# WH2950XL Water Hammer Arrestor

TAG _____

Dimensional Data (inches and [ mm ]) are Subject to Manufacturing Tolerances and Change Without Notice

## APPLICATION

Ideal for use where lead free fittings are required. Designed to protect residential, commercial and industrial water lines during pressure surges following quick valve closure. This excessive pressure surge is absorbed by the pre-charged cushion of air permanently sealed within the water hammer arrestor. The water hammer arrestor may be installed within a stud bay without the need for an access panel.

## STANDARDS COMPLIANCE

- ASSE® Listed 1010
- ANSI A112.26.1

## FEATURES

Sizes: ___ A ___B ___C ___D ___E ___F

| | |
|---|---|
| Temperature range | 33° F to 180°F |
| End connections | Threaded ANSI/ASME B1.20.1 |

## LEAD PLUMBING LAW COMPLIANCE

(0.25% MAX. WEIGHTED AVERAGE LEAD CONTENT)

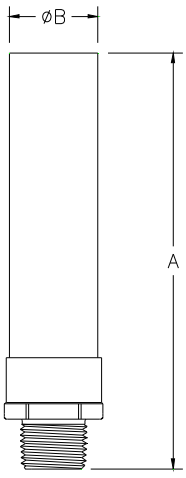
- Lead Plumbing Law Certified by IAPMO R&T

## PRESSURE

Maximum transient pressure surge, with arrestor properly sized and placed in the water supply system, will not rise above 150 psi following quick valve closure. Maximum static pressure: 150 psi. For best performance, static line pressure should not exceed 85 psi; contact the factory for proper sizing if static pressure is greater.

## MATERIALS

| | |
|---|---|
| Body | Copper Tube (seamless, Type “L”) |
| Tailpiece | Low Lead Brass |
| Piston | Acetal (NSF Listed) Polycarbonate or Low Lead Brass |
| O-rings | Buna nitrile or EPDM (FDA approved) |
| Solder | Lead Free |




## DIMENSIONS & WEIGHTS (do not include pkg.)

| MODEL | PDI SIZE | MNPT THD. | DIMENSIONS (approximate) | | AIR CHAMBER VOLUME In.³ [ Cent.³ ] | FIXTURE UNIT CAPACITY |
|---|---|---|---|---|---|---|
| | | | A | B | | |
| WH2950-A-XL | A | 1/2[15] | 5 1/4[133] | 1 1/8[29] | 3.5[57] | 1-11 |
| WH2950-B-XL | B | 3/4[20] | 5 5/8[143] | 1 5/8[41] | 4.3[70] | 12-32 |
| WH2950-C-XL | C | 1[25] | 7 1/2[191] | 1 5/8[41] | 6.5[107] | 33-60 |
| WH2950-D-XL | D | 1[25] | 9 5/16[237] | 1 3/4[44] | 10.0[164] | 61-113 |
| WH2950-E-XL | E | 1[25] | 10 1/4[260] | 2 1/2[64] | 22.4[367] | 114-154 |
| WH2950-F-XL | F | 1[25] | 10 7/8[276] | 2 7/8[73] | 34.4[564] | 155-330 |

## SPECIFICATIONS

The Water Hammer Arrestor shall be ANSI 3rd party certified to comply with states’ lead plumbing law 0.25% maximum weighted average lead content requirement, consist of a copper body with a low lead brass hexagonal male pipe threaded inlet, an acetal, polycarbonate or low lead brass piston with Buna Nitrile or EPDM o-rings and lead free solder. The device shall be pre-charged and sealed at the factory.



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Dwg. No. 310534 Product No. WH2950XL

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SIZING & PLACING DATA

**TABLE I**

| MODEL WH2950XL (SIZES) | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| FIXTURE UNITS | 1 TO 11 | 12 TO32 | 33 TO 60 | 61 TO 113 | 114 TO 154 | 155 TO 330 |

The fixture unit valves shown in Table II represent the standard ratings used by engineers to size water distribution systems and are also used to size water hammer arrestors. Match total fixture units to correct model of water hammer arrestors required from Table I. All sizing data in this brochure are based on flow velocities of 10 F.P.S. or less. The sizing method was designed with a maximum velocity of 10 F.P.S. to offer assurance that the Water Hammer Arrestor is capable of handling shock of maximum intensity that may be encountered.

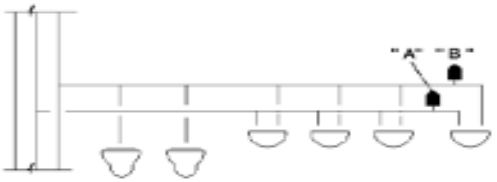
TABLE II

FIXTURE UNITS SIZING INFORMATION

| FIXTURE | TYPES OF SUPPLY CONTROL | FIXTURE-UNITS | | | | | |
|---|---|---|---|---|---|---|---|
| | | PUBLIC | | | PRIVATE | | |
| | | TOTAL | C.W | H.W | TOTAL | C.W | H.W |
| WATER CLOSET | FLUSH VALVE | 10 | 10 | N/A | 6 | 6 | N/A |
| WATER CLOSET | FLUSH TANK | 5 | 5 | N/A | 3 | 3 | N/A |
| PEDESTAL URINAL | FLUSH VALVE | 10 | 10 | N/A | N/A | N/A | N/A |
| STALL OR WALL URINAL | FLUSH VALVE | 5 | 5 | N/A | N/A | N/A | N/A |
| STALL OR WALL URINAL | FLUSH TANK | 3 | 3 | N/A | N/A | N/A | N/A |
| LAVATORY | FAUCET | 2 | 1 1/2 | 1 1/2 | 1 | 1 | 1 |
| BATHTUB | FAUCET | 4 | 2 | 3 | 2 | 1 1/2 | 1 1/2 |
| SHOWER HEAD | MIXING VALVE | 4 | 2 | 3 | 2 | 1 | 2 |
| BATHROOM GROUP | FLUSH VALVE CLOSET | N/A | N/A | N/A | 8 | 8 | 3 |
| BATHROOM GROUP | FLUSH TANK CLOSET | N/A | N/A | N/A | 6 | 6 | 3 |
| SEPARATE SHOWER | MIXING VALVE | N/A | N/A | N/A | 2 | 1 | 2 |
| SERVICE SINK | FAUCET | 3 | 3 | 3 | N/A | N/A | N/A |
| LAUNDRY TUBS (1-3) | FAUCET | N/A | N/A | N/A | 3 | 3 | 3 |
| COMBINATION FIXTURE | FAUCET | N/A | N/A | N/A | 3 | 3 | 3 |

EXAMPLE - Fig 1
C.W. =26 Fixture Units
Needs -2950XL-B

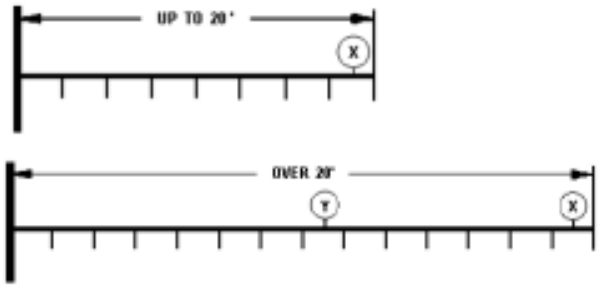
H.W. =6 Fixture Units
Needs -2950XL-A




## MULTI-FIXTURE BRANCH LINES

**Rule 1 - Branch lines of 20 feet or less.**
Water Hammer Arrestor should be placed at the end of the branch line between the last two fixtures served, as shown at right. Select required model using fixture unit sizing.

**Rule 2 - Branch lines exceeding 20 feet.**
An additional Water Hammer Arrestor should be placed as shown at right. Select required models using fixture unit sizing. The sum of the fixture unit ratings of units X and Y shall be equal to or greater than the demand of the branches.




## LONG RUNS OF PIPING TO REMOTE EQUIPMENT

**TABLE III**

FOR FLOW PRESSURES UP 85 PSIG

| LENGTH OF PIPE | NOMINAL PIPE DIAMETER | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1/2" | | 3/4" | | 1" | | 1 1/4" | | 1 1/2" | | 2" | |
| | * | ** | * | ** | * | ** | * | ** | * | ** | * | ** |
| 25' | A | B | A | B | B | C | C | D | D | E | E | F |
| 50' | A | B | B | C | C | D | D | E | E | F | F | CF |
| 75' | B | C | C | D | D | E | AE | F | F | CF | EF | FF |
| 100' | C | D | D | E | E | F | F | CF | CF | EF | FF | EFF |
| 125' | C | D | D | E | E | CF | AF | DF | EF | FF | EFF | BFFF |
| 150' | D | E | E | F | F | CF | DF | FF | FF | DFF | FF | FFFF |

When long runs of piping are employed to serve a remote item of equipment, the Water Hammer Arrestor should be located as close as possible to the point of quick closure (see Fig. 4).
The size and quantity of Water Hammer Arrestor to be installed in branch lines is shown in Table III. Ideally, the flow pressure in branch lines serving fixtures should never exceed 55 PSIG. Pressure reducing valves should be installed to maintain proper pressure. When, however, flow pressures of 65 to 85 PSIG are used, the next larger size Water Hammer Arrester should be selected (see Table III).

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