

TABLE 8.6 Drainage and Water Fixture Unit Values^a and Minimum Pressure and Pipe Size Requirements

Fixture	Drainage		Water				
	Load Value, dfu ^b	Minimum ^c Pipe Diameter	Load Values, wsfu ^b			Minimum at Fixture ^d	
			Cold	Hot	Total	psig	Pipe Diameter
Public or General							
Water closet, flushometer	6	4	10	—	10	20–25	1
Water closet, gravity tank	4	3 ^e	5	—	5	8–10	1/2
Water closet, pressure tank ^f	2	3 ^e	2	—	2	25–30	1/2
Urinal, flushometer	4	2–3	5	—	5	15–20	3/4
Urinal, tank	2	2	3	—	3	8–10	1/2
Lavatory	1	2	1.5	1.5	2	8–10	3/8
Bathtub	2	2	3	3	4	8–10	1/2
Shower	2	2	3	3	4	8–10	3/4
Service sink	3	3	2.25	2.25	3	8–10	3/4
Kitchen sink	3	2	3	3	4	8–10	3/4
Electric water cooler	0.5	2	0.25	—	0.25	8–10	3/8
Private							
Water closet, flushometer	6	4	6	—	6	20–25	1
Water closet, gravity tank	4	3 ^e	3	—	3	8–10	1/2
Water closet, pressure tank ^f	2	3 ^e	2	—	2	25–30	1/2
Lavatory	1	2	0.75	0.75	1	8–10	3/8
Bathtub	2	2	1.5	1.5	2	8–10	1/2
Shower	3	2	1.5	1.5	2	8–10	1/2
Bathroom group, flushometer ^g	8	4	6	6	8	20–25	1
Bathroom group, tank ^g	6	4	4	4	6	15–20	1
Kitchen sink	2	2	1.5	1.5	2	8–10	1/2
Combination fixtures	3	4	2.25	2.25	3	10–15	1/2
Dishwasher	2	2	—	1	1	10–15	1/2
Laundry, clothes washer (8 lb)	3	2	1.5	1.5	2	10–15	1/2
	1 1/4 in.	1	2			<i>Load values, wsfu</i>	
Fixtures not listed above, but with trap size given	1 1/2 in.	2	2	Fixtures not listed above, but with pipe size given	<i>Pipe Size</i>	<i>Private</i>	<i>Public</i>
	2 in.	3	2				
	2 1/2 in.	4	2 1/2				
	3 in.	5	3				
	4 in.	6	4				
					3/8 in.	1	2
					1/2 in.	2	4
					3/4 in.	3	6
					1 in.	6	10

^aFor fixtures with continuous water flow, the load is added without a demand factor.

^bdfu = drainage fixture unit; wsfu = water supply fixture unit.

^cMinimum drainage-pipe diameter, in inches, for fixture branches. Fixture outlet tailpieces may be smaller in diameter, as per manufacturer's specifications.

^dMinimum pressure and pipe size should be verified with fixture manufacturer.

^eIt has been common practice to install 4-in. soil pipe for all water closets to minimize the chance of blockage.

^fdfu and wsfu are estimated for the pressure-tank type.

^gA bathroom group is defined as consisting of not more than (1) WC, (1) LV, (1) BT, and (1) SH, or not more than (1) WC, (2) LV, and (1) BT or (1) separate SH.