

# Bill of Materials

**Note: All measurements in millimeters unless otherwise specified.**

## Ball Screw System

Qty	Part No./Description	Unit Price (USD)	Total Price (USD)
2	BNT 2010-2_6629-J1KBF 150 Screw (800mm)	85.00	170.00
2	BK 15 Support Unit	25.00	50.00
4	BK 15 Collar	8.00	32.00
2	RN 15 Lock Nut	12.00	24.00
2	BF 15 Support Unit	25.00	50.00
4	BF 15 Collar	8.00	32.00
2	23HS45-4204D-E1000 Stepper Motors	65.00	130.00
2	Coupler 6.35-8mm	15.00	30.00
2	20mm Ball Screw Nut	45.00	90.00

## ***Linear Rails***

<b>Qty</b>	<b>Part No./Description</b>	<b>Unit Price (USD)</b>	<b>Total Price (USD)</b>
2	HGR20R Linear Guide Rail (850mm)	120.00	240.00
4	HGH20CAZ0C Block (Midsection)	55.00	220.00

## ***Outer Casing***

<b>Qty</b>	<b>Part No./Description</b>	<b>Unit Price (USD)</b>	<b>Total Price (USD)</b>
2	6 mm Aluminum Plate (900x130mm)	45.00	90.00
1	10mm Aluminum Plate (650x400mm)	60.00	60.00

---

5	40x160 Profile Aluminum Extrusions (600mm)	35.00	175.00
---	---	-------	--------

---

## ***Ball Screw (X-axis)***

Qty	Part No./Description	Unit Price (USD)	Total Price (USD)
1	BMT 1605-2_6465-J1KBF 120 Screw (650 mm)	75.00	75.00
1	BK 12 Support Unit	22.00	22.00
2	BK 12 Collar	7.00	14.00
1	RN 12 Lock Nut	10.00	10.00
1	BF 12 Support Unit	22.00	22.00
1	BF 12 Collar	7.00	7.00
1	23HS45-4204D-E1000 Stepper Motor	65.00	65.00
1	Coupler 6.35-8mm	15.00	15.00

---

---

1	16mm Ball Screw Nut	40.00	40.00
---	---------------------	-------	-------

---

## ***Guide Rail (X-Axis)***

Qty	Part No./Description	Unit Price (USD)	Total Price (USD)
1	HGR 20R Linear Guide Rail (600mm)	95.00	95.00
2	HGH20CAC0C Blocks	55.00	110.00
1	60x120 Profile Aluminum Extrusion (710mm )	50.00	50.00

---

## **Carriage Assembly**

<b>Qty</b>	<b>Part No./Description</b>	<b>Unit Price (USD)</b>	<b>Total Price (USD)</b>
1	10mm Aluminum Plate (130x385mm)	40.00	40.00
1	10mm Aluminum Plate (63x130mm)	5.00	5.00
1	40mm Aluminum Plate (56x62)	30.00	30.00
1	BMT 1605-2_6465-J1KBF 120 Shaft (700mm)	80.00	80.00
1	BK 12 Support Unit	22.00	22.00
2	BK 12 Collar	7.00	14.00
1	RN 12 Lock Nut	10.00	10.00
1	BF 12 Support Unit	22.00	22.00
1	BF 12 Collar	7.00	7.00
1	16mm Ball Screw Nut	40.00	40.00

1	23HS45-4204D-E1000 Stepper Motor	65.00	65.00
1	Coupler 6.35-8mm	15.00	15.00
2	HGH20CAC0C Blocks	55.00	110.00
2	HGR 20R Linear Guide Rail (350mm)	65.00	130.00
1	2.2KW ER20 110V CNC Water Cooled Spindle Motor	250.00	250.00
1	ER-16 Ball Bearing	20.00	20.00

**Estimated Total Cost (USD): \$2,512**