

# Repacking Instructions for N and HN Series Valves

Swagelok

Kit Contents:

PTFE Packing	UHMWPE Packing
Packing (1)	Packing (1)
Packing support (2)	Lubricant (1)
Lubricant (1)	Instruction sheet (1)
Instruction sheet (1)	MSDS (1)
MSDS (1)	

Grafoil® Packing	PEEK Packing
Packing <sup>1</sup>	Packing (2)
Lubricant (1)	Packing support (2)
Instruction sheet (1)	Lubricant (2)
MSDS (1)	Instruction sheet (1)
	MSDS (2)

<sup>1</sup>Number of packings will vary according to valve series.

## **WARNING** **BEFORE SERVICING ANY INSTALLED VALVE, YOU MUST:**

- depressurize system
- cycle the valve
- purge the valve.

### Disassembly:

1. Loosen the lock nut and packing bolt.
2. Remove the bonnet assembly from the valve body. Do not remove the union nut from the bonnet.
3. Turn the stem into the bonnet until the handle slightly touches the packing bolt.
4. Loosen set screw and remove handle.
5. Remove packing bolt and lock nut.
6. Remove the stem from the bonnet. Turn the bonnet upside down to remove the packing(s), packing supports (in PTFE and PEEK packed valves), and the gland.

**NOTE:** Be very careful when removing packing so as not to damage the inside of the bonnet.

7. Discard the packing(s) and packing supports (in PTFE and PEEK packed valves). **DO NOT** discard the gland.
8. Clean all reusable parts thoroughly in solvent and dry all parts.

### Reassembly:

- 9a. **PTFE Packing:** Lubricate the stem threads and stem shank with MS-LT-NNS-1 and re-insert the stem through the bottom of the bonnet. Lubricate the valve body threads and the body to bonnet sealing area with MS-LT-NNS-1 and place the bonnet assembly onto the body. Tighten the union nut onto the body finger-tight. Place one of the packing supports into the bonnet. Place

the packing into the bonnet by carefully pushing down with a blunt instrument. Be careful not to damage any stem or bonnet threads. Put the second packing support into the bonnet on top of the packing. Place the gland into the bonnet. Proceed to step 10.

- 9b. **UHMWPE Packing:** Lubricate the stem threads and stem shank with MS-LT-NNS-1 and re-insert the stem through the bottom of the bonnet. Lubricate the valve body threads and the body to bonnet sealing area with MS-LT-NNS-1 and place the bonnet assembly onto the body. Tighten the union nut onto the body finger-tight. Place the packing into the bonnet with a blunt instrument. Be careful not to damage any threads. Place the gland into the bonnet. Proceed to step 10.

- 9c. **Grafoil Packing:** Lubricate the stem threads, stem shank, and each individual piece of grafoil packing with MS-LT-NNS-1. Re-insert the stem through the bottom of the bonnet. Lubricate the valve body threads and the body to bonnet sealing area with MS-LT-NNS-1 and place the bonnet assembly onto the valve body. Tighten the union nut onto the body finger-tight. Push each packing into the bonnet one at a time, using the gland. **Use all of the packings included in the kit (3N and 3HN series, 5 pieces; 6N, 6HN, and 12N series, 4 pieces).** Be careful not to damage any threads. Place the gland into the bonnet. Proceed to step 10.

9d. **PEEK Packing:** Lubricate the stem threads, stem shank, and the packings with MS-LT-WL7. Re-insert the stem through the bonnet. Lubricate the valve body threads and the body to bonnet sealing area with MS-LT-NNS and place the bonnet assembly onto the body. Tighten the union nut onto the body finger-tight. Place one packing support inside the bonnet and press it down with a blunt instrument. Be careful not to damage any stem or bonnet threads. Insert the lubricated lower packing and then the upper packing. Press down into the bonnet. Insert the second packing support, press down. Insert the gland and press down into the bonnet. Proceed to step 10.

**All Assemblies:**

10. Lubricate the outer threads on the packing bolt and screw into the bonnet.
11. Lubricate the top (2) or (3) threads on the bonnet and screw lock nut onto the bonnet.
12. Place the handle on the stem. Be certain that the set screw hole is aligned with the indentation in the stem before tightening the set screw.
13. Back stem out of the bonnet (2) or (3) turns, to prevent galling during the torquing procedure.
14. Torque union nut to body according to the union nut torque chart.
15. Torque the packing bolt according to the packing bolt torque chart. Turn the handle (2) or (3) times and check the torque.

16. Hold the packing bolt in place and tighten the lock nut against the packing bolt.
17. Test the valve for proper operation.

**Union Nut Torque Chart**

Valve Series	Torque, in.-lb (N·m)
3N	550 (62.1)
3HN, 6N	1000 (113)
6HN	1080 (122)
12N	2200 (248)

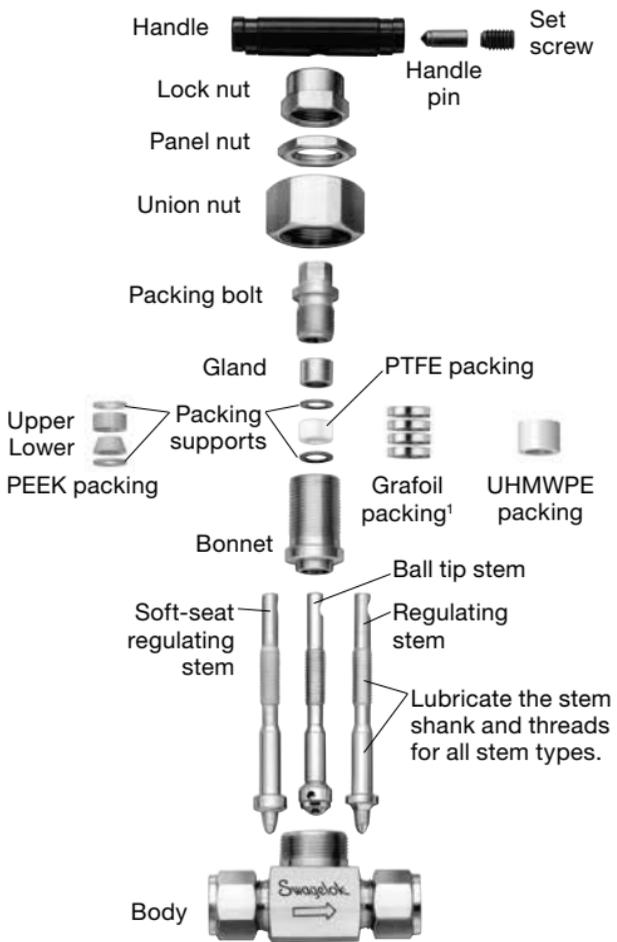
**Packing Bolt Torque Chart**

Valve Series	Grafoil Packing	PTFE, UHMWPE, and PEEK Packing
	Torque, in.-lb (N·m)	
3N, 3HN	25 (2.8)	30 (3.4)
6N, 6HN	110 (12.4)	75 (8.5)
12N	150 (17.0)	250 (28.2)

Note: Dependent on system pressure and fluid viscosity, additional packing bolt adjustment may be required.

Translations available on [www.swagelok.com](http://www.swagelok.com)

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 Grafoil — TM GrafTech International Holdings Inc.  
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<sup>1</sup> Number of packings will vary according to valve series.