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EQUATIONS

To determine flow rates

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

V = Velocity in feet per second

Dia = Inside diameter of pipe (inches)

To determine precipitation rates for sprinklers

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

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)

To determine system operating time

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

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

CONVERT	FROM	INTO	MULTIPLY BY
	Gallons	Litres	4.546
	Litres	Gallons	0.21997
	M^3	Gallons	220
	Gallons	M^3	0.004546
	M^3	Litres	1000
	Litres	M^3	0.001
	Bar	PSI	14.5
	PSI	Bar	0.06895
	Feet	Metres	0.3048
	Inches	Centimetres	2.54
	Feet of Head	PSI	0.433
	PSI	Feet of Head	2.31