

Plumbing Code NS

[National Plumbing Code of Canada 2020, First Printing](#)

Riser means a water distribution pipe that extends through at least one full storey. Except for risers that serve only one dwelling unit, risers shall be provided with a shut-off valve located at the source of supply.

Table 2.6.3.4.
Water Pipe Sizing for Buildings Containing One or Two Dwelling Units or Row Houses with Separate Water Service Pipes
Forming Part of Sentence 2.6.3.4.(5)

Nominal Pipe Size of Water Pipe, NPS	Water Velocity, m/s ⁽¹⁾		
	3.0	2.4	1.5
	Hydraulic Load, fixture units		
½	8	7	4
¾	21	16	9
1	43	31	18
1¼	83	57	30

Table 2.5.8.3.
Sizing of Branch Vents, Vent Headers, Circuit Vents and Continuous Vents⁽¹⁾
Forming Part of Article 2.5.8.3.

Total Hydraulic Load Served by Vent Pipe, fixture units	Nominal Pipe Size of Vent Pipe, NPS							
	1¼	1½	2	3	4	5	6	8
	Maximum Length of Vent Pipe, m							
2	9	NL	NL	NL	NL	NL	NL	NL
8	9	30	61	NL	NL	NL	NL	NL
20	7.5	15	46	NL	NL	NL	NL	NL
24	4.5	9	30	NL	NL	NL	NL	NL
42	NP	9	30	NL	NL	NL	NL	NL
60	NP	4.5	15	120	NL	NL	NL	NL
100	NP	NP	11	79	305	NL	NL	NL
200	NP	NP	9	76	275	NL	NL	NL
500	NP	NP	6	55	215	NL	NL	NL
1 100	NP	NP	NP	15	61	215	NL	NL
1 900	NP	NP	NP	6	21	61	215	NL
2 200	NP	NP	NP	NP	9	27	105	335
3 600	NP	NP	NP	NP	7.5	18	76	245
5 600	NP	NP	NP	NP	NP	7.5	18	76

Determination of Hydraulic Loads and Nominal Pipe Sizes of Drainage Pipes.

Hydraulic Loads

The hydraulic load that is imposed by a fixture is represented by a factor called a fixture unit. Fixture units are dimensionless and take into account the rate of discharge, time of discharge and frequency of discharge of the fixture.

Confusion often arises when attempts are made to convert fixture units to litres per second because there is no straightforward relationship between the two. The proportion of the total number of fixtures that can be expected to discharge simultaneously in a large system is smaller than in a small system. For example, doubling the number of fixtures in a system will not double the peak flow that the system must carry, although of course the flow will be increased somewhat. Figure A-2.4.10.-A shows the relationship that was used in constructing the tables of capacities of stacks, branches, sanitary building drains and sanitary building sewers (Tables 2.4.10.6.-A to 2.4.10.6.-C).

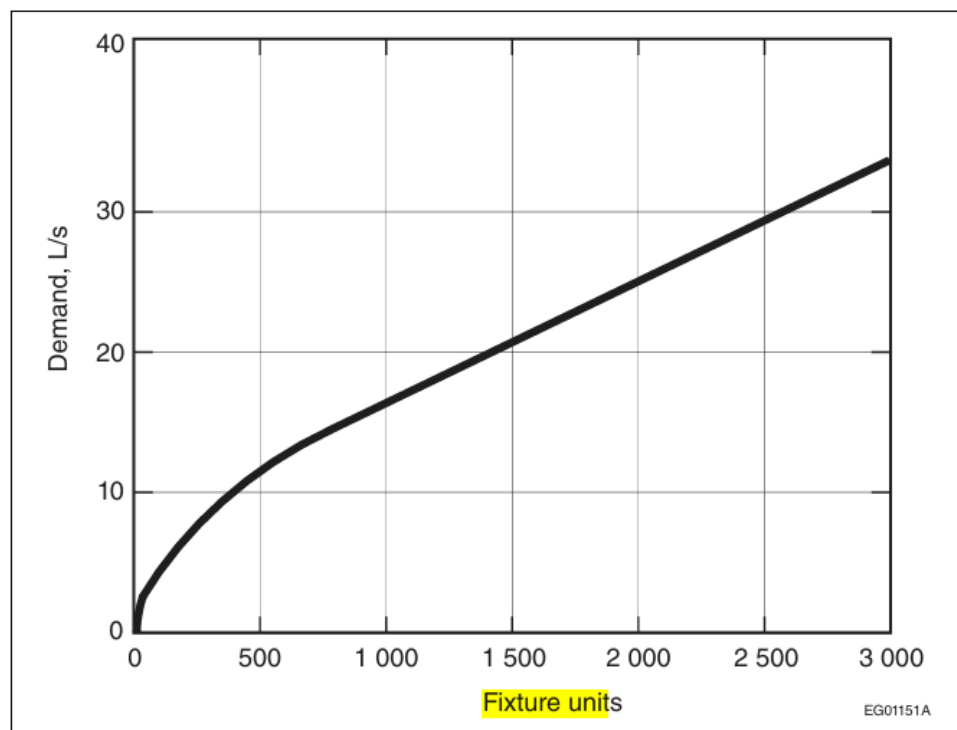


Figure A-2.4.10.-A
Relationship between **fixture units** and demand

When plumbing fixtures are connected to a combined sewer, the hydraulic load from the fixtures must be converted from fixture units to litres or, in the case of continuous flow, from litres per second to litres so that these loads can be added to the hydraulic loads from roofs and paved surfaces. As already pointed out, the relationship between fixture units and litres per second and, consequently, the relationship between fixture units and litres is not straightforward, and an approximate conversion factor has been adopted. The conversion factor given in Sentence 2.4.10.5.(1) is 9.1 L/fixture unit, except where the load is less than 260 fixture units in which case around figure of 2360L is to be used.

Table A-2.6.3.4.(5)-A
Fixture Units Summary Using Figure A-2.6.3.4.(5)-B and Tables 2.6.3.2.-A, 2.6.3.2.-B, 2.6.3.2.-C and 2.6.3.2.-D

Fixtures	Number of Fixtures	100% Fixture Unit Values	Total Demand (Quantity × Fixture Unit Values)
Bathtub	2	1.4	2.8
Clothes washer	2	1.4	2.8
Dishwasher	2	1.4	2.8
Hose bibb	1	2.5	2.5
Lavatory, 8.3 LPM or less	3	0.7	2.1
Shower, 9.5 LPM or less	1	1.4	1.4
Sink, 8.3 LPM or less	2	1.4	2.8
WC, 6 LPF or less	3	2.2	6.6
Total Fixture Units			23.8

The following is an outline, with examples, of the procedures to be followed in determining the nominal pipe size of each section of drainage piping.

(1) Sanitary drainage pipes, such as branches, stacks, building drains or building sewers: (a) Determine the load in fixture units from all fixtures except continuous-flow fixtures; (b) Determine the load in litres per second from all continuous-flow fixtures and multiply the number of litres per second by 31.7 to obtain the number of fixture units; (c) Add loads (a) and (b) to obtain the total hydraulic load on the pipe in fixture units; and (d) Consult the appropriate table to select the nominal pipe size.