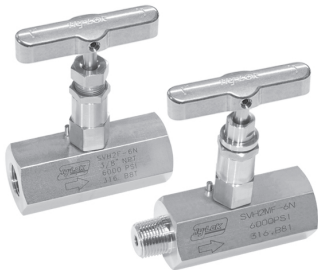


# SVH SERIES Needle Valve Instruction Manual



**Hy-Lok**

## ◆ *Installation*

### **Installation Preparation**

1. Remove protective cap and packing material
2. Before installing the valve, assure the specified pressure and temperature range is sufficient and piping line is installed properly.
3. The environment of installing valve should be suitable to the operation.
4. Make sure the piping system line is free of contaminants.
5. Do not carry the valve with getting the handle.

### **Connection of Taper Thread**

1. Before assembly, make sure male and female threads are free of dirt and debris.
2. Teflon tape should be applied to male thread with 5 or 6 turns.
3. After wrapping the threads, make sure that the tape is properly fixed by pressing the tape with hands.
4. During installation, dirt and debris should not contaminate the threads.

### **Connection of Hy-Lok Tube Fitting**

1. Insert prepared tubing into Hy-Lok fitting until tubing end is firmly seated on the body shoulder and make sure the nut is finger-tight.
2. Mark the nut at 9 o'clock position for identification of starting point.
3. Tighten the nut 1 1/4 turns with a wrench keeping the fitting body steady with a back-up wrench. After the nut is tightened 1 1/4 turn, the marking made at 9 o'clock position before, will now be at 12 o'clock position.

### **Connection of Socket Weld/Butt Weld End**

1. Before assembly, make sure of removing dirt on the tube/pipe end and the valve end connection.
2. Remove the **Bonnet(9)** from the **Body(11)**.
3. In case of Socket Welding - Insert the tube/pipe end to the end connection of valve keeping 1.5mm(0.06 in) gap with the body shoulder.  
In case of Butt Welding - Insert the Backing Ring between tube/pipe end and valve end connection.
4. Weld the end connection in accordance with the welding procedure.
5. After welding, remove the slag on the weld bead.

## ◆ *Operating*



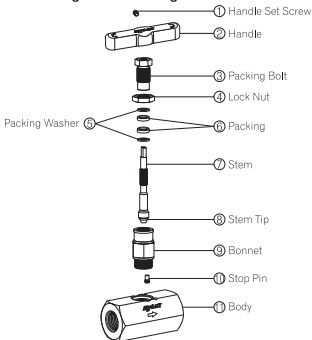
### **CAUTION**

1. System design should ensure adequate space for proper valve actuation without obstruction.
2. The Valve should be operated manually by an authorized person or trained personnel to ensure proper valve operation.
3. Operate the Valve after complete installation in system.
4. Operate the Valve in accordance with the specified user's procedure.
5. Operate the Valve with the Handle. Actuating the valve with a spanner, pipe wrench, etc. is not recommended.

### **Open and Close the Valve**

1. Turn the **Handle(2)** about 5~6 turns clockwise or counterclockwise to close or open.
2. Turn the **Handle(2)** completely clockwise to fully closed position, counterclockwise to fully open position.

## General Arrangement Drawings



## Torque Table

Series	Spanner Size		Body Material	Torque (N·m)		
	Packing Bolt	Bonnet		Packing Bolt		Bonnet
				PTFE	Graphite	
SVH1	5/8" (15.8mm)	7/8" (22.2mm)	SS316	9	8	98
			Carbon Steel			78
SVH2	7/16" (11.1mm)	11/16" (17.4mm)	SS316	9	8	88
			Carbon Steel			78

## ◆ Maintenance

### ⚠ CAUTION

1. Check that Valve condition is within a safe temperature range and free from a power source. In order to check, the line shall be fully depressurized before attempting any maintenance and any fluids shall be drained.
2. The valve being removed should be operated at least once and left in the open position before removal.
3. The Valve should be operated manually by an authorized person or trained personnel to insure proper valve operation.

## Replacement of part components

If no further adjustment of Packing Bolt(3) is possible and stem leakage is still evident or seat leakage is suspected, the valve will need to be removed from the line in order for new seats/seals to be installed.

After removal of the valve, adopt the following procedure to remove, replace and reassemble the individual valve components.

## Disassembly

1. Before disassembly, place the Handle(2) in the middle of open and close position.
2. Remove the Stop Pin(10) from the Body(11).
3. Loose the Lock Nut(4) and Packing Bolt(3) with a Spanner from the Bonnet(9).
4. Remove the assembled Bonnet(9) from the Body(11).
5. Loosen the Handle Set Screw(1) with a wrench and then remove the Handle(2) from the Stem(7).
6. Turn the Stem(7) counter-clockwise to separate from the assembled Bonnet(9).
7. Remove the Packing Bolt(3) from the Bonnet(9).
8. Remove the Packing Washer(5) and Packing(6) by using the Probe or Positioner. (To prevent the damage inside the Bonnet(9), full attention is needed when removed the components.)

## Leakage

### 1. Stem leakage

In case of stem leakage, tighten the Packing Bolt(3) after loosening the Lock Nut(4). If the leakage remains after tightening, remove the Handle(2), Stem(7), Packing(6), Packing Washer(5) and check for damage to the Stem(7) and Packing(6), replace damaged parts or component(s) as needed.

### 2. In-Line leakage

If the leakage happens inside of valve, ensure whether the valve is in fully closed condition. If the reason of leakage is seat(Body(11)/Stem Tip(8)) damage, replace the component.

## Reassembly

1. Before valve reassembly, check if any damage and corrosion in all part components of the valve.
2. If the damage is minor, polish the part by sandpaper.  
If the damage is considerable, replace the part component.
3. Insert the Packing(6) and Packing Washer(5) into female port of the Bonnet(9).
4. Install the Packing Bolt(3) pre-assembled with the Lock Nut(4) into female port of the Bonnet(9). Male thread of the Packing Bolt(3) shall be lubricated.
5. Insert the Stem(7) into male port of the Bonnet(9) and fully turn the Stem(7) clockwise.
6. Screw tightly the Packing Bolt(3) for proper stem sealing by hand.
7. Lubricated male thread of the Bonnet(9) shall be assembled by hand into Bonnet(9) housing of the Body(11).
8. Tighten the Bonnet(9) according to Torque Table.
9. Tighten the Handle Set Screw(1) after inserting the Handle(2) into key of Stem(7).  
Be careful not to distort or deform the Stem(7).

## ◆ Removal



### CAUTION

The valve must be depressurized in the open position before removal.  
Close the valve after fluids are fully drained.

1. Get permission to remove the valve.
2. To prevent damage to the seat, careful attention is needed when removing the valve.
3. After removal, clean the valve and cap the ends with plastic covers.