

Product	Voltage (v)	Ampere (A)	Power (W)	Snelheid	Prijs per stuk	Link													
Oude onderdelen																			
Oude pomp	12	0,4	5	5-90 ml/min		https://www.ebay.com/itm/Dosing-Pump-Peristaltic-Pump-12V-Mini-DC-Liquid-Water-Motor-pump-Fish-Tank-/162425591980													
Stappenmotoren	12	0,48	5,76	30rpm		http://www.qth58.cn/diandongji/35528433.html													
Voeding (pomp)	12	3	36																
Voeding (motoren)	12	1,5	18																
Siliconenslang	4,5mm	2m																	
Motor HAT	5	3	15			https://nl.aliexpress.com/item/DIY-Your-Robot-U-Geek-Stepper	https://sourcefor	https://cdn-learn.adafruit.com/downloads/pdf/adafruit-dc-and-stepper-motor-hat-for-raspberry-pi.pdf											
Band	Binnen diameter 5 mm																		
Raspberry Pi 2	Model B	V1.1																	
Lange LAN kabel	Is aan vervanging toe		Disconnect regelmatig																
Nieuwe onderdelen																			
Slang?	4mm binner 5mm buiten					https://www.lindemannsilikon.de/													
Motor	12	0,3	3,6	40RPM	€ 22,95	https://www.kiwi-electronics.nl/37mm-dc-robot-motor-pack-blaauw?search=37mm%20DC%20Robot%20Motor%20Pack&description=true													
Slang	3mm binner 5mm buiten				€ 1,25	https://www.kiwi-electronics.nl/siliconen-slang-3x5?search=Siliconen%20Slang&description=true													
Driver kit					€ 7,95	https://opencircuit.nl/Product/13345/DRV8835-Dual-Motor-Driver-Kit-voor-de-Raspberry-Pi													
Magnetic encoder	2,7-18				€ 7,95	https://opencircuit.nl/Product/12483/Magnetic-Encoder-Pair-Kit-for-20D-mm-Metal-Gearmotors.-20-CPR.-2.7-18V													

	Name	Type	Component		Name	Type	Component		Legend	
1	3V3		VCC Relais		2	5V	E1-Red		E1	Encoder on the other side of the pump, stationary. Controls x-axis
3	GPIO2				4	5V	E2-Red		E2	Encoder directly above the Rpi, that moves over the rail. Controls y-axis
5	GPIO3				6	GND	Ground		Source GPIO pins	https://www.raspberrypi-spy.co.uk/wp-content/uploads/2012/06/Raspberry-Pi-GPIO-Layout-Model-B-Plus-rotated-2700x900.png
7	GPIO4	IO pin	Relais IN		8				E-Grey	GND/Grounding
9	GND	Ground	E1-Grey		10				E-Red	VCC/Power
11	GPIO17	IO pin	E1-Blue		12				E-Blue	Out A
13	GPIO27	IO pin	E1-Green		14	GND	Ground	E2-Grey	E-Green	Out B
15	GPIO22	IO pin			16	GPIO23	IO pin	E2-Blue		
17					18	GPIO24	IO pin	E1-Green		
19					20					
21					22					

SRD-05VDC-SL-C		
Port	Translation	Connected to
Right	Common close	
Middle	Power	AC adapter
Left	Common open	Pump power

	x-axis		y-axis					
	Counter	Time	Counter	Time				
	1878	6,07	1948	5,81		x converter	313,2957629	points per second
	1881	6,14	1910	5,64		y converter	335,5700326	points per second
	1866	5,88	1936	5,73		Proc diff	1,07109662	
	1876	5,94	1908	5,63				
	1873	6,01	1937	5,85				
	1878	6,03	1944	5,81				
	1878	5,95	1937	5,8				
	1880	5,89	1933	5,78				
Min waarde	1866	5,88	1908	5,63				
Gemiddelde	1876,25	5,98875	1931,625	5,75625				
Max waarde	1881	6,14	1948	5,85				
Max verschil	15	0,26	40	0,22				
Afwijking	0,80%		2,10%					
Eigenlijke pan grootte	1500	4,787808128	1500	4,470005824				