

Parts list

Quantity	Part	Product Code	Company
6	Electromagnets	EM137-24-222	APW Company
	Copper Board	HP9558	Jaycar
8	2 Way PCB Mount Screw Terminals 5mm Pitch	HM3172	Jaycar
2	2 Pole PC Mount Pluggable Header - 5.08mm - Vertical	HM3112	Jaycar
2	2 Pole PC Mount Pluggable Header - 5.08mm - Horizontal	HM3102	Jaycar
4	2 Pole PC Mount Pluggable Terminal Block Socket - 5.08mm	HM3122	Jaycar
1x20pack	Crimp Ferrule White 0.75mm ²	PT4433	Jaycar
1x 20pack	Crimp Ferrule Red Terminal Pack	PT4533	Jaycar
1 pack	Breadboard Jumper wires	PB8850	Jaycar
1 pack of 40	150mm Socket to Socket Jumper Leads	WC6026	Jaycar
1 pack of 40	150mm Plug to Plug Jumper leads	WC6024	
1 pack of 40	150mm Plug to Socket Jumper Leads	WC6028	Jaycar
1	OPA541 Module Power Amplifier Audio Amplifier		Amazon AU
1	Operational Amplifier OPA445	OPA445AU-ND	Digi-Key
1	Operational Amplifier OPA541	OPA541AP-ND	Digi-Key
1	2.55K OHM SMD Resistor	P2.55KDACT-ND	Digi-Key
1	10.2K OHM SMD Resistor	P10.2KDACT-ND	Digi-Key
1	10K OHM SMD Resistor	P10KDACT-ND	Digi-Key
2	0 OHM SMD Resistor	P0.0KDACT-ND	Digi-Key
1	10K Resistor		Elegoo
2	Capacitors Cap Alum 68UF 20% 63V THRU HOLE	P123408-ND	Digi-Key
1	80mm 24VDC 2 wire Brushless Fan Motor	X2542	Jaycar
1	80mm Plastic Fan Guard	YX2552	Jaycar
1	Arduino Mega 2560 Rev3	A000067	Arduino

1	10kΩ Epoxy Dip NTC Thermistor	RN3440	Jaycar
1	2N7000 N-Channel FET	ZT2400	Jaycar
1	Analog Discovery 2: 100MS/s USB Oscilloscope, Logic Analyzer and Variable Power Supply	410-321	Digilent
1 roll	Narva 3mm x 10m 10Amp Red/Black Twin core power cable	0047792	Bunnings
2	30V 10A DC Power Supply	72-2925	Element14
1	3 Way Red WAGO PUSH WIRE Connector	HM3233	Jaycar
1	Breadboard	PB8815	Jaycar
1	24V DC 1.25A Power Supply	MP3494	Jaycar
1	5V DC 3A Slim Power Supply	MP3480	Jaycar
1	12V DC 400mA Ultra-Slim Power Supply	MP3147	Jaycar
1	3-12V DC 27W Power Supply	MP3316	Jaycar
1	Plastic Storage Container 10L Rectangular	881880	Sistema
1	900x600x5mm Clear Acrylic Sheet	1010490	Bunnings
1	Dark Grey Enclosure with Mounting Flange - 171(W) x 121(D) x 55(H)mm	HB6125	Jaycar
1	3D Printed Bioreactor Cooling Valve		Printed in house in Polycarbonate
1	Kinetic O Ring Assorted Kit	4920305	Bunnings
1	Pacific RL120 Radiator	CL-W011-AL00BL-A	Thermaltake
1	120mm PWM Curve Fan	CL-W069-CA00BL-A	Thermaltake
1	Pacific PR22-D5 Plus 300mL Reservoir and D5 pump	CL-W187-PL00SW-A	ThermalTake
1 meter	V-Tubler 4T	CL-W019-OS00TR-A	Thermaltake
2 meters	uxcell Silicone Tubing 3/8 inch(9mm) ID x 1/2 inch(12mm) OD		Uxcell (Amazon AU)

1 meter	Silicone tubing 4mm ID		Uxcell (Amazon AU)
2	2 Way Ball Valve G1/4 Black	3831109847305	EK Waterblocks
2	Thermaltake Pacific 1/2in ID 3/4in OD Compression Fitting Black	CL-W030-CA00BL-A	Thermaltake
8	Thermaltake Pacific 3/8" ID x 1/2" OD Compression - Black	CL-W033-CA00BL-A	Thermaltake
6	Copper Water cooling Jacket Ring for 540/550 Brush Motor		Fielect (Amazon AU)
6	Donut/Pi Disc, Grade A, Copper Plated, Donut Width: 11.5mm, 30x6mm, Hole: 7mm	G-F424-06F	Jewelry And Findings
3 packs	Pinnacle M4 x 35mm Stainless Steel Hex Head Bolts And Nuts	0130511	Bunnings
1 pack	Pinnacle M4 Galvanised Coupler	1101061	Bunnings
1	Selleys Silicon Glass 75g Clear	1230363	Bunnings