

WATER HAMMER ARRESTOR SIZING

SINGLE AND MULTIPLE FIXTURE BRANCH LINES

The water hammer arrestor sizing procedure for single and multiple fixtures described below conforms to that established by the American Society of Sanitary Engineers and their Standard ASSE-1010. Selection of the water hammer arrestor is based upon the total quantity of Fixture-Units on each cold and hot water branch line.

FIXTURE-UNIT LISTING

Determine the total number of Fixture-Units on each branch line by referring to the list of fixtures in Table One.

WATER HAMMER ARRESTOR SELECTION

Refer to Table Two and select the water hammer arrestor model with proper Fixture-Unit capacity. In long batteries of fixtures over 20 feet in length, more than one water hammer arrestor will be required. (See placement data shown below).

WATER HAMMER ARRESTOR PLACEMENT DATA

On multiple fixture branch lines up to 20 feet in length, the water hammer arrestor should be installed on the branch line between the last two fixtures being served. The water hammer arrestor should have a Fixture-Unit rating equal to or greater than the total Fixture-Units connected to the branch line.

On multiple fixtures branch lines over 20 feet in length, two water hammer arrestors should be used on each line with the second unit placed at the approximate midpoint of the line. The sum of the Fixture-Unit ratings of the water hammer arrestors on each branch should equal to or greater than the total Fixture-Units connected to the branch line.

TABLE ONE

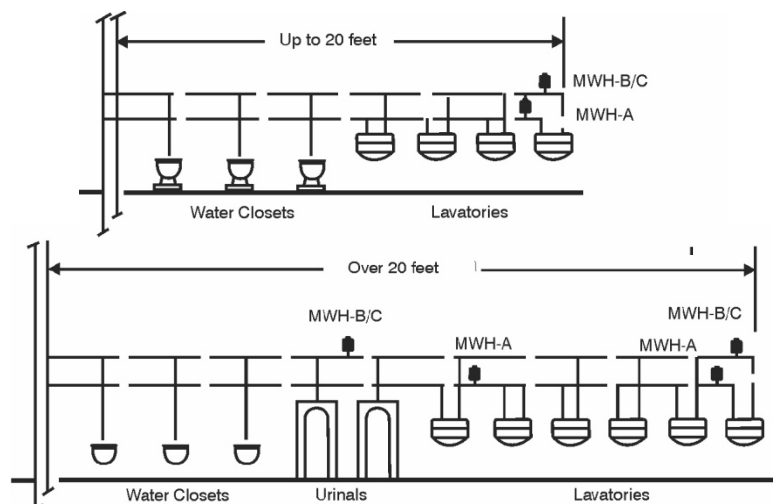
| FIXTURE | TYPE OF SUPPLY CONTROL | WEIGHT IN FIXTURE UNITS | | | |
|----------------------|------------------------|-------------------------|---------|---------|---------|
| | | PUBLIC | | PRIVATE | |
| | | C.W. | H.W. | C.W. | H.W. |
| Water Closet | Flush Valve | 10 | - | 6 | - |
| Water Closet | Flush Tank | 5 | - | 3 | - |
| Stall or Wall Urinal | Flush Valve | 5 | - | - | - |
| Stall or Wall Urinal | Flush Tank | 3 | - | - | - |
| Bathroom Group | Flush Valve Closet | - | - | 8 | 3 |
| Bathroom Group | Flush Tank Closet | - | - | 6 | 3 |
| Pedestal Urinal | Flush Valve | 10 | - | - | - |
| Lavatory | Faucet | 1 - 1/2 | 1 - 1/2 | 1 | 1 |
| Bathtub | Faucet | 2 | 3 | 1 - 1/2 | 1 - 1/2 |
| Shower Head | Mixing Valve | 2 | 3 | 1 | 2 |
| Separate Shower | Mixing Valve | - | - | 1 | 2 |
| Service Sink | Faucet | 3 | 3 | - | - |
| Laundry Tubs (1-3) | Faucet | - | - | 3 | 3 |
| Combo. Fixture | Faucet | - | - | 3 | 3 |

TABLE TWO

| Water Hammer Arrestor Model No. | A | B | C | D | E | F |
|---------------------------------|------|-------|-------|--------|---------|---------|
| Fixture Unit Capacity | 1-11 | 12-32 | 33-60 | 61-113 | 114-154 | 155-330 |

NOTE:

- All sizing and data in this book are based on flow velocities of 10 feet per second or less.
- When the static water pressure in the line exceeds 65 psig, contact the MIFAB Engr. Dept.
- If the fixture-unit total has 1/2" fraction, it is to be rounded up to the next larger whole number. If the total is 11-1/2 fixture units, use 12 fixture units.



(Dimension Denotes Millimeters)