

Climate conditions: PVC valves (and pipe & fittings) are pressure rated at 73 deg F, and must be de-rated as operating temperatures increase. Normally, we are referring to the fluid passing through the system, but in this case, we are also talking about the exterior environment. Once plastic pipe, valves and fittings are in a box and / or down hole, away from direct sunlight, they will be closer to ambient, so they can function at their rated pressure.

During construction, on a day with 100 deg F heat and sun exposure, we have seen the surface temps of thermoplastic piping components reach in excess of 140 deg F. PVC is fully de-rated for pressure at 140 deg, and can start to mal-form at 160 deg. So these components may be damaged and unusable after reaching this rate of heat.

The benefits of using a PVC Slo-Close valve, (complete corrosion resistance and avoidance of water hammer, ease of installation) can be attained if the installing contractor takes care during construction to:

Avoid storing them in direct sunlight or very hot areas.
Avoid leaving them exposed to sunlight in open trenches
Allow the valves, pipe and fittings to cool and settle before pressurizing them with water.
Re-check the tightness of the union nuts prior to pressurizing the system.

These recommendations apply to any thermoplastic pipe, valves & fittings (PVC, or HDPE).

Installation with union nuts: (True Union Type Valves)

Be sure that face o-rings are properly seated and mating with the end-connectors prior to tightening union nuts. The face of the end connector must be squarely aligned with valve body and must fit flush against the o-ring seal. NOTE: DO NOT USE THE UNION NUT TO DRAW TOGETHER ANY GAPS BETWEEN THE END CONNECTOR AND THE O-RING OR VALVE BODY.

Valve should be in the OPEN position when tightening union nuts. Install with FLOW ARROW in proper orientation.

Hand-tighten union-nuts. If further tightening is deemed necessary, a maximum of ¼ turn (past hand-tight) may be performed with a strap wrench or approved union-nut wrench. Dry-cycle the valve to be sure that the Operating Nut can turn to full-open & full-close. This should be a smooth to slightly-tight action.

Care should be taken to keep the body threads and the internal threads of the union nuts clean. If dirt is present, the threads should be rinsed with clean water to facilitate tightening

Flushing laterals:

Background: When flushing laterals with gate valves, it has been common practice to open the valves partially and hold them in that position (throttle) as you flush each head location. When using Slo-Close Ball Valves, a different approach should be used.

Since the SCV is a ball valve, it is important not to hold it in a semi-open position under pressure. Doing so can damage the seats.

For each flush, open the valve to approximately 25% (1/4 rotation of the operating nut) open for 3 – 5 seconds, then proceed with the rest of the full 360° rotation to open fully. The cycle time to open fully should be only 5 – 10 seconds. After flushing, close the valve. Install the heads. When closing the valve, the cycle time for the 360° rotation of the operating nut should be 3 – 5 seconds. Repeat the process at the next head location.

SCVs are configured for standard "Right to Close", "Left to Open" operation of the operating nut.

Plastic valves vs. Metallic Valves: Metal has higher sound-insulating properties, so you will tend to hear the water flowing through a PVC Slo-Close valve more than you would a brass or bronze gate valve. This will occur during the initial fill, prior to reach equilibrium, and it is normal.