4) Remove the valve spring.	—	—
		5) Remove the valve.	—	—
	Assembly	6) Mount the valve. Mate the stem convex and the valve center hole.	—	Positioning the stem and the valve (centering)
		7) Mount the valve spring. Insert the valve spring into the valve hole.	—	—
		8) Mount the valve guide assembly and the cover assembly to the body. Align the body groove and the cover clamp, push in the valve guide and cover assembly, insert the circular pliers into the 2 small holes of the cover and rotate 45 degrees to one side or the other to lock into place.	Circular pliers Nominal: 125	—
		9) Mount the cap. Mate the convex of the body cover and the concave of the cap, and push them in to settle. Ensure the end of the body and the cap are almost flat.	—	Orientation of the body and the cap. Body end and the cap are almost flat.

AR20(K)-B to 60(K)-B Series Replacement Procedure 2

3. Bracket Assembly, Panel Mount

Applicable model	Process	Procedure	Tools	Check item
AR20(K)-B AR25(K)-B AR30(K)-B AR40(K)-B	Assembly	1) Mount the parts to the bracket (panel). Mate the bracket (panel) concave and the bonnet convex to mount the bracket.	—	—
		2) Settle the bracket (panel) with set nut. Rotate the set nut clockwise with a hook spanner to settle the parts to the bracket (panel). For the tightening torque, refer to the "Check item" on the right. When mounting the bracket, ensure that the roulette faces of the set nut and the bracket are mated appropriately. When mounting with bracket, set nut tightened manually is adequate for general used.	Hook spanner Nominal: AR20(K)-B 34/38 AR25(K)-B 40/42 AR30(K)-B 52/55 AR40(K)-B 52/55	Tightening torque: AR20(K)-B 2.0 ± 0.2 N·m AR25(K)-B 2.5 ± 0.2 N·m AR30(K)-B 3.5 ± 0.3 N·m AR40(K)-B 4.0 ± 0.4 N·m
AR50(K)-B AR60(K)-B	Assembly (Bracket assembly)	1) Mount the bracket to the product. Fix them by tightening two mounting screws using a hexagon wrench key.	Hexagon wrench key Nominal: 5	Referential tightening torque: 2.6 N·m

4. Square Embedded Pressure Gauge

Applicable model	Process	Procedure	Tools	Check item
AR20(K)-B AR25(K)-B AR30(K)-B AR40(K)-B AR50(K)-B AR60(K)-B	Disassembly	1) Remove the pressure gauge cover. Rotate the pressure gauge cover 15 degrees to the arrow mark (counterclockwise) to pull it out.	—	—
		2) Remove the pressure gauge Rotate two mounting screws counterclockwise with Phillips head screwdriver to remove the pressure gauge and two mounting screws.	Phillips head screwdriver	—
	Assembly	3) Ensure O-ring is mounted to the pressure gauge. Mount O-ring to the pressure gauge if the ring fall off.	—	Presence of O-ring
		4) Mount the pressure gauge. Rotate two mounting screws clockwise with Phillips head screwdriver to mounting screws temporary. Then settle them with tightening torque in check item.	Phillips head screwdriver	Tightening torque: 0.6 ± 0.05 N·m
		5) Mount the pressure gauge cover. Insert the pressure gauge mating two detent of the pressure gauge and holes for them so that the arrow of the pressure gauge cover comes upper right. Rotate the pressure gauge cover 15 degree opposite to the arrow to mount the pressure gauge.	—	—

5. Circular Pressure Gauge

Applicable model	Process	Procedure	Tools	Check item
AR20(K)-B AR25(K)-B AR30(K)-B AR40(K)-B AR50(K)-B AR60(K)-B	Disassembly	1) Remove the pressure gauge. Hold the pressure gauge with a spanner on the spanner flat. Then, rotate the gauge.	Spanner Nominal: AR20(K)-B AR25(K)-B AR30(K)-B AR40(K)-B AR50(K)-B AR60(K)-B	—
	Assembly	2) Wind the pressure gauge thread with the sealant tape leaving 1.5 to 2 threads from the end.	—	Wind sealant tape leaving 1.5 to 2 threads
3) Mount the pressure gauge. Hold the pressure gauge on the spanner flat with a spanner, and rotate it clockwise to mount the circular pressure gauge. Refer to the "Check item" for tightening torque of pressure gauge.		Spanner Nominal: AR20(K)-B AR25(K)-B AR30(K)-B AR40(K)-B AR50(K)-B AR60(K)-B	Tightening torque: AR20(K)-B AR25(K)-B AR30(K)-B AR40(K)-B AR50(K)-B AR60(K)-B	7 to 9 N·m

6. Pressure Gauge Adapter, Plug Assembly

Applicable model	Process	Procedure	Tools	Check item
AR20(K)-B AR25(K)-B AR30(K)-B AR40(K)-B AR50(K)-B AR60(K)-B	Disassembly	1) Remove the plug. Insert the hexagon wrench key to hexagon socket of the plug. Rotate the plug counterclockwise to remove the plug.	Spanner Nominal: AR20(K)-B AR25(K)-B AR30(K)-B AR40(K)-B AR50(K)-B AR60(K)-B	—
		2) Remove the pressure gauge adapter. Rotate two mounting screws counterclockwise with Phillips head screwdriver to remove the pressure gauge adapter and two mounting screws.	Phillips head screwdriver	—
	Assembly	3) Ensure O-ring is mounted to the pressure gauge adapter. If not, mount O-ring.	—	—
		4) Mount pressure gauge adapter. Rotate two screws clockwise by Phillips head screwdriver to fix pressure gauge adapter. Refer to the "Check item" for tightening torque of two screws.	Phillips head screwdriver (Torque driver)	Tightening torque: 0.6 ± 0.05 N·m
		5) Mount plug assembly. Insert hexagon wrench key into hexagon socket on the plug and rotate clockwise to fix the plug. Refer to the "Check item" for tightening torque of two screws.	Spanner Nominal: AR20(K)-B AR25(K)-B AR30(K)-B AR40(K)-B AR50(K)-B AR60(K)-B	Tightening torque: AR20(K)-B AR25(K)-B AR30(K)-B AR40(K)-B AR50(K)-B AR60(K)-B

7. Blanking Plate Assembly

Applicable model	Process	Procedure	Tools	Check item
AR20-B AR25-B AR30-B AR40-B AR50-B AR60-B	Disassembly	1) Remove the blanking plate. Rotate two mounting screws counterclockwise with Phillips head screwdriver to remove the blanking plate and two mounting screws.	Phillips head screwdriver	—
		2) Ensure O-ring is mounted to the blanking plate. If not, mount O-ring.	—	—
	Assembly	3) Mount blanking plate. Rotate two screws clockwise by Phillips head screwdriver to fix blanking plate. Refer to the "Check item" for tightening torque of two screws.	Phillips head screwdriver (Torque driver)	Tightening torque: 0.6 ± 0.05 N·m

8. Check Valve Assembly

Applicable model	Process	Procedure	Tools	Check item
AR20K-B AR25K-B AR30K-B AR40K-B AR50K-B AR60K-B	Disassembly	1) Remove check valve cover. Rotate two screws counterclockwise by Phillips head screwdriver and remove the check valve cover and the screws.	Phillips head screwdriver	—
		2) Remove the check valve assembly from body. The check valve can be removed by pulling it out by hand. At this time, confirm O-ring is mounted to body side properly so that it wouldn't come out from the body.	—	—
	Assembly	3) Confirm two O-rings is mounted to body side. If not, mount it to the body.	—	—
		4) Insert convexes on check valve into O-ring insert holes on body.	—	Orientation of the check valve body assembly
		5) Mount check valve cover. Rotate two screws clockwise by Phillips head screwdriver to fix check valve cover. Refer to the "Check item" for tightening torque of two screws.	Phillips head screwdriver (Torque driver)	Tightening torque: 0.6 ± 0.05 N·m