

USER MANUAL

MANUAL VER. 2020.10

SUNV60 Series Union Bonnet Needle Valves 사용 설명서



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⚠ 주의

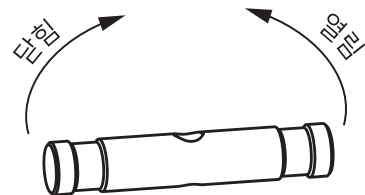
1. 밸브와 배관의 흐름 방향이 동일한지 확인 합니다.
2. 밸브 작동을 핸들 외 다른 것으로(스패너, 파이프 렌치 등) 조작해서는 안됩니다.

알림

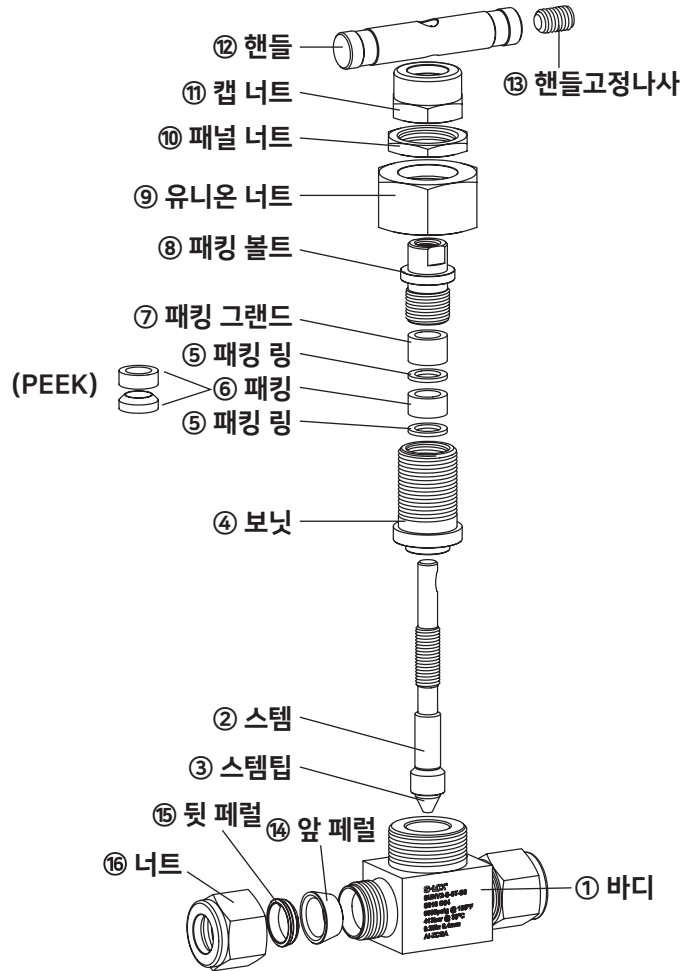
- » 사용 환경에 따라 누설이 발생할 수도 있으니 누설 시에는 누설 방지를 위해 본 사용 설명서의 패킹 조정에 따라 패킹 너트를 조정 합니다.
- » 패킹 조정은 반드시 시스템 압력을 모두 제거한 후 진행해야 합니다.
- » 스템 누설이 확인한 상황에서 패킹 조정이 더 이상 가능하지 않을때는 본 사용 설명서의 패킹 교체에 따라 새 패킹으로 교체 합니다.

밸브 개폐

- 밸브를 열고자 할 때
핸들을 반시계 방향으로 돌립니다.
- 밸브를 닫고자 할 때
핸들을 시계 방향으로 돌립니다.
과도한 힘을 가하면 시트와 스템 팁,
특히 소프트 시트가 손상될 수 있으니 주의 바랍니다.



밸브 구성



• 패킹 키트

번호	구성부품
4	패킹 링
5	하부 패킹
6	상부 패킹

육각렌치

단위 : mm

	SUNV1	SUNV2	SUNV3
⑬ 핸들고정나사	3	4	5

스패너

단위 : mm(in.)

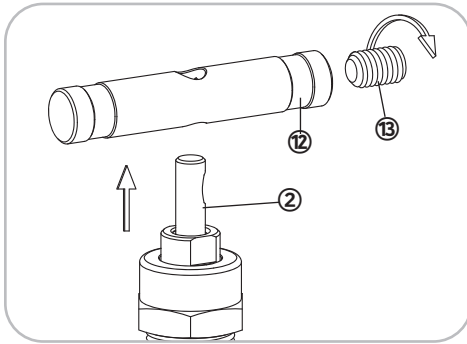
	SUNV1	SUNV2	SUNV3
⑧ 패킹 볼트	9.3	11	15.7
⑨ 유니온 너트	22.2 (7/8)	31.7 (1-1/4)	38.1 (1-1/2)
⑩ 패널 너트	19 (3/4)	25.4 (1)	31.7 (1-1/4)
⑪ 캡 너트	17.4 (11/16)	22.2 (7/8)	28.5 (1-1/8)

토크

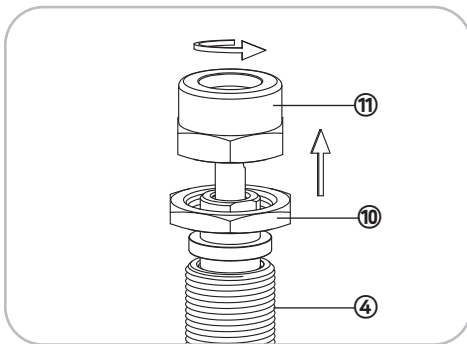
단위 : kgf·cm(N·m)

	SUNV1	SUNV2	SUNV3
⑧ 패킹 볼트	80 (7.8)	200 (19.6)	300 (29.4)
⑨ 유니온 너트	600 (58.8)	700 (68.6)	1000 (98.1)

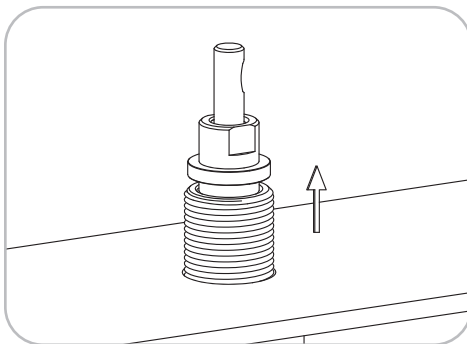
패널 설치



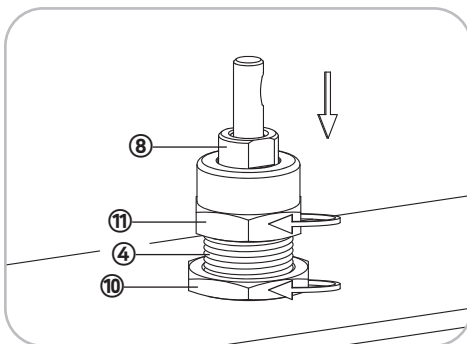
1. ⑬핸들고정나사를 풀어 ②스템에서 ⑫핸들을 분리 합니다.



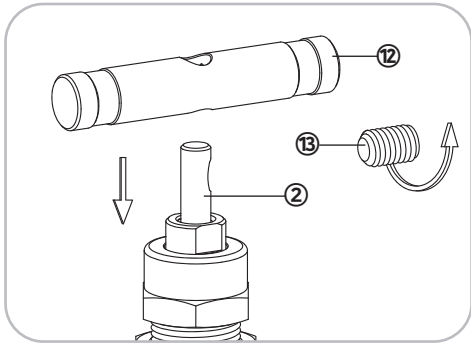
2. ④보닛에서 ⑪캡 너트와 ⑩패널 너트를 풉니다.



3. 캡 너트와 패널 너트가 분리된 밸브를 패널에 넣습니다.

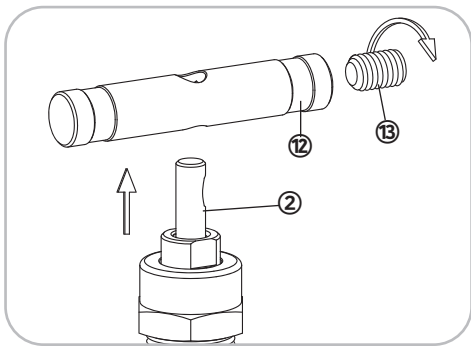


4. ④보닛에 ⑩패널 너트를 조립하고, 단단히 조입니다.
⑧패킹 볼트가 움직이지 않게 고정 한 후 ⑪캡 너트를 단단히 조입니다.

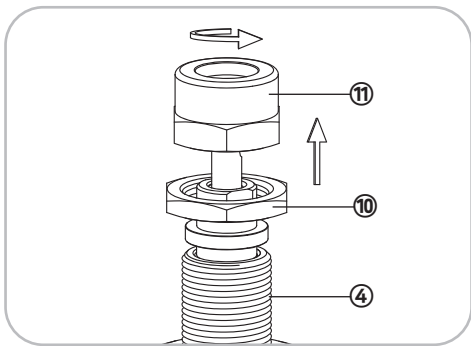


5. ⑫핸들을 ②스템에 넣고, ⑬핸들고정나사를 단단히 조입니다.

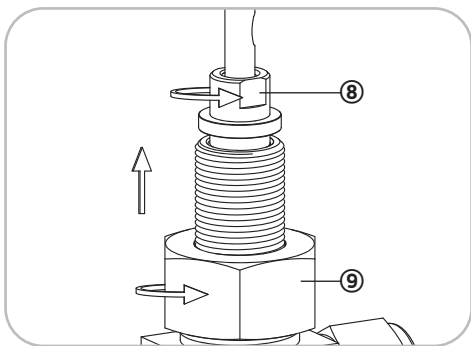
패킹 교체



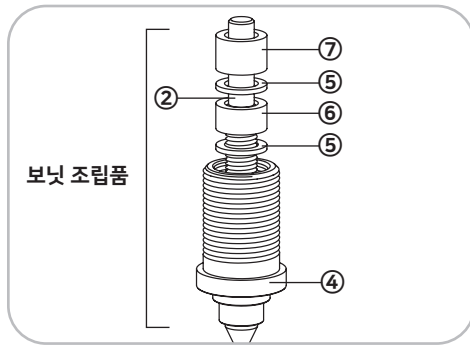
1. ⑬핸들고정나사를 풀어 ②스템에서 ⑫핸들을 분리합니다.



2. ④보닛에서 ⑪캡 너트와 ⑩패널 너트를 풀어 분리합니다.



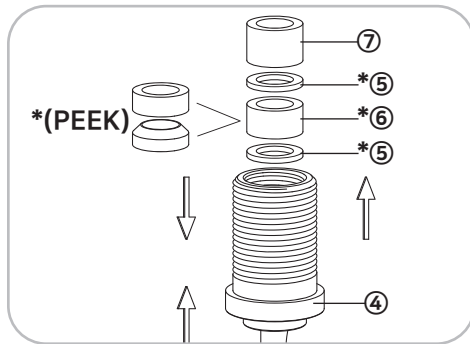
3. ⑧패킹 볼트와 ⑨유니온 너트를 풀어 분리합니다.



4. 보닛 조립품을 바디에서 분리합니다.

※보닛 조립품

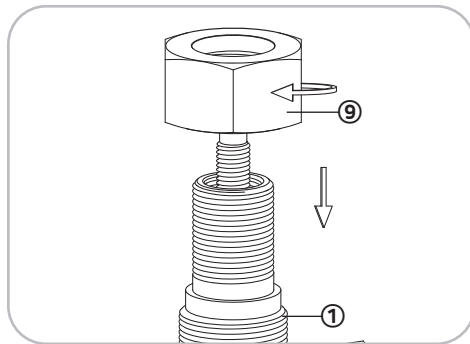
②스템, ④보닛, ⑤패킹 링, ⑥패킹, ⑦패킹 그랜드



5. ④보닛에서 ②스템, ⑤패킹 링, ⑥패킹, ⑦패킹 그랜드를 분리 합니다.

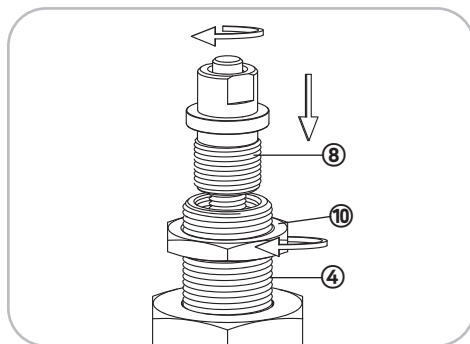
⑤패킹 링, ⑥패킹, ⑦패킹 그랜드를 새 부품으로 교체 합니다.

②스템, ⑤패킹 링, ⑥패킹, ⑦패킹 그랜드를 ④보닛에 다시 조립 합니다.



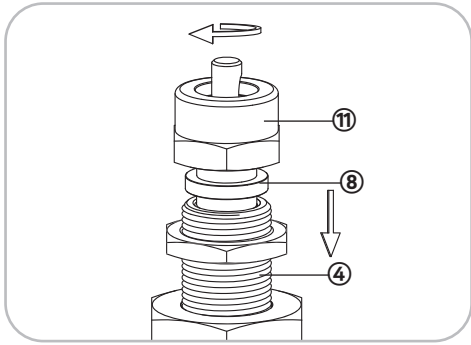
6. 보닛 조립품과 ⑨유니온 너트를 ①바디에 조립 합니다.

토크표에 따라 ⑨유니온 너트를 조입니다.

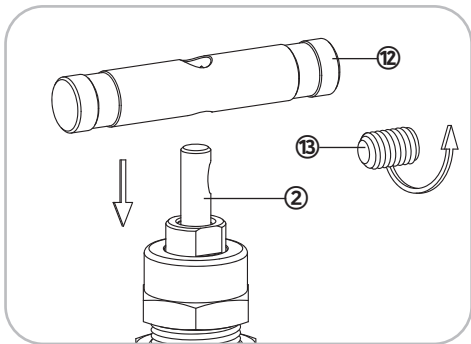


7. ④보닛에 ⑩패널 너트와 ⑧패킹 볼트를 조립 합니다.

토크표에 따라 ⑧패킹 볼트를 조입니다.

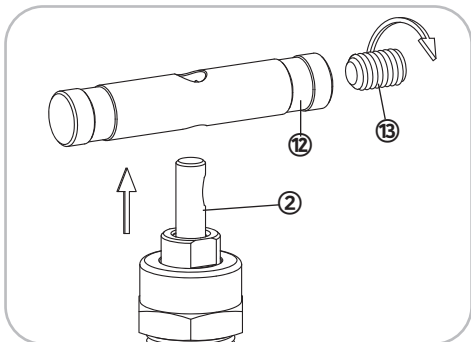


8. ④보닛에 ⑪캡 너트를 조립 후, 패킹 볼트가 회전하지 않도록 고정하여 캡 너트를 단단히 조입니다.

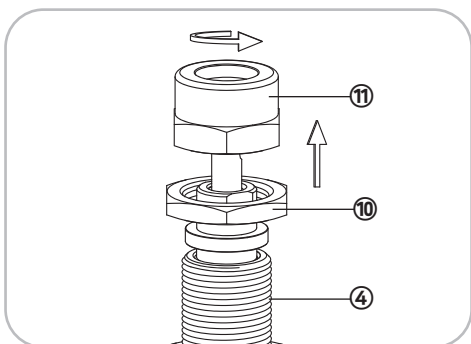


9. ⑫핸들을 ②스템에 넣고, ⑬핸들고정나사를 단단히 조입니다.

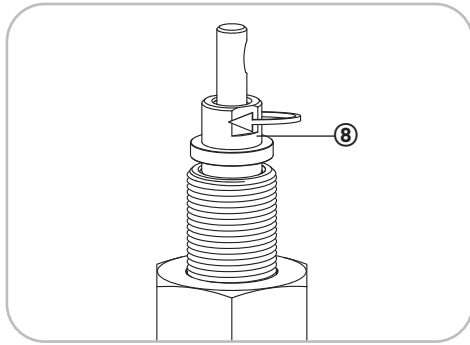
패킹 조정



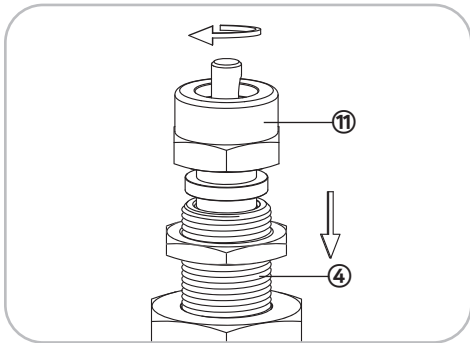
1. ⑬핸들고정나사를 풀어 ②스템에서 ⑫핸들을 분리합니다.



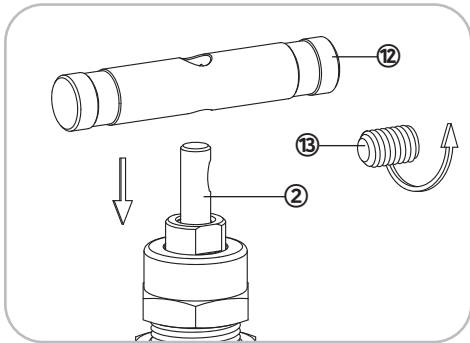
2. ④보닛에서 ⑪캡 너트와 ⑩패널 너트를 풀어 분리합니다



3. ⑧패킹 볼트를 1/8 바퀴씩 돌려 완전 밀폐가 될 때까지 조입니다.



4. ④보닛에 ⑪캡 너트를 조립 후, 패킹 볼트가 회전하지 않도록 고정하여 캡 너트를 단단히 조입니다.



5. ⑫핸들을 ②스텝에 넣고, ⑬핸들고정나사를 단단히 조입니다.

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SUNV60 Series Union Bonnet Needle Valves



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Caution

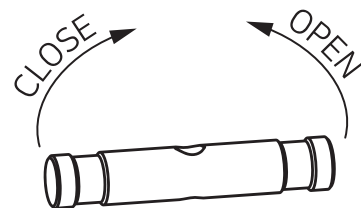
1. Check the valve direction and the flow in the tube/pipe are in equal direction.
2. During the valve operation, operator shall not use other tools, such as spanner, pipe wrench, or etc.

Note

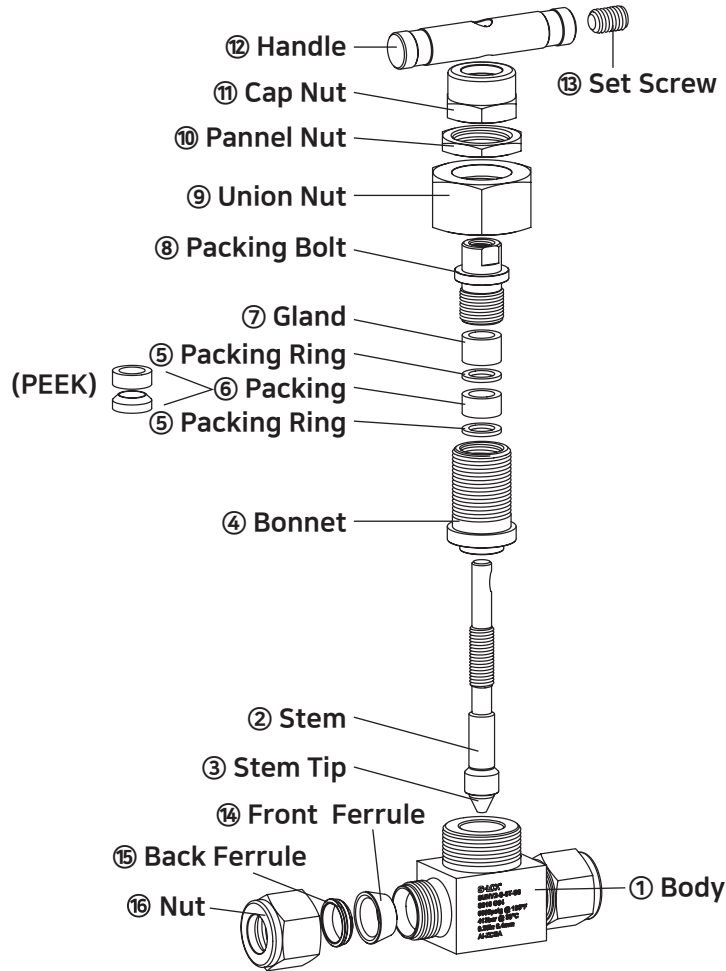
- » Depending on the working environment, there may be a leakage, and when there is any leakage, follow the directions below for prevention of further leakage by adjusting the packing nut as instructed below.
- » Packing adjustment must be performed after relieving all of the pressure in the system.
- » If there is leakage via stem and packing adjustment is not being effective, change the packing as instructed in this manual.

Open & Close

- Opening
Turn the handle counter-clock wise.
- Closing
Turn the handle clock wise.
When overturning the handle,
it may cause damaging the seat as well as the stem tip.
Especially, it damages soft seat easily.



Valve Composition



• Packing Kit

No.	Component
4	Packing Ring
5	Lower Packing
6	Upper Packing

Hex. Wrench

Unit : mm

	SUNV1	SUNV2	SUNV3
(13) Set Screw	3	4	5

Spanner

Unit : mm(in.)

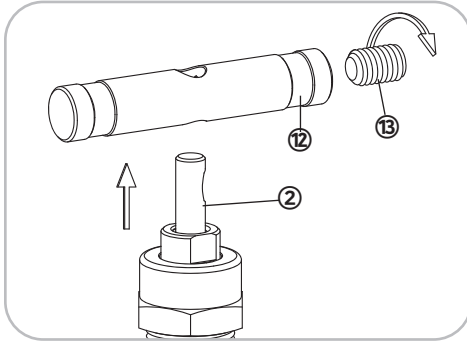
	SUNV1	SUNV2	SUNV3
(8) Packing Nut	9.3	11	15.7
(9) Union Nut	22.2 (7/8)	31.7 (1-1/4)	38.1 (1-1/2)
(10) Panel Nut	19 (3/4)	25.4 (1)	31.7 (1-1/4)
(11) Cap Nut	17.4 (11/16)	22.2 (7/8)	28.5 (1-1/8)

Torque

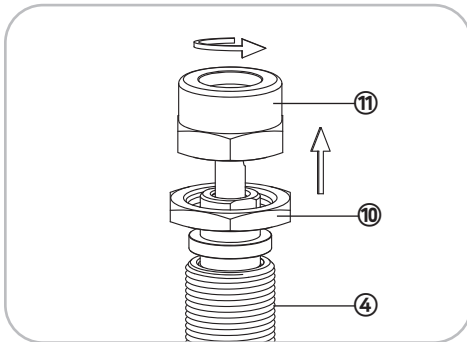
Unit : kgf·cm(N·m)

	SUNV1	SUNV2	SUNV3
(8) Packing Bolt	80 (7.8)	200 (19.6)	300 (29.4)
(9) Union Nut	600 (58.8)	700 (68.6)	1000 (98.1)

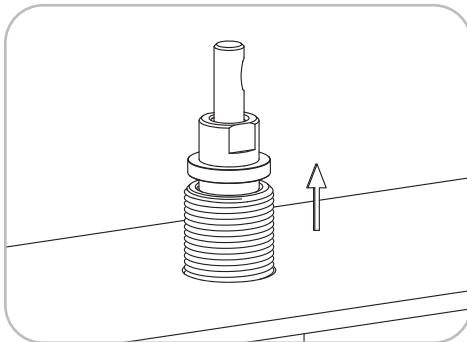
Panel Installation



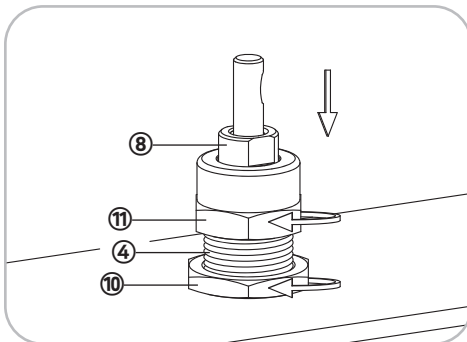
1. Unscrew ⑬ *Set Screw* and disassemble ⑫ *Handle* from ② *Stem*.



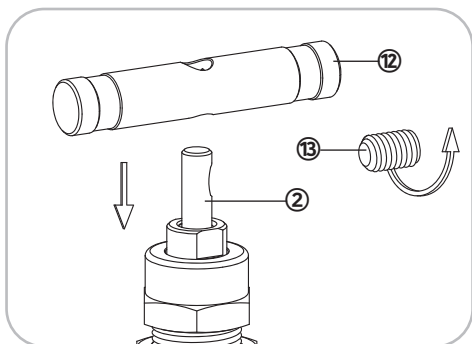
2. Unscrew ⑪ *Cap Nut* and ⑩ *Panel Nut* from ④ *Bonnet*.



3. Insert the valve to the panel hole.

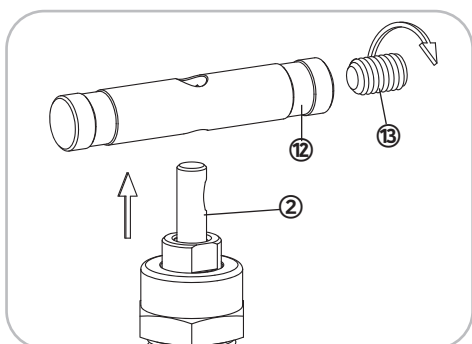


4. Tighten ⑩ *Panel Nut* and screw ⑪ *Cap Nut* to ④ *Bonnet*.
Hold ⑧ *Packing Bolt* and tighten ⑪ *Cap Nut*.

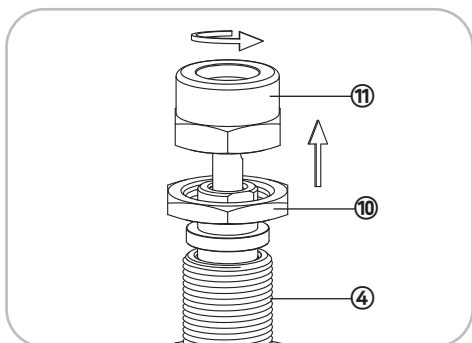


5. Insert ⑫ *Handle* to ② *Stem* and tighten ⑬ *Set Screw*.

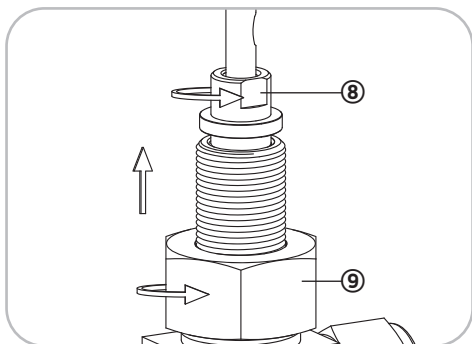
Packing Replacement



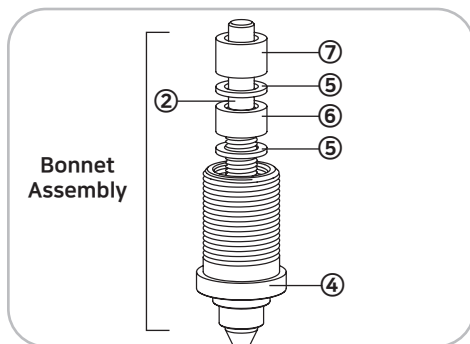
1. Unscrew ⑬ *Set Screw* and disassemble ⑫ *Handle* from ② *Stem*.



2. Unscrew ⑪ *Cap Nut* and ⑩ *Panel Nut* from ④ *Bonnet*.



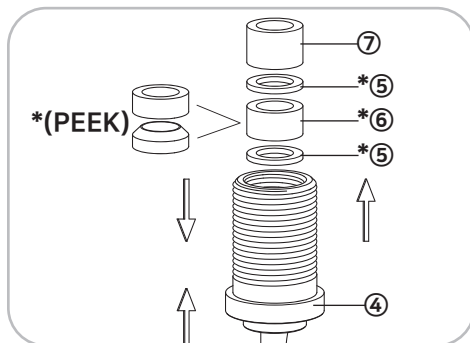
3. Unscrew ⑧ *Packing Bolt* and ⑨ *Union Nut*.



4. Remove the Bonnet Assembly from ①Body.

※**Bonnet Assembly**

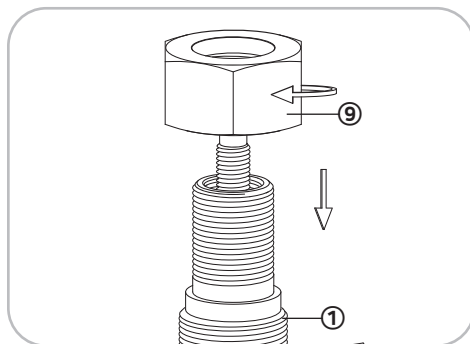
②Stem, ④Bonnet, ⑤Packing Ring, ⑥Packing, ⑦Packing Gland



5. Remove ②Stem, ⑤Packing Ring, ⑥Packing and ⑦Gland from ④Bonnet.

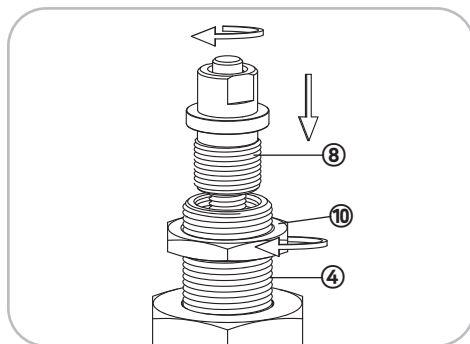
Replace parts ⑤Packing Ring, ⑥Packing and ⑦Gland with new ones.

Assemble ②Stem, ⑤Packing Ring, ⑥Packing and ⑦Gland to ④Bonnet.



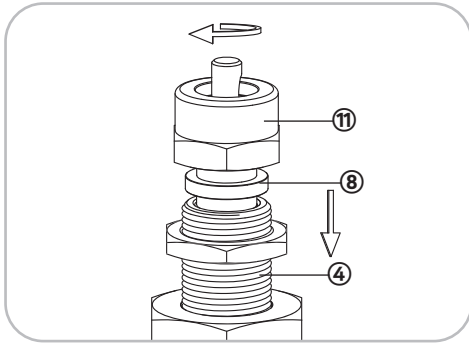
6. Insert bonnet assembly to ①Body and screw ⑨Union Nut to ①Body.

Fasten ⑨Union Nut according to the torque table.

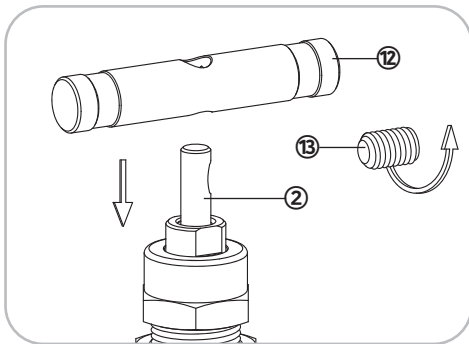


7. Screw ⑩Panel Nut and ⑧Packing Bolt to ④Bonnet.

Fasten ⑧Packing Bolt according to the torque table.

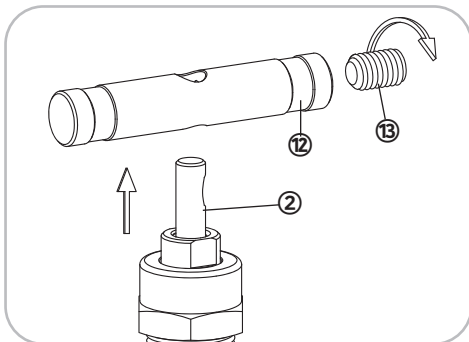


8. Screw ⑪ *Cap Nut* to ④ *Bonnet*.
Hold ⑧ *Packing Bolt* and tighten ⑪ *Cap Nut*.

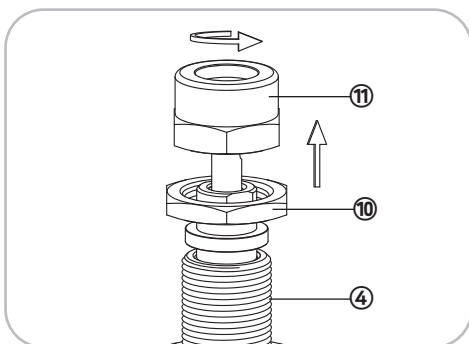


9. Insert ⑫ *Handle* to ② *Stem* and tighten ⑬ *Set Screw*.

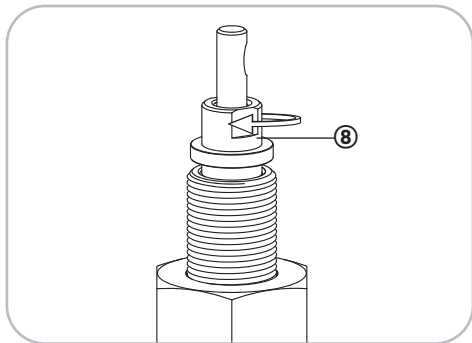
Packing Adjustment



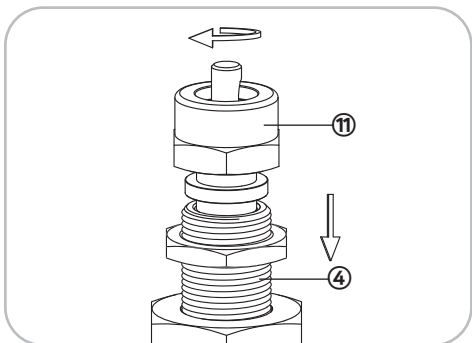
1. Unscrew ⑬ *Set Screw* and disassemble ⑫ *Handle* from ② *Stem*.



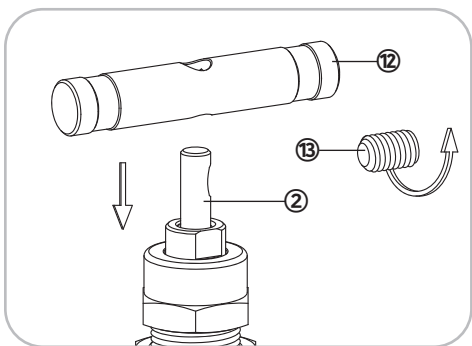
2. Unscrew ⑪ *Cap Nut* and ⑩ *Panel Nut* from ④ *Bonnet*.



3. Turn **⑧ Packing Bolt** clockwise in 1/8-turn increments until leak-tight.



4. Screw **⑩ Panel Nut** and **⑪ Cap Nut** to **④ Bonnet**.
Hold **⑧ Packing Bolt** and tighten **⑪ Cap Nut**.



5. Insert **⑫ Handle** to **② Stem** and tighten **⑬ Set Screw**.