

SECTION 8 - DETERMINING HOT WATER SUPPLY REQUIREMENTS

The Food Service Advisory Committee has developed a uniform guideline for the sizing of hot water heaters for food service establishments. This guideline is used to insure uniformity on sizing of water heaters throughout the state and to insure food service establishments are provided with sufficient hot water for all operations.

The hot water heater should be sized as follows:

1. The minimum storage capacity for any establishment should be 50 gallons.
2. Hot water recovery is based on fixture requirements in accordance with Table #1.
3. A 100% degree-rise in temperature is used in calculating hot water recovery.
4. See notes #4 on following page for calculating sink (GPH) gallons per hour.

Note #1	Dishwasher (____ gals/hr. FINAL RINSE x 70%)
Note #2	<p>Cloth Washer Calculation</p> <p>A. Limited Use/Cloth washer used one to two times per day; beginning or ending of day operation GPH = 60 GPH x 25%.</p> <p>B. Intermediate Use/Cloth washer used three to four times per day; GPH = 60 GPH x 45%.</p> <p>C. Heavy Use/Cloth washer used once every two hours; GPH = 60 GPH x 80%.</p> <p>D. Continuous Use/Cloth washer used every hour; GPH = 60 GPH x 100%.</p>
Note #3	Hose reels @ 20 GPH for first reel & 10 GPH for each additional reel.
Note #4 - GPH Requirements for sink	$\text{GPH} = \left(\frac{\text{Sink size in cu.in.} \times 7.5 \text{ gal./cu.ft.} \times \# \text{ compartments} \times .75 \text{ capacity}}{1,728 \text{ cu.in./cu.ft.}} \right)$
Short version for above	$\text{GPH} = \text{Sink size in cu. in.} \times \# \text{ compartments} \times .003255/\text{cu. in.}$ Example 24"x 24"x 14" x 3 compartments x .003255 = 79 GPH
Water heater storage capacity. (____ Gallons Storage)	
Water heater recovery rate in gallons per hour at a 100°F temperature Rise. (____ Gallons per hour)	

XIII. Hot Water Heater Size And Capacity					
HOT WATER HEATER CALCULATION WORKSHEET					
EQUIPMENT	QUANTITY	TIMES	SIZE	EQUALS	GPH
			(in inches)		
One-comp. sink See note #4		X	__by__by__	=	
Two-comp. sink See note #4		X	__by__by__	=	
Three-comp. sink See note #4		X	__by__by__	=	
Four-comp. sink See note #4		X	__by__by__	=	
One-comp Prep sink		X	5 GPH	=	
Two-comp Prep sink		X	10 GPH	=	
Three-comp Prep sink		X	15 GPH	=	
Three comp. bar sink See note #4		X	__by__by__	=	
Four comp. bar sink		X	__by__by__	=	
Hand sink		X	5 GPH	=	
Pre-rinse		X	45 GPH	=	
Can wash		X	10 GPH	=	
Mop sink		X	5 GPH	=	
**Dishmachine		X	Note #1	=	
**Cloth Washer		X	Note #2	=	
**Hose reels		X	Note #3	=	
Other equipment		X		=	
Other equipment		X		=	
Other equipment		X		=	
Total 140 F GPH (gallons per hour) Recovery Requirements				Total =>	
Note - 140° F Hot water heaters are to be sized at the 140° F GPH recovery required at a temperature rise of 100° F.					

SAMPLE CALCULATION

XIII. Hot Water Heater Size And Capacity					
HOT WATER HEATER CALCULATION WORKSHEET					
EQUIPMENT	QUANTITY	TIMES	SIZE	EQUALS	GPH
			(in inches)		
Three -comp. sink See note #4	1	X	24" by 24" by 24"	=	79
Two-comp Prep sink	2	X	10 GPH	=	20
Hand sink	5	X	5 GPH	=	25
Pre-rinse	1	X	45 GPH	=	45
Can wash	1	X	10 GPH	=	10
Mop sink	1	X	5 GPH	=	5
**Dishmachine	1	X	Note #1	=	52
**Cloth Washer	1	X	Note #2	=	27
**Hose reels	2	X	Note #3	=	30
Total 140 F GPH (gallons per hour) Recovery Requirements				Total ==>	293

Note #1 - Dishmachine - Hobart AM-14 Final Rinse GPH = 74
 Using Note #1 - 74 gal/hr Final Rinse x .70% = 51.8(= 52 GPH)

Note #2 - Cloth Washer used 4 times per day = 60 gal x 45% = 27 GP