

Wash sink water consumption rate

Bradley Wash Sinks	GPM @ 105°F	GPM @ 140°F
54" circular sink	5	3.25
36" circular sink	2	1.3
54" semi-circular sink	3	1.95
36" semi-circular sink	1-1/4 to 3.0	.81 to 1.95
Duo	1.5	1
Counter type	1.5	1
Bradley shower heads	2.5 to 3.0	1.6 to 1.95

General purpose hot water consumption guide for various kitchen usages

Application	Consumption (GPH)
Vegetable sink	45
Single pot sink	30
Double pot sink	60
Triple pot sink	90
Pre-scrapper (open type)	180
Pre-flush (hand operated)	45
Pre-flush (closed type)	240
Recirculating pre-flush	40
Bar sink	30
Lavatories (each)	5
Mop/slop sink	20

Rinse water (180°F) requirements for typical dishwasher + flow pressure at dishwashers assumed to be 20 psi

Dishwasher / Type And Size		Flow Rate/GPM	Consumption/GPH	
door type	16 x 16 inches rack	6.94	69	
	18 x 18 inches rack	8.67	87	
	20 x 20 inches rack	10.4	104	
	undercounter type	5	70	
conveyor type	single tank	6.94	416	
	multiple tank	dishes flat	5.78	347
		dishes inclined	4.62	277
silver washers		7	45	
utensil washers		8	75	
make-up water requirements/180°F on certain conveyor types		2.31	139	

+ NSF standard no. 5 - 100% mechanical capacity

Temperature factors - hot water

If Temperature Required Is	Multiply Hot Water Load By
70°	0.30
80°	0.40
90°	0.50
100°	0.60
110°	0.70
120°	0.80
130°	0.90
140°	1.00
150°	1.10
160°	1.20
170°	1.30
180°	1.40

The above table is based on 40° incoming water temperature and a temperature rise of 100° (temperature usage 140°) --- when the delivered water temperature is other than 140°, multiply the volume of water required by the temperature usage factor shown above.

Temperature factors - cold water

When Incoming Cold Water Is	Multiply Hot Water Load By
50°	0.90
60°	0.80
70°	0.70

MISCELLANEOUS WATER USAGE DATA

Proper Flow and Pressure Required During Flow For Different Fixtures

Fixture	Flow Pressure*	Flow GPM
Ordinary basin faucet	8	3.0
Self-closing basin faucet	12	2.5
Sink faucet - 3/8 inch	10	4.5
Sink faucet - 1/2 inch	5	4.5
Bathtub Faucet	5	6.0
Laundry tub cock - 1/4 inch	5	5.0
Shower water saver	12	2.5
Ball-cock for closet	15	3.0
Flush valve for closet	10-20	15-40†
Flush valve for urinal	15	15.0
Garden hose, 50 ft., and still cock ...	30	5.0

* Flow pressure is the pressure psig in the pipe at the entrance to the particular fixture considered.

† Wide range due to variation in design and type of flush-valve closets.

Water Capacities Of Copper Tubes

Tube Size	1/4"	3/8"	1/2"	7/8"	1"	1 1/4"
Gallon/Ft.						
Type K	.004	.006	.011	.023	.040	.063
Type L	.004	.006	.012	.025	.044	.065
Tube Size	1 1/2"	2"	2 1/2"	3"	4"	5"
Gallon/Ft.						
Type K	.089	.157	.242	.345	.607	.940
Type L	.092	.161	.247	.354	.623	.971

Water Capacities Per Foot Of Pipe

Pipe Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Gallons Per Foot	.016	.023	.040	.063	.102	.17
Pipe Size	2 1/2"	3"	3 1/2"	4"	5"	6"
Gallons Per Foot	.275	.39	.53	.69	1.1	1.5

Formula For Mixing Hot and Cold Water

$$\frac{M-C}{H-C} = \text{\% of hot water required to produce desired mixed temperature}$$

Where M = Mixed water temperature
C = Cold water temperature
H = Hot water temperature