

Total Cost for Recyclebot v5

Total Filament Used

Extruder Assembly

Cat.	Part	Item Description	Qty.	Unit Cost	Price	Notes	Example or Link to Purchase Location
Mechanical	Extrusion Screw	5/8" X 17" Ship Auger	1	\$18.56	\$18.56		https://www.amazon.com/DEWALT-DW1681-8-Inch-17-Inch-Auger/dp/B000D4RGZC
	Extrusion Motor	3333_0 57STH66 NEMA-23 Bipolar Stepper with 15:1 Gearbox	1	\$72.00	\$72.00		http://www.phidgets.com/products.php?category=23&product_id=3333_0
	Barrel						
	Motor Mount/Barrel Mount	3339_0 - Stepper Mounting Bracket (NEMA 23)	2	\$4.00	\$8.00		http://www.phidgets.com/products.php?product_id=3339
	Nozzle				\$0.00		
	Heat Sink/Barrel Mount	1/2 in. Galvanized Malleable Iron Floor Flange	1	\$6.84	\$6.84	Need a ~66.5mm Diameter Bolt pattern	http://www.homedepot.com/p/Mueller-Global-1-2-in-Galvanized-Malleable-Iron-Floor-Flange-511-603HN/100188066
	Insulation	1" Thick, 7/8" Insulation ID, 3' Length High Temp Insulation	1	\$10.01	\$10.01		https://www.mcmaster.com/#5556k31/ww86ag
	Tape	36 yds Length x 1/2" Width Polyimide Tape	1	\$7.42	\$7.42	(Kapton Tape)	https://www.amazon.com/ProTapes-Pro-Polyimide-Dielectric-Strength/dp/B01J4H4YVW/ref=sr_1_5?ie=industrial&ie=UTF8&qid=1481768960&sr=1-5&keywords=kapton+tape
	Standoff Bolts				\$0.00		
	Wood Inserts				\$0.00		
3D Printed	Relay	Solid State Relay SSR-25DA	1	\$9.38	\$9.38		https://www.amazon.com/GEREE-Temperature-Control-Solid-SSR-25DA/dp/B00RHBUZ5S/ref=sr_1_5?ie=industrial&ie=UTF8&qid=1481857302&sr=1-5&keywords=25A+SSR+DC+AC+Solid+State+Relay
	Temperature Sensor	Thermistor	1	\$9.98	\$9.98	Pack of 10	https://www.amazon.com/RioRand-10-100Kohm-NTC-Thermistors/dp/B00GD471PO
	Extrusion Motor Driver	ST-7128 Bipolar Stepper Motor Driver Max 3A Current 128 High	1	\$20.70	\$20.70		http://www.ome-stepperonline.com/bipolar-stepper-motor-driver-max-3a-current-128-high-subdivision-st7128-p-244.html
	Heater Coil	Nichrome 60 Wire (approx. 11')	1	\$7.00	\$7.00	Gauge to follow	http://jacobs-online.biz/nichrome_wire.htm
	Hopper	Printed Part	1		\$0.00		
Motor Coupler	Printed Part	1		\$0.00			
Extruder Total Cost (Without Shipping or Tax)					\$122.83		

Control System Assembly

Cat.	Part	Item Description	Qty.	Unit Cost	Price	Notes	Example or Link to Purchase Location
	Arduino Mega 2560	Arduino Mega 2560 Rev 3	1	\$45.95	\$45.95		https://store-usa.arduino.cc/products/a000067?utm_source=redirects&utm_medium=store.arduino.cc&utm_campaign=303_Redirects
	Power Supply	12VDC 12.5A Power Supply	1	\$41.09	\$41.09		http://www.digkey.com/product-detail/en/dk-lambda-americas-inc/L150-12/285-1811-ND/1918822
	LCD Screen	LCD 20x4 + extras - white on blue	1	\$17.95	\$17.95		https://www.adafruit.com/product/198
	Clickable Rotary Encoder	Rotary Encoder + Extras	1	\$4.50	\$4.50		https://www.adafruit.com/product/377
	5V 1.5A Positive Voltage Regulator	Addicore 5 Pack L7805CV 5V 1.5A Voltage Regulator	1	\$5.95	\$5.95	Packs of 5	https://www.amazon.com/gp/product/B00H7KTR06/ref=oh_aui_detailpage_o08_s00?ie=UTF8&psc=1
	Full Size Breadboard	Full sized breadboard	2	\$5.95	\$11.90		https://www.adafruit.com/product/239
Control System Assembly Total Cost (Without Shipping or Tax)					\$127.34		

Cooling Section Assembly

Cat.	Part	Item Description	Qty.	Unit Cost	Price	Notes	Example or Link to Purchase Location
	Modular Cooling system Holder	Printed Part	2		\$0.00		
	Fan Mounting Piece	Printed Part	1		\$0.00		
	50 mm CPU Fan	CPU 12V DC Fan	5	\$6.99	\$34.95		http://www.newegg.com/Product/Product.aspx?Item=N82E16835119100&ignorebr=1&cm_re=50mm_Case_Fan_-_35-119-100_-_Product
	Transistors	TIP120 Power Darlington Transistors - 3 pack	1	\$2.50	\$2.50		https://www.adafruit.com/products/976
Cooling Section Assembly					\$37.45		

Filament Puller Assembly

Cat.	Part	Item Description	Qty.	Unit Cost	Price	Notes	Example or Link to Purchase Location
	Caster Bearings 4 pack	3/8" ID X 7/8" OD Caster Bearings	1	\$7.80	\$7.80	Pack of 4	http://www.mobilitydirect.com/Bearing-3-8-ID-x-7-8-OD-p/g205026.htm
	35A Urethane Drive Rollers	35A Abrasion-Resistant Drive Rollers for shaft dia 3/8"	2	\$29.32	\$58.64		https://www.mcmaster.com/#roller-feeders/=15hkaqf
	Spring	2" Spring	2	\$1.00	\$2.00		Hardware
	Screw	M3 x 40 Screw	2	\$0.95	\$1.90		Hardware
	Nut	M3 Nut	2	\$0.35	\$0.70		Hardware
	Puller Base	Printed Part	1		\$0.00		
	Puller Top	Printed Part	1		\$0.00		
	Motor Gear	Printed Part	1		\$0.00		
	Rod Gear	Printed Part	1		\$0.00		
	Belt	Printed Part	1		\$0.00		
	3/8" Threaded Rod	3/8" OD Threaded Rod	1	\$5.00	\$5.00		Hardware
	Nema 17 Stepper Motor	Kysan 1124090 Nema 17 Stepper Motor	1	\$14.50	\$14.50		https://ulilmachine.com/products/kysan-1124090-nema-17-stepper-motor
	Stepper motor driver	DRV 8825 Stepper motor driver, High Current	1	\$8.95	\$8.95		https://www.pololu.com/product/2133
Filament Puller Assembly Total (without shipping or tax)					\$99.49		

Filament Winder Assembly

Cat.	Part	Item Description	Qty.	Unit Cost	Price	Notes	Example or Link to Purchase Location
	Caster Bearings 4 Pack	3/8" ID X 7/8" OD Caster Bearings	1	7.8	7.8	Pack of 4	
	3/8" OD Threaded Rod		3	1.5	4.5		Hardware
	Motor Gear	Printed Part	1		\$0.00		
	Rod Gear	Printed Part	1		\$0.00		
	Belt	Printed Part	1		\$0.00		
	Threaded rod inner mount	printed part	1		0		
	Threaded rod outer mount	printed part	1		0		
	Spool Holders	printed part	2		0		
	Nema 17 Stepper Motor	Kysan 1124090 Nema 17 Stepper Motor	1	\$14.50	\$14.50		https://ulilmachine.com/products/kysan-1124090-nema-17-stepper-motor
	Stepper motor driver	DRV 8825 Stepper motor driver, High Current	1	\$8.95	\$8.95		https://www.pololu.com/product/2133
Filament Puller Assembly Total (without shipping or tax)					36.25		

Total System Cost:

\$423.36