

### Solar Vacuum System Components

This system has star fittings that allow for 9 input lines with a total of up to about 200 taps.

I have no commercial bias. Other similar components and suppliers can be substituted for those mentioned.

In addition you are going to need a 12V deep cycle battery, 160 watts of solar panel(s) and enough 10 gauge wire to run from the solar panel(s) to the solar charge controller

System	Component	Price (\$)	Supplier	Notes	
Pump Box	50 gal plastic tote	\$15.00	Walmart		
	3/4in plywood 13in X 30in	\$5.00	Home Depot	This should be sized to cover the bottom of the plastic tote	
	2pc 2X4 30in	\$3.00	Home Depot	This raises the plywood off the bottom of the tote	
	27 Battery box	\$8.00	Amazon	Holds the deep cycle battery	
	subtotal	\$31.00			
Plumbing	Shurflo pump Model 4008 (3 gal/min)	\$75.00	Amazon	Can substitute Model 4048 (4 gal/min) (\$137) for higher capacity system	
	Shurflo screen filter	\$10.00	Amazon	Screens debris. Mostly sawdust left in tap holes after tapping. The Model 4048 comes with one	
	5 ft 1/2 inch ID plastic tubing	\$5.00	Ace Hardware		
	1/2in npt SS T fitting	\$4.00	Brewers Hardware		
	1/2in npt SS coupler	\$3.00	Brewers Hardware		
	1/2in npt SS 3-way valve	\$22.00	Brewers Hardware	For a pump bypass. I've not used it, may not be necessary.	
	1/2in npt 6 way 5/16 star fitting	\$2.00	Roth Sugar Bush		
	1/2in npt 3 way 5/16 star fitting	\$2.00	Roth Sugar Bush		
	100ft 5/16 inch maple sap tubing	\$20.00	Roth Sugar Bush	Minimum order is 100 ft. You only need 5 ft though.	
	9pc 5/16 to 3/16 inch addapter	\$2.00	Roth Sugar Bush		
	2pc 1in SS hose clamps	\$2.00	Ace Hardware		
	subtotal	\$147.00			
	Electrical	Bayite 12V temperature controller	\$18.00	Amazon	Set to turn off at 32F and turn on at 33F
		Solar Charge Controller 30amp	\$13.00	Amazon	
		40/30amp 12V DC waterproof relay	\$5.00	Amazon	Automotive relay
Blue sea systems 10 circuit bus bar		\$15.00	Amazon		
10ft of 10 gauge red and black wire		\$10.00	Ace Hardware	Recommended to use 10 gauge wire to go from battery to charge controller to relay to pump	
3 ft of 12 gauge red and black wire		\$3.00	Ace Hardware	This runs from the temperature controller to the relay. Turns relay on/off in turn the relay turns pump on/off.	
surface mounted switch box and cover		\$5.00	Ace Hardware	System master switch	
15 amp wall switch		\$3.00	Ace Hardware	System master switch	
15 amp fuse holder		\$5.00	Ace Hardware	System fuse. Holds an automotive spade fuse	
15 amp fuse		\$1.00	Ace Hardware	Automotive spade fuse	
Assortment 10 gauge (yellow) crimp		\$5.00	Ace Hardware	2 larger ring fittings for battery, several small ring fittings (for buss bar) and straight fittings	
subtotal		\$83.00			
<b>Total</b>		<b>\$261.00</b>			

