SHOCK ABSORBERS

Selection for Long Piping Runs

The majority of sizing and selection applications will involve single and multiple fixture branch lines. These are easily handled with Table IV. The remainder of applications involves individual runs of piping to a remote item of equipment. The properly sized water hammer arresters for such applications can be determined by Table V and Table V-A.

TABLE V
FOR WATER PRESSURES UP TO 65 P.S.I.G.

P.D.I. Water Hammer Arrester Sizes						
Length of Pipe	Nominal Pipe Diameter					
	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
25	A	A	B	C	D	E
50	A	B	C	D	E	F
75	B	C	D	AE	F	EF
100	C	D	E	F	CF	FF
125	C	D	F	AF	EF	EFF
150	D	E	F	DF	FF	FFF

TABLE V-A
FOR WATER PRESSURES OVER 65 P.S.I.G. AND UP TO 85 P.S.I.G.

P.D.I. Water Hammer Arrester Sizes						
Length of Pipe	Nominal Pipe Diameter					
	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
25	B	B	C	D	E	F
50	B	C	D	E	F	CF
75	C	D	E	F	CF	FF
100	D	E	F	CF	EF	EFF
125	D	E	CF	DF	FF	BFFF
150	E	F	CF	FF	DFF	FFFF

Ideally the flow pressure in branch lines serving fixtures should never exceed 60 P.S.I.G. Pressure reducing valves should be installed to maintain proper pressure. However, when flow pressures of 65 to 85 P.S.I.G. are used, the next larger size water hammer arrester should be selected. Refer to Table V-A.

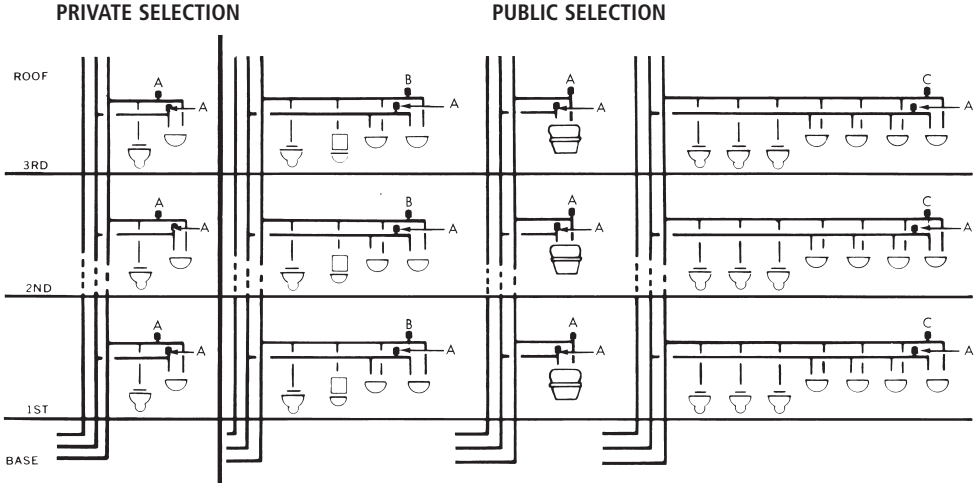
All sizing data in this section are based on flow velocities of 10 F.P.S. or less. The certification testing was conducted with a velocity of 10 F.P.S. to offer assurance that P.D.I. approved units were capable of handling shocks of maximum intensity that may be encountered.

When long runs of piping are employed to serve a remote item of equipment, the water hammer arrester should be located as close as possible to the point of quick closure. At this location, the water hammer arrester will control the developed energy and prevent the shock wave from surging through the piping system.

NOTE: For best performance results, the ABSORBOTRON® II should always be installed in an upright position and located as close as possible to the fixture or equipment closure valve.

Typical Application in Multi-Story Buildings

The Riser Diagram illustrated below, shows a typical placement of Shock Absorbers on the branch lines in the pipe space behind the fixtures. The branch line control valves are not shown in this instance.



EXAMPLE

It is relatively easy to select the proper sized Shock Absorber for a multiple fixture branch. The above represents a typical riser diagram that an engineer may include with his set of drawings

When sizing the cold and hot water branch lines, it is usual practice to obtain the total number of fixture units on each branch line. This information is then applied to water pipe sizing charts to determine the required size of the branch lines.

The proper size of Shock Absorber can also be selected once the total of fixture-units for a cold or hot water branch line is known. It is only necessary to apply the fixture-units to The Selector Chart, Table IV and select the appropriate Shock Absorber.

It is suggested that the engineer employ P.D.I. symbols for his riser diagrams, as shown in the illustration above. This practice will enable manufacturers to furnish the correct units.