

System Parameters

Variable Name		Value	Units	Value	Units
Total Plants		20.000			
Total Grow Channels		4.000			
Plants per Grow Channel		5.000			

Variable Name		Value	Units	Value	Units
Hydroponic Height		34.000	in	863.600	mm

Grow Channel Parameters

Rectangular Channel

Variable Name		Value	Units	Value	Unit
Channel Length	l	120.000	in	3048.000	mm
Channel Height	h	4.000	in	101.600	mm
Channel Width	w	4.000	in	101.600	mm
Water Depth	d	0.250	in	6.350	mm
Recirculation Time	t_recirc	2.000	min		
Water Area	A_w	1.000	in^2	645.160	mm^2
Water Volume	V_w	120.000	in^3	1966447.680	mm^3
Water Volume	V_w	0.519	gal	1.966	L
Channel Volume	V_c	1920.000	in^3	31463162.880	mm^3
Channel Volume	V_c	8.312	gal	31.463	L
Percent Full		0.063			
Water Weight	W_water	4.335	lbm	1966.352	g
Grow Channel Flow	f	0.260	GPM	58.992	LPH
Grow Channel Velocity	v	1.000	in/s	25.400	mm/s

Circular Channel

Variable Name		Value	Units	Value	Unit
Channel Diameter	D	1.250	in	31.750	mm
Channel Length	l	35.000	in	889.000	mm
Water Depth	d	0.250	in	6.350	mm
Recirculation Time	t_recirc	5.000	min		
Water Area	A_w	0.362	in^2	233.693	mm^2
Water Volume	V_w	12.678	in^3	207752.974	mm^3
Water Volume	V_w	0.055	gal	0.208	L
Channel Volume	V_c	42.951	in^3	703848.358	mm^3
Channel Volume	V_c	0.186	gal	0.704	L
Percent Full		0.295			
Water Weight	W_water	0.458	lbm	207.743	g
Grow Channel Flow	f	0.011	GPM	2.493	LPH
Grow Channel Velocity	v	0.117	in/s	2.963	m/s

Pump Parameters

Rectangular Channel

Variable Name		Value	Units	Value	Units
Total Flow		1.039	GPM	235.969	LPH
Head Pressure		34.000	in	863.600	mm
System Pressure		1.227	psi	0.085	bar
Hydraulic power		0.001	HP	0.555	W
Efficiency					

Circular Channel

Variable Name		Value	Units	Value	Units
Total Flow		0.467	GPM	11.853	LPH
Head Pressure		34.000	in	863.600	mm
System Pressure		1.227	psi	0.085	bar
Hydraulic power		0.000	HP	0.249	W
Efficiency					

Reservoir Parameters

Rectangular Reservoir

Variable Name		Value	Units	Value	Units
Recirculation Time		60	min	3600.000	sec
Reservoir Length			in	0.000	mm
Reservoir Height			in	0.000	mm
Reservoir Width			in	0.000	mm
Reservoir Volume		720.000	in^3	11798.686	cm^3
Reservoir Volume		3.11688	gal	11.799	L

Reservoir Length			in	0.000	mm
Reservoir Diameter			in	0.000	mm
Reservoir Volume			in^3	0.000	mm^3
Reservoir Volume			gal	0.000	L

Circular Reservoir

Variable Name		Value	Units	Value	Units
Recirculation Time		1	min	60.000	sec
Reservoir Length			in	0.000	mm
Reservoir Height			in	0.000	mm
Reservoir Width			in	0.000	mm
Reservoir Volume		323.400	in^3	5299.576	cm^3
Reservoir Volume		1.4	gal	5.300	L

Reservoir Length			in	0.000	mm
Reservoir Diameter			in	0.000	mm
Reservoir Volume			in^3	0.000	mm^3
Reservoir Volume			gal	0.000	L