

## 150 PSI Tru-Bloc, True Union Ball Valves 1/2" through 6" Nominal Sizes

### Scope:

This specification establishes the manufacturing requirements for dual-blocking (Tru-Bloc) and downstream-only blocking (true union) quarter-turn ball valves of PVC, CPVC, PP, and PVDF materials intended for use in industrial, commercial, and residential pressure-piping systems, where cost-effective, long-term resistance to corrosion is of prime importance, and the service temperature does not exceed: PVC, 140° F; CPVC, 210° F; PP, 180° F; PVDF, 280° F.

Major component parts shall be constructed from one of the following:

NPS 1/2 – 6 PVC (polyvinyl chloride), Cell Class 12454 per ASTM D 1784, industrial gray in color, and the valve style shall be full-port Tru-Bloc, TU (NPS 6 is standard port) or Tru-Bloc, SU (NPS 1/2 – 2 only).

NPS 1/2 – 6 CPVC (chlorinated polyvinyl chloride), Cell Class 23447 per ASTM D 1784, industrial light gray in color, and the valve style shall be full-port Tru-Bloc, TU (NPS 6 is standard port) or Tru-Bloc, SU (NPS 1/2 – 2 only).

NPS 1/2 – 4 PP (polypropylene) Cell Class PP0110-M30-A10120 (glass-filled material) and Cell Class PP0110-B67157 (unfilled material) as per ASTM D 4101. These materials shall be pigmented jet black. Valve style shall be full-port True Union.

NPS 1/2 – 4 Chem-Pure<sup>®</sup> (natural polypropylene) Cell Class PP0210-B45145 as per ASTM D 4101. Materials shall be unpigmented and of the highest purity. Valve style shall be full-port True Union.

NPS 1/2 – 4 PVDF (polyvinylidene fluoride) Type I compound per ASTM D 3222. The material shall be red Kynar<sup>®</sup> (pigmented red) for maximum UV opacity, and the valve style shall be full-port Tru-Bloc, TU or True Union.

NPS 1/2 – 4 PVDF (polyvinylidene fluoride) Type I compound per ASTM D 3222. The material shall be natural (unpigmented) 700 Series Kynar<sup>®</sup> of the highest purity and maximum transparency to UV radiation, and the valve style shall be full-port Tru-Bloc, TU or True Union.

### Dimensions/Valve Design:

PVC and CPVC socket-end connections shall conform to the requirements of ASTM D 2467 and F 439 for Schedule 80 pressure fittings, PP and PVDF socket-end connections shall be suitable for heat-fusion welding as specified in ASTM D 2567 Technique I.

All threaded-end connections shall conform to the requirements of ASTM D 2467 and F 439 as well as ASTM F 1498 for tapered pipe threads.

### Performance:

Valves shall be rated for 150 psi non-shock water service at 73° F water and have a minimum burst rating of 3.3 times the rated working pressure. Valves shall be certified to ASTM F 1970 by a third-party agency.

### Markings:

Valves shall be clearly marked with the manufacturer's name or trademark, nominal size, material designation, ASTM number or equivalent symbol indicating compliance with applicable standards, and country of manufacture. PVC and CPVC valves shall additionally bear the NSF International certification mark, NSF-pw, (verifying approval for conveyance of potable water).

### Installation:

At the specifying engineer's option, the manufacturer shall provide, at no additional cost, on-site training for installation/maintenance personnel. Otherwise, installation shall be as specified by the manufacturer's printed instructions.

## PVC and CPVC Bleach Ball Valves True Union Model-C

### Recommended Specification

In the interest of safety, owners of sodium hypochlorite transfer and injection piping systems must have confidence that the PVC or CPVC ball valves in their system were properly manufactured, cleaned, assembled, tested, and oriented during installation in accordance with intended system design. Therefore, engineering specifications for bleach transfer and injection systems should include the following product, installation, and pre-commissioning inspection requirements:

- All PVC or CPVC bleach ball valves must be of the True Union type *with an energized seat* that will concurrently provide automatic adjustment for wear and leak-free service at the lower pressure port. And *the ball must contain an adequate vent* to the pressure port opposite of the downstream sealing port.
- The manufacturer of all PVC or CPVC bleach ball valves must *complete all components prior to the factory assembly, test, and packaging of those valves*. Modification of assembled valves by any manufacturer or vendor is unacceptable. Also, the valves must be individually packaged with each carton label stating: *Bleach ball valve, size, material, and manufacturer*.
- Bleach ball valves must be *permanently marked externally* with: the word *Bleach*; *two opposing directional arrows*, one inscribed with *Flow* and other with *Vent*; and *NSF* (symbol of the National Sanitation Foundation International, indicating approval for use with potable water).