

## SIZING AND SELECTION IN ACCORDANCE WITH INTERNATIONAL STANDARD P.D.I.-WH201

### A Standardized Sizing System

In an effort to arrive at a uniform method of sizing water hammer arrestors, members of the Plumbing and Drainage Institute (P.D.I.) sponsored a comprehensive testing program which lasted four years. As a result, there is now an industry-wide standard, P.D.I.-WH201, and the all-stainless-steel Zurn Shoktrol conforms with every aspect of this newly available information.

### A Simplified Sizing System

Basically, the new standards establish six categories for water hammer arrestors (A, B, C, D, E, F). Each category sets down specific size and capacity requirements necessary to control shock in piping systems. "A" represents the smallest-sized unit; "F" denotes the largest size.

### A Universal Base

Standard P.D.I.-WH201 bases its sizing data upon the well-known fixture-unit formula. Since most engineers and specifiers utilize fixture-units in their daily calculations, it was appropriate to employ this method for quick, concise water hammer arrestor sizing.

### A Fixture-Unit

"A quantity in terms of which the load producing effects on the plumbing system of different kinds of plumbing fixtures are expressed on some arbitrarily chosen scale." This fixture-unit table below (Table II) conforms with this definition and is derived from the National Plumbing Code, A.S.A. A-40-8.

### Sizing Data

Using Table II (below), determine the "weight in fixture-units" for cold and hot water branch lines serving a group of fixtures, either for public or private installations. When the "weight in" has been established, the data is then applied to the selection Table III.

In most installations where there are several fixtures, normally one fixture valve will be closed at a time. On rare occasions two or more could be closed at the same instant. The sizing factors established in Table III take into consideration all the elements of valve closure probability, in addition to pipe size, length, flow pressure, and velocity. As a result, you can select the properly sized Shoktrol easily and accurately, with full knowledge that all factors for safe sizing have been calculated.

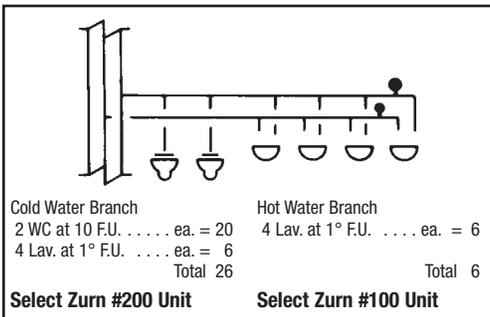
### Selection Data

Using the "weight in fixture-units" obtained from Table II, select the properly sized Shoktrol from Table III. If the water pressure in the line exceeds 65 PSIG, select the next larger size Shoktrol. If the fixture-unit total contains "1/2" fraction, round it up to the next larger or whole number. (Example: If total is 11-1/2 fixture-units, change it to 12 fixture-units).

### Examples

The examples below show the relative ease with which sizing can be accomplished using Tables II and III.

#### Example 1



#### Example 2

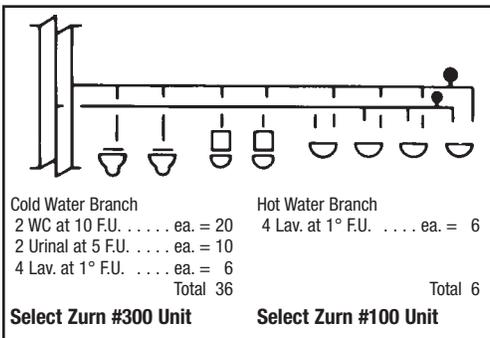


Table II

Fixture	Type of Supply Control	Weight in Fixture-Units					
		Public			Private		
		Total	C.W.	H.W.	Total	C.W.	H.W.
Water Closet	Flush Valve	10	10	-	6	6	-
Water Closet	Flush Tank	5	5	-	3	3	-
Pedestal Urinal	Flush Valve	10	10	-	-	-	-
Stall or Wall Urinal	Flush Valve	5	5	-	-	-	-
Stall or Wall Urinal	Flush Tank	3	3	-	-	-	-
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	-	-	-	8	8	3
Closet							
Bathroom Group	Flush Tank	-	-	-	6	6	3
Closet							
Separate Shower	Mixing Valve	-	-	-	2	1	2
Service Sink	Faucet	3	3	3	-	-	-
Laundry Tubs (1-3)	Faucet	-	-	-	3	3	3
Combination Fixture	Faucet	-	-	-	3	3	3

Table III

Zurn Shoktrol Size Z1700 Series	#100	#200	#300	#400	#500	#600
P.D.I. Units	A	B	C	D	E	F
Fixture-Units	1-11	12-32	33-60	61-113	114-154	155-330

### Approved By:

