

## USEFUL CONVERSIONS

<b>CONVERT FROM</b>	<b>INTO</b>	<b>MULTIPLY BY</b>
Gallons	Litres	4.546
Litres	Gallons	0.21997
M <sup>3</sup>	Gallons	220
Gallons	M <sup>3</sup>	0.004546
M <sup>3</sup>	Litres	1000
Litres	M <sup>3</sup>	0.001
Bar	PSI	14.5
PSI	Bar	0.6895
Feet	Metres	0.3048
Inches	Centimetres	2.54
Feet of Head	PSI	0.433
PSI	Feet of Head	2.31

## EQUATIONS

### To determine flow rates

$$V = \frac{\text{GPM}}{2.45 \times \text{dia}^2}$$

V = Velocity in feet per second  
 Dia = Inside diameter of pipe (inches)

### To determine precipitation rates for sprinklers

$$\text{PR (inches/hour)} = \frac{96.3 \times \text{GPM (applied to the area)}}{S \times L}$$

PR = The average precipitation rate in inches per hour

96.3 = A constant which incorporates inches per square foot per hour  
 GPM = The total Gallons per Minute applied to the area by the Sprinklers  
 S = The spacing between Sprinklers  
 L = The spacing between rows of sprinklers (L equals S x 0.866)

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### To determine system operating time

$$\text{To (minutes per day)} = \frac{I \times 60}{\text{PR} \times \text{DA}}$$

- To = Circuit operating time in minutes per day
- I = System irrigation requirement in inches per week (worst case season)
- PR = Circuit precipitation rate in inches per hour
- DA = Days available for irrigation per week
- 60 = Constant conversion factor of 60 minutes per hour

*(This information is provided in good faith,  
LWS cannot be held responsible for any errors or omissions !)*