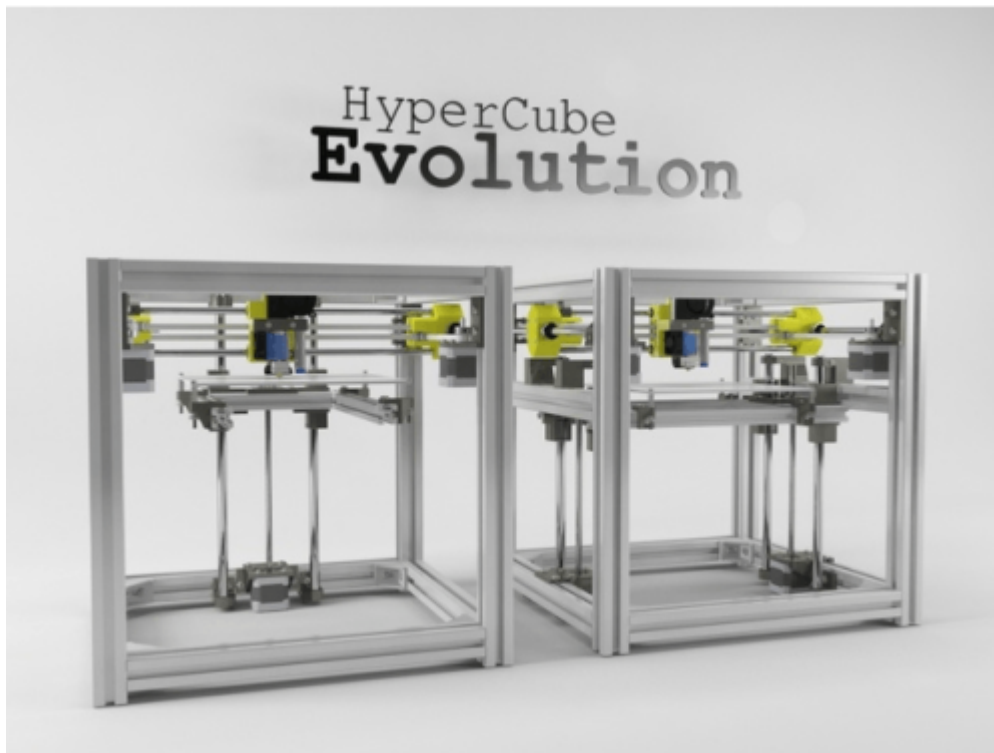


Hypercube Evolution



<https://www.thingiverse.com/thing:2254103> Hypercube Evolution Configuration v1.4を使用

リンク

https://hevo.wiki/index.php/Incremental_Build_Instructions 購入先が記載されている。

[My HyperCube Evolution by DaHai8 - Thingiverse](#)

フレーム検索

https://www.aliexpress.com/wholesale?catId=0&initiative_id=SB_20190227193250&SearchText=3d+printer+hypercube

作成案（決定）

Component Explorerで購入したパーツの条件に揃えた。 [Hypercube Evolution Configurator 1.4 設定値](#)

オプションの指定（その他規定値） Min, Build Volume /Travel X=300,Y=300,Z=300mm Shafts Xaxis Diam 8, Yaxis Diam 10, Zaxis Diam 12 Z Axis Double Mk2A 300x00 Bed Bracket 25

あとTMC2208を購入する必要があるはずだけど、基板がMKS Baseだったかもしれない。その場合はMKS Genが必要になる。 [TMC2208 3D Printer](#)

PEIシート購入済み。再度ここを確認する。 [3DプリンタープリントベッドシートとしてのPEIシート - ガイド | All3DP](#)

[Excel計算で算出した必要な部品一覧](#)

BOM - Extrusions and linear guides

Item		Length	Unit	Qty	Note
3030 Extrusion		420	mm	4	Frame X extrusion
		410	mm	6	Frame Y extrusion
		500	mm	4	Frame Z extrusion
2020 Extrusion		415	mm	2	Bed frame X extrusion
		235	mm	2	Bed frame Y extrusion
Diam 8	Shaft	450	mm	2	X axis linear guide
Diam 10	Shaft	410	mm	2	Y axis linear guide
Diam 12	Shaft	400	mm	4	Z axis linear guide

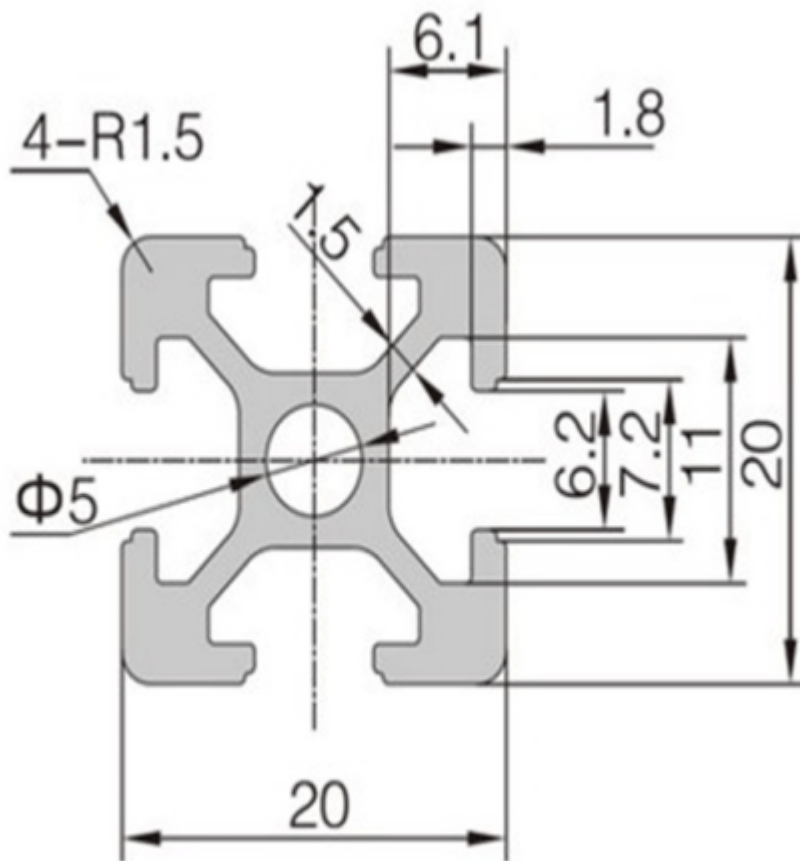
Hypercube Evolution Printed part quantities	All versions	X Axis Versions	Y Axis Versions	Z Axis Versions	Notes
Printed Part Name		Diam 8	Diam 10	Double	
X-Carriage	1				
Belt_Clamp	2				
Belt_Tensioner	4				
Duct	1				
Extruder_Mount	1				
Retainer	1				
T_Slot_Cover	As needed				
X_End_Stop_Flag	2				
XY_Idler_Mount_Left			1		
XY_Idler_Mount_Left_yDia8					
XY_Idler_Mount_Right			1		
XY_Idler_Mount_Right_yDia8					
XY_Stepper_Mount Left			1		
XY_Stepper_Mount Left_yDia8					
XY_Stepper_Mount Right			1		
XY_Stepper_Mount Right_yDia8					
Y_Carriage_Clamp_LM8UU					
Y_Carriage_Clamp_LM10UU			2		
Y_Carriage_xDia8_LM8UU					
Y_Carriage_xDia8_LM10UU		2			
Y_Carriage_xDia10_LM8UU					
Y_Carriage_xDia10_LM10UU					
Y_End_Stop_Bracket	2				
Y_End_Stop_Flag	1				
Z_Axis_Bearing_Holder				4	
Z_Axis_Linear_Rail_Bracket_- Left				2	
Z_Axis_Linear_Rail_Bracket_- Right				2	
Z_Axis_Linear_Rail_Bracket_- Double_Z_- Left				2	
Z_Axis_Linear_Rail_Bracket_- Double_Z_- Right				2	
Z_Motor_Mount				2	
Z_Nut_Braket				2	

ここからあるものを削除していく。

最終的なリスト

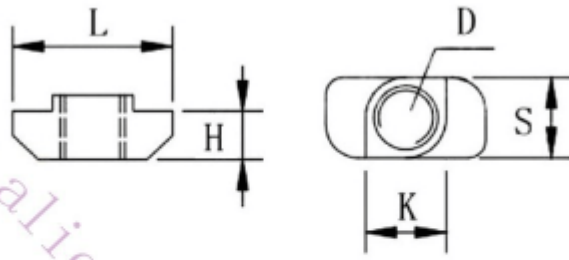
Description	Quantity	Price(s)		Note	Original Qty
		Total(s)			
420mm 3030 Black Al profiles	4	2.2	8.8		
420mm 3030 Black Al profiles	6	2.1	12.6		
500mm 3030 Black Al profiles	4	2.5	10		
415mm 2020 Black Al profiles	2	1.2	2.4		
255mm 2020 Black Al profiles	2	1	2		
Dia 8mm linear rods 450mm	2	2.1	4.2		
Dia 10mm linear rods 420mm	2	2.3	4.6		
Dia 12mm linear rods 450mm	4	2.5	10		
LM8UU linear bearings	0	0.9	0	https://www.aliexpress.com/item/32853909929.html?spm=2114.12010615.8148356.7.2084700283225	4
LM10UU linear bearings	0	1	0	https://www.aliexpress.com/item/3248896266.html?spm=2300.product.0.0.3c8448374a29a5a0_pvid=59640c3e-1d98-4c48-62d6-16d6ead70a16-19d6tsid=c8-00b13-f054-4f54-8a20-5044a9975056wv_ab_text=searchweb0_0searchweb201602_4searchweb201603_2	24
LM12UU linear bearings	0	1.5	0	https://www.aliexpress.com/item/3248896266.html?spm=2114.12010615.8148356.1.70481ead45c7c	24
LM15UU linear bearings	0	1	0	https://www.aliexpress.com/item/32858115295.html?spm=2300.product.0.0.240f5476174464a5a0_pvid=4fbc493a-9061-4a23-adf2-070303358367a5a0_expid=4fbc493a-9061-4a23-adf2-070303358367a5a0tsid=6134290-11c5-4a80-b0d8-408c67748b114aw_ab_text=searchweb0_0searchweb201602_4searchweb201603_2	24
L-Type bracket for 3030 extrusion	20	0.4	12		
L-Type bracket for 2020 extrusion	20	0.3	6		
Black 3030 corner brackets	20	0.3	6		
100 pcs Black M3x10 Button Head Socket Bolts	1	2	2		
Black M6x10 Button Head Socket Bolts with 30-M6 Hummer nuts	20	0.05	1		
Black M3 Socket head screws	1	5	5		
100pcs M3 T Hammer Nuts for 3030 extrusion	1	5	5		
100pcs M3 T Hammer Nuts for 2020 extrusion	0	4.5	0	在庫切れ	
3mm brass pins	100	0.2	20		
100pcs M3 5x5 Brass knurled insert	1	5	5		
10pcs 3030 end caps	1	2	2		
100 B7C leveling feet	4	1	4		
Nema17 350mm TR8 lead screw linear stepper with Anti-backlash nuts	10	60	600		
NEMA 17 40mm Stepper Motors	0	6.3	0	在庫切れ	
GT2 Timing Pulley (20 teeth) 3mm bore for 6mm belt	2	1.75	3.5		
GT2 Idler Pulley (20 teeth) 3mm bore	6	2	12		
GT2 Idler Pulley without teeth (20 teeth) 3mm bore	1	2	2		
5m Polycarbonate GT2 Green belt	0	2	0		
MK2A Heated Bed 300x300x3mm with Glass 300*300*3mm	0	35	0		
Spcs leveling screws	0	2	0		
Insulation Pad 300*300*0.5mm	0	5	0		
100ohm NTC3950 thermistor	0	0.8	0		
24V 500W power supply	0	24	0	https://www.aliexpress.com/item/2598478288.html?spm=2300.product.0.0.455f028b9746a5a0_pvid=95a0620a-902a-4497-9425-472abba375e6a5a0_expid=95a0620a-902a-4497-9425-472abba375e6a5a0tsid=93964448c3b-4872-439c-70f9450ff616wv_ab_text=searchweb0_0searchweb201602_4searchweb201603_2	52
RAMPS 1.4 with stepper drivers and display	0	20	0		
RAMPS 1.4 fan extender module	0	6.5	0		
DC-DC 24V-12V step-down module	0	1.5	0		
Arduino MEGA 2560	0	7	0		
Power expansion module	0	1	0		
5V NPN M12 inductive sensor	0	3	0		
Optical end stops	4	1.6	6.4		
AC socket switch power inlet socket w fuse	0	1	0		
5m x 24AWG 4 core UL2464 cable	0	6.6	0		
5m x 24AWG 2 core UL2464 cable	0	4	0		
5m x 14AWG Silicone cable	0	3	0		
5m x 24AWG 3core UL2464 cable	0	5	0		
Team Extruder with motor ESD V8 hotend with heaters	0	20	0		
Spcs Metric Wrenches	0	2	0		
110V/220V 40W Welding kits	0	10	0		
10pcs Black and 10pcs Red 1-Type Terminals	0	2	0		
Total			191.5		

アルミフレーム



海外の

国内の (ヤマト)



型材号	規格 (D)	高さ (S)	下高 (H)	長さ(L)	台高 (K)
20型材	M4	6	3.5	10	6.2
20型材	M5	6	3.5	10	6.2
30型材	M4	8	5	16	8.2
30型材	M5	8	5	16	8.2
30型材	M6	8	5	16	8.2
40型材	M4	8	5	19.5	8.2
40型材	M5	8	5	19.5	8.2
40型材	M6	8	5	19.5	8.2
45型材	M4	10	5.5	19.5	10.2
45型材	M5	10	5.5	19.5	10.2
45型材	M6	10	5.5	19.5	10.2
45型材	M8	10	5.5	19.5	10.2

手配リスト

BOM for HyperCube Evolution Dual Z Axes Black 300*300*300

下図の部品表のうち、数量が0のものはすでに在庫があるか、別途手配するもの。別途手配するものはNoteにURLをつけた。 hypercubeevolution_edit_ht.xls — root 2019/08/08 14:11

部品表

トータル ¥191.5 USD

Description	Quantity	Price(s) Total(s)	Note/Original Qty
420mm 3030 Black Al profiles	4	22	8.3
410mm 3030 Black Al profiles	6	21	12.6
500mm 3030 Black Al profiles	4	25	10
415mm 2020 Black Al profiles	2	12	2.4
235mm 2020 Black Al profiles	2	11	2
Ø4 8mm linear rods 450mm	2	21	4.2
Ø4 10mm linear rods 410mm	2	23	4.6
Ø4 12mm linear rods 400mm	4	25	10
LM8U linear bearings	0	0.9	0
LM10U linear bearings	0	1	0
LM12UU linear bearings	0	1.5	0
LM20UU linear bearings	0	2	0
L-type bracket for 3030 extrusion	30	0.4	12
Black 3030 corner brackets	20	0.3	6
100 pcs Black M4x10 Button Head Socket Bolts	1	3	3
Black M4x10 Button Head Socket Bolts with 30-M4 Hammer nuts	20	0.05	1
Black M3 Socket head screws	1	0	5
100pcs M3 T Hammer Nuts for 3030 extrusion	1	0	5
100pcs M3 T Hammer Nuts for 2020 extrusion	0	4.5	0
3mm dowel pins	10	0.2	2
100pcs M3 5x3 Brass knurled insert	1	0	5
100pcs 3030 Caps	1	2	2
D50 BPS Levelling feet	4	1	4
Nema17 350mm TRPS Inductive linear stopper with Anti-backlash nutx2	0	30	60
NEMA 17 40mm Stepper Motors	0	6.5	0
G17 Timing Pulley (20 teeth) 5mm bore for 6mm belt	2	1.75	3.5
G17 Idler Pulley (20 teeth) 3mm bore	6	2	12
G17 Idler Pulley without teeth (20 teeth) 3mm bore	2	2	4
5m Polyurethane G17 6mm belt	0	6	0
M24 Heated Bed 300x300 3mm with Glass 300P 300P 3mm	0	15	0
6pcs Levelling screws	0	2	0
Insulation Pad 300x300x3 5mm	0	0	0
100ohms NTC 3950 Thermistor	0	0.8	0
24V 500W power supply	0	24	0
RAMPS 1.4 with stepper drivers and display	0	20	12
RAMPS 1.4 fan extender module	0	6.5	0
DC-DC 5V 12V step down module	0	1.5	0
Arduino MEGA 2560	0	7	0
Power expansion module	0	1	0
DV NPN M12 inductive sensor	0	3	0
Optical end stop	4	1.6	6.4
AC rocker switch power inlet socket w fuse	1	1	0
5m x 24AWG 4 core UL3454 cable	0	6.6	0

