

## Comparison of Pipe Carrying Capacities

It is frequently desired to know what quantity of pipes of a given size are equal in carrying capacity to one pipe of a larger size. At the same velocity of flow the volume delivered by two pipes of different sizes is proportional to the squares of their diameters; thus one 4" pipe will deliver the same volume as four 2" pipes. With the same head however, the velocity is less in the smaller pipe, and

the volume delivered is approximately the same as the square root of the fifth power. This table is calculated on this basis. The figures opposite the intersection of any two sizes is the number of the smaller-sized pipes required to equal the carrying capacity of one of the larger; thus one 4" pipe equals 5.7- 2" pipes.

**How Many Pipes of a Smaller Size Equal the Carrying Capacity of a Larger Pipe Size**

DIA. IN.	½	¾	1	2	3	4	5	6	7	8	10	12	14	16	18	20	24	30	36	42	48	
2	32.0	11.7	5.7	1.0																		
3	88.2	32.0	15.6	2.8	1.0																	
4	181.0	65.7	32.0	5.7	2.1	1.0																
5	316.0	115.0	55.9	9.9	3.6	1.7	1.0															
6	499.0	181.0	88.2	15.6	5.7	2.8	1.6	1.0														
7	733.0	266.0	130.0	22.9	8.3	4.1	2.3	1.5	1.0													
8		372.0	181.0	32.0	11.7	5.7	3.2	2.1	1.4	1.0												
10		649.0	316.0	55.9	20.3	9.9	5.7	3.6	2.4	1.7	1.0											
11			401.0	70.9	25.7	12.5	7.2	4.6	3.1	2.2	1.3											
12			499.0	88.2	32.0	15.6	8.9	5.7	3.8	2.8	1.6	1.0										
13			609.0	108.0	39.1	19.0	10.9	7.1	4.7	3.4	1.9	1.2										
14			733.0	130.0	47.1	22.9	13.1	8.3	5.7	4.1	2.3	1.5	1.0									
15			787.0	154.0	55.9	27.2	15.6	9.9	6.7	4.8	2.8	1.7	1.2									
16				181.0	65.7	32.0	18.3	11.7	7.9	5.7	3.2	2.1	1.4	1.0								
17				211.0	76.4	37.2	21.3	13.5	9.2	6.6	3.8	2.4	1.6	1.2								
18				243.0	88.2	43.0	24.6	15.6	10.6	7.6	4.3	2.8	1.9	1.3	1.0							
19				278.0	101.0	49.1	28.1	17.8	12.1	8.7	4.8	3.2	2.1	1.5	1.1							
20				316.0	115.0	55.9	32.0	20.3	13.8	9.9	5.7	3.6	2.4	1.7	1.3	1.0						
22				401.0	146.0	70.9	40.6	25.7	17.5	12.5	7.2	4.6	3.1	2.2	1.7	1.3						
24				499.0	181.0	88.2	50.5	32.0	21.8	15.6	8.9	5.7	3.8	2.8	2.1	1.6	1.0					
30										27.2	15.6	10.0	6.7	4.8	3.6	2.8	1.7	1.0				
36											24.6	15.6	10.6	7.6	5.7	4.3	2.8	1.6	1.0			
42											36.2	22.9	15.6	11.2	8.3	6.4	4.1	2.3	1.5	1.0		
48											50.5	32.0	21.8	15.6	11.7	8.9	5.7	3.2	2.1	1.4	1.0	