

Valve Repack and Rebuild Kits FOR V5011N AND V5013N THREADED GLOBE VALVES

INSTALLATION INSTRUCTIONS

APPLICATION

The 0901786A and 0901787A Valve Repack Kits contain the parts necessary to repack V5011N, V5013N Threaded Globe Valves with either a 1/4 or 3/8 in. stem.

The Valve Rebuild Kits (see Table 1 for part numbers) contain the parts necessary to rebuild either a V5011N or a V5013N Threaded Globe Valve.

SPECIFICATIONS

Models:

Repack Kits:

For valves with 1/4 in. stem: 0901786A.

For valves with 3/8 in. stem: 0901787A.

Rebuild Kits: See Table 1.

Temperature-Pressure Ratings:

Water/Glycol: 35°F to 150°F (2°C to 66°C) at 230 psi and maximum 337°F (170°C) at 185 psi.

Saturated Steam: Maximum 337°F at 100 psig.

See also Fig. 1.

Accessories:

0901116A Stem Button Assembly (10 stem buttons).

32003941-001 Seat Tool for 1/2 in. to 1-1/4 in. V5011N and 1/2 in. V5013N valves.

32003941-002 Seat Tool for 1-1/2 in. to 2 in. V5011N valves.

NOTE: The 3/4 through 2 in. V5013N valves do not require a seat removal tool.

INSTALLATION

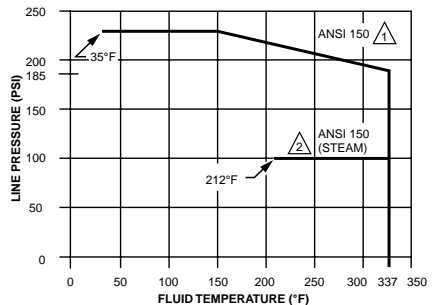
The procedures for Repack kits and Rebuild kits are similar, but have some important differences. Ensure that you follow the correct procedure.

When Installing this Product...

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.

IMPORTANT

1. Drain the system or close main shutoff ahead of the valve so that the medium (water, steam, etc.) does not leak out of the valve when the valve body is disassembled.
2. Remove and cap the air line or disconnect the power to the actuator before removing the actuator from the valve.
3. Do not bend or scratch the valve stem.
4. If the stem is bent or scratched, it will impair the operation of the valve. This condition requires rebuilding the valve.
5. The stem is easily damaged by rough handling or careless use of a wrench. Use caution when removing or replacing the packing cartridge.
6. Protect the stem from damage while moving any parts that slide over the valve stem by being careful to keep them in line with the stem as much as possible.



▲ RATINGS FOR V5011N AND V5013N WATER VALVES.

▲ RATINGS FOR V5011N STEAM VALVES.

M12881

Fig. 1. Temperature-Pressure curves for V5011N and V5013N Valves.

Repacking Valve

Remove the Packing

1. Remove the actuator from the valve body. (Refer to the actuator installation instructions for details.)
2. Insert 1/16 in. rod or nail into the stem to prevent stem rotation.



- Using a 9/16 in. wrench remove the stem button and set it aside.

- Remove the packing nut and set it aside.
- Remove the packing cartridge.
- Remove and discard the packing wafers, washer, spacers, and spring.

IMPORTANT

Do not tamper with Stem Height Adjustment set screw in the top of the Stem Button.

IMPORTANT

Take care not to scratch the inside of the packing cartridge.

- Remove 1/16 in. rod or nail from the stem and set it aside.

Table 1. Rebuild Kits for V5011N and V5013N Valves.

Valve Model	Valve NPT (in.)	C _v	Stem Diameter (in.)	Rebuild Kit Model ^a	Valve Details	Stem Height (in.) ^b	
						c	d
Two-way, Direct Acting Valves							
V5011N1008	1/2	0.73	1/4	0901746A	St. Steel seat, brass plug, equal percentage flow for water/glycol service.	3-1/2 ^e	5-1/4 ^e
V5011N1016		1.16		0901747A			
V5011N1024		1.85		0901748A			
V5011N1032		2.9		0901749A			
V5011N1040		4.7		0901750A			
V5011N1057	3/4	7.3		0901751A			
V5011N1065	1	11.7		0901752A			
V5011N1073	1-1/4	18.7		0901753A			
V5011N1081	1-1/2	29.3	3/8	0901754A			
V5011N1099	2	46.8		0901755A			
V5011N2006	1/2	0.73	1/4	0903422A	St. Steel seat and plug, linear flow for steam service.		
V5011N2014		1.16		0903423A			
V5011N2022		1.85		0903424A			
V5011N2030		2.9		0903425A			
V5011N2048		4.7		0903426A			
V5011N2055	3/4	7.3		0903427A			
V5011N2063	1	11.7		0903428A			
V5011N2071	1-1/4	18.7		0903429A			
V5011N2089	1-1/2	29.3	3/8	0903430A			
V5011N2097	2	46.8		0903431A			
Two-way, Reverse Acting Valves							
V5011N3004	1/2	2.9	1/4	0901759A	St. Steel seat, brass plug, equal percentage flow for water/glycol service.	4-3/16 ^f	5-15/16 ^f
V5011N3012		4.7		0901760A			
V5011N3020	3/4	7.3		0901761A	Integral bronze seat, brass plug, equal percentage flow for water/glycol service.		
V5011N3038	1	11.7		0901762A			
V5011N3046	1-1/4	18.7		0901763A			
Three-way Valves							
V5013N1030	1/2	2.9	1/4	0901759A	St. Steel seat, brass plug for water/glycol service.	4-3/16 ^f	5-15/16 ^f
V5013N1048		4.7		0901760A			
V5013N1055	3/4	7.3		0901761A	Integral bronze/brass seats, brass plug for water/glycol service.		
V5013N1063	1	11.7		0901762A			
V5013N1071	1-1/4	18.7		0901763A			
V5013N1089	1-1/2	29.3	3/8	0901764A			
V5013N1097	2	46.8		0901765A			

^aSee Fig. 3 for detail of parts included in Rebuild Kits.

^dWhen used with 8 in. MP953.

^bSee Fig. 2.

^eMeasured with stem down.

^cWhen used with standard actuator (including 5 in. MP953).

^fMeasured with stem up.

Clean and Inspect Valve

- Carefully remove deposits and old lubricant from the stem and packing cartridge.
- Inspect the packing cartridge and the stem for excessive wear, nicks, scratches, or corrosion.
- The valve should be repaired (using a rebuild kit) if there is any damage.
- Use the enclosed polishing paste on the stem to restore a mirror-like stem finish.

- Remove all traces of the polishing paste.

NOTE: The O ring is supplied with its own special lubricant. No other lubrication is necessary.

- Replace the O ring on the packing cartridge with a new O ring.

Replace Packing

- Carefully slide packing cartridge over stem, thread into bonnet and securely tighten.

NOTE: Torque packing cartridge to 37 lb-in.

- Drop in a new spring and flat brass washer.
- Add packing lubricant (included) to the stem at and above the washer.

IMPORTANT

When assembling packing over stem, ensure packing is not nicked or cut.

NOTE: Add a little lubricant to each packing.

- Carefully place black packing wafers over the stem, see Fig. 3.
- Slide packing nut over stem, thread into packing cartridge and securely tighten.

NOTE: Torque packing nut to 37 lb-in.

- Ensure the stem/plug assembly is able to move freely by manually lifting the valve stem prior to reattaching the actuator.
- Screw stem button onto stem and securely tighten.
- Verify stem height, see Fig. 2 and Table 1.
- Restore steam or water pressure.
- Check for leaks.
- Refer to the actuator instructions to assemble the actuator onto the valve.

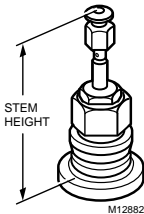


Fig. 2. Valve stem height measurement.

Rebuilding Valves

Remove Packing, Stem and Plug Assembly

FOR DIRECT ACTING V5011N

- Remove the actuator from the valve body. (Refer to the actuator installation instructions for details.)
- With the valve stem fully down, note the valve stem height, see Fig. 2.
- Insert 1/16 in. rod or nail into the stem to prevent stem rotation.
- Using a 9/16 in. wrench, remove and discard the stem button.
- Remove 1/16 in. rod or nail from the stem and set it aside.

- Unscrew the packing nut and set it aside.
- Remove and discard the packing cartridge.
- Remove the bottom nut and set it aside.
- Remove and discard the seat ring using the appropriate seat tool.
- Remove and discard the plug assembly.
- Clean the valve body threads to remove build-up.

FOR V5013N AND REVERSE ACTING V5011N

- Remove the actuator from the valve body. (Refer to the actuator installation instructions for details.)
- With the valve stem fully up, note the valve stem height, see Fig. 2.
- From the bottom of the valve, disconnect and set aside:
 - the lower seat (V5013N).
 - the bottom nut and lower seat (V5011N).
- Insert 1/16 in. rod or nail into the stem to prevent stem rotation.
- Using a 9/16 in. wrench remove and discard the stem button.
- Remove 1/16 in. rod or nail from the stem and set it aside.
- Unscrew the packing nut and set it aside.
- Remove and discard the packing cartridge.
- Remove and discard the plug assembly.
- For 1/2 in. valves, remove and discard the seat ring using the appropriate seat tool.
- Clean the valve body threads to remove any build-up.

Replace Stem and Plug Assembly

FOR DIRECT ACTING V5011N

- Insert the new plug assembly through the bottom port.
- Attach the new seat ring.

NOTE: Torque seat ring on 2 in. V5011N valves to 30 lb-in. Torque seat ring on all smaller V5011N valves to 22 lb-in.

- Replace the O ring on the bottom nut with the new prelubricated O ring (included).
- Replace the bottom nut.

FOR V5013N AND REVERSE ACTING V5011N

- Attach the new seat ring.

NOTE: Torque seat ring to 22 lb-in.

- Insert the new plug assembly through the bottom port.
- Replace the O ring on the lower seat with the new prelubricated O ring (included).
- Replace the lower seat.

Replace Packing

- Place the O ring (included) on the packing cartridge.
- Carefully slide packing cartridge over stem, thread into bonnet and securely tighten.

NOTE: Torque packing cartridge to 37 lb-in.

- Drop in a new spring and flat brass washer.
- Add packing lubricant (included) to the stem at and above the washer.

IMPORTANT

When assembling packing over stem, ensure packing is not nicked or cut.

NOTE: Add a little lubricant to each packing.

5. Carefully place black packing wafers over the stem, see Fig. 3.
6. Slide packing nut over stem, thread into packing cartridge and securely tighten.

NOTE: Torque packing nut to 37 lb-in.

7. Ensure the stem/plug assembly is able to move freely by manually lifting the valve stem prior to reattaching the actuator.
8. Screw stem button onto stem and securely tighten.

9. Verify stem height, see Fig. 2 and Table 1.

10. Restore steam or water pressure.

11. Check for leaks.

12. Refer to the actuator instructions to assemble the actuator onto the valve.

CHECKOUT

Operate the valve and actuator through one complete cycle, and make certain that the valve operates properly.

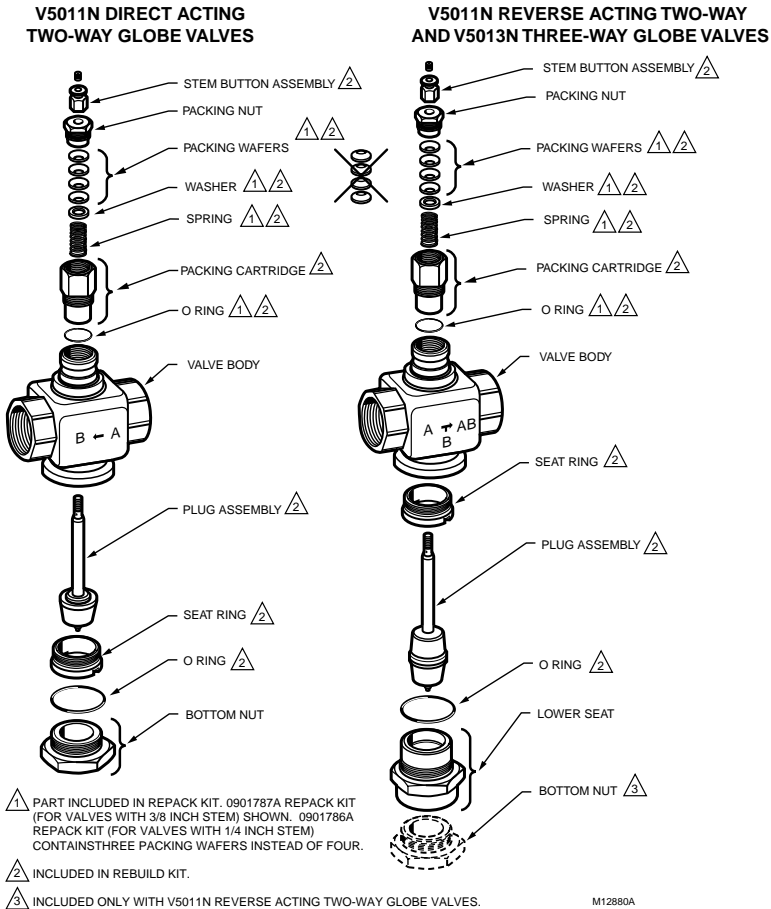


Fig. 3. V5011N and V5013N Valve Exploded Views.

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