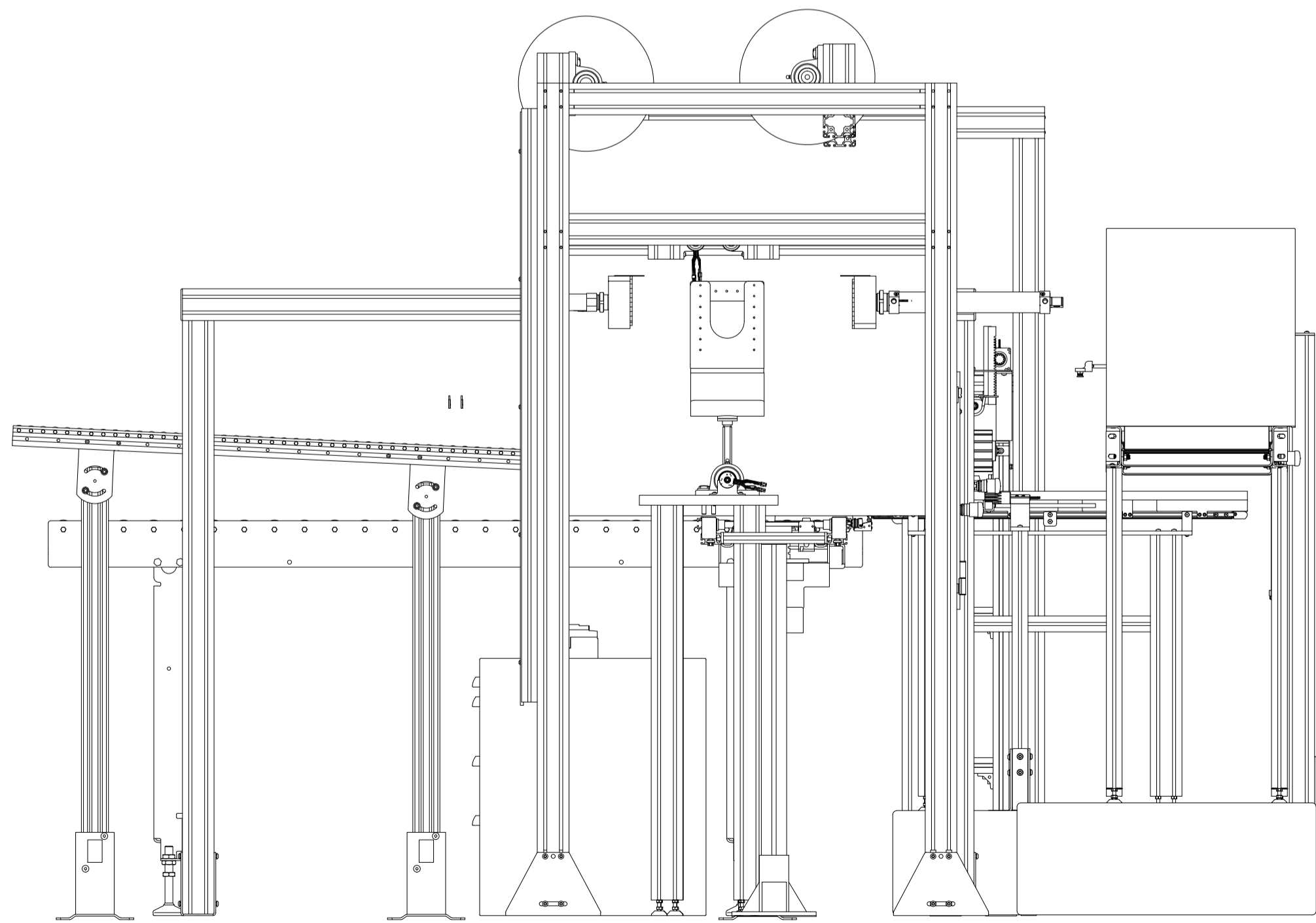
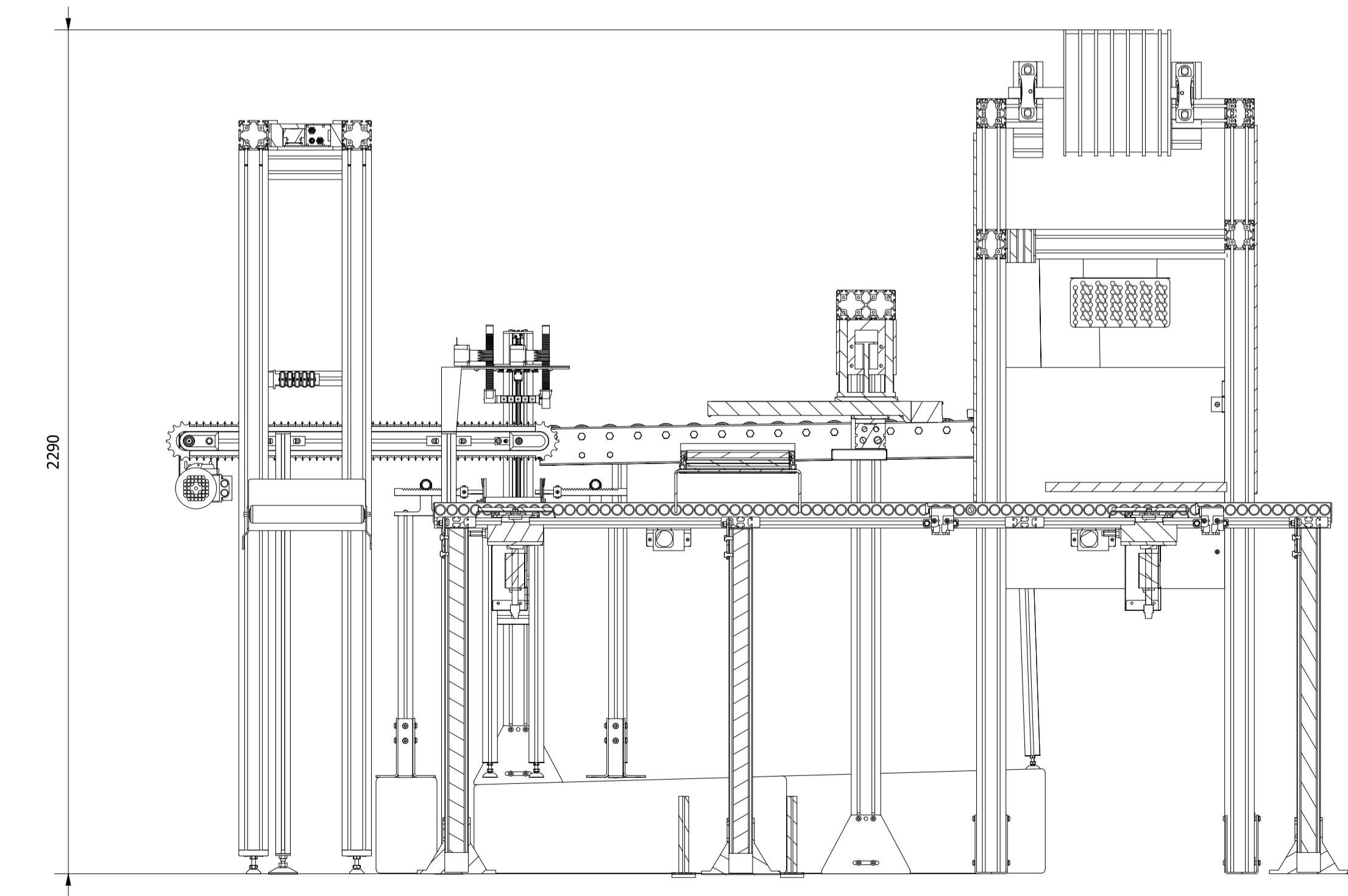
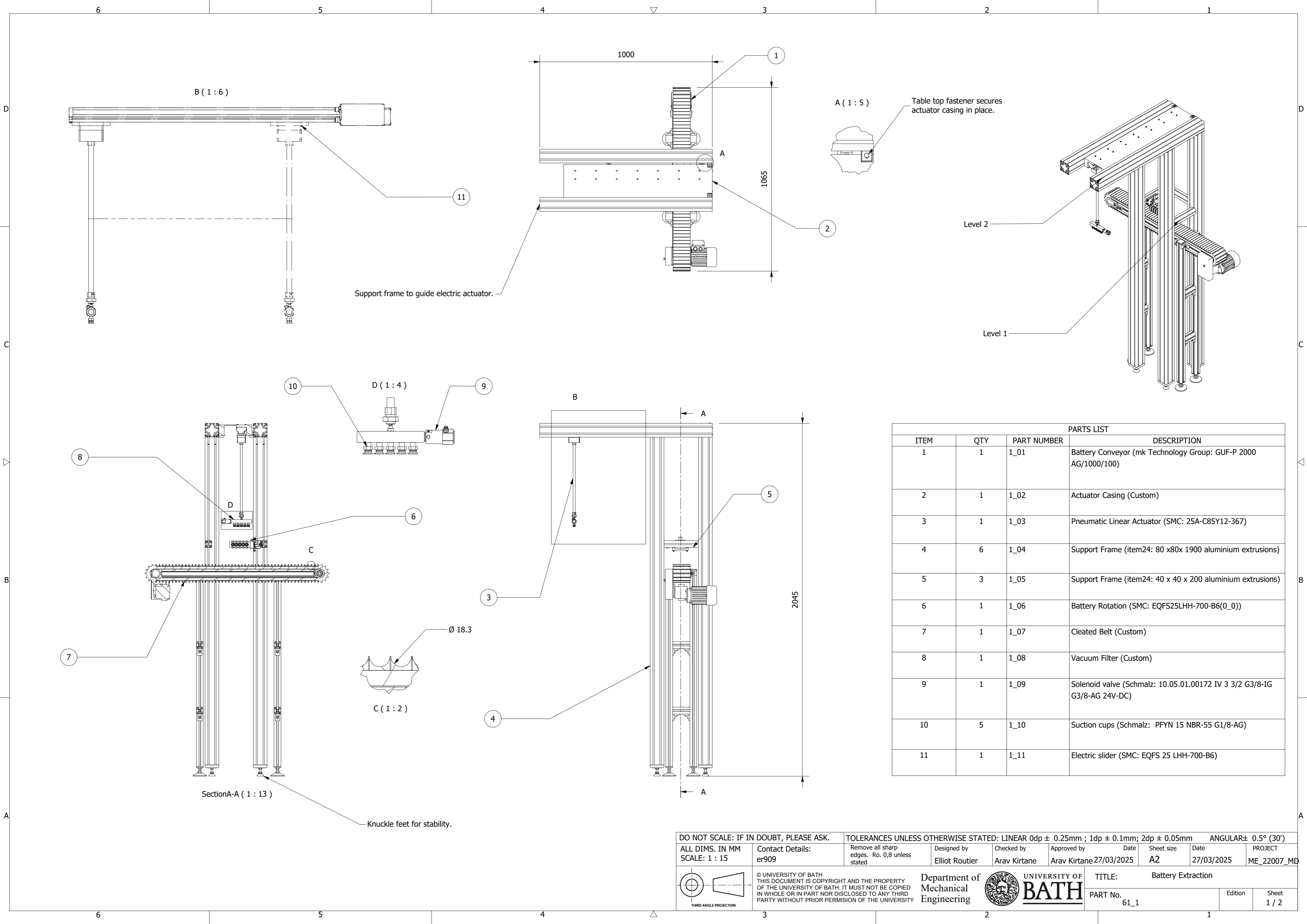


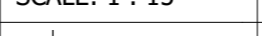
PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	0_01	Battery Extraction
2	1	0_02	Battery Insertion
3	1	0_03	Top Carrier Application
4	1	0_04	Copper Strip Application
5	1	0_05	ERT Conveyor

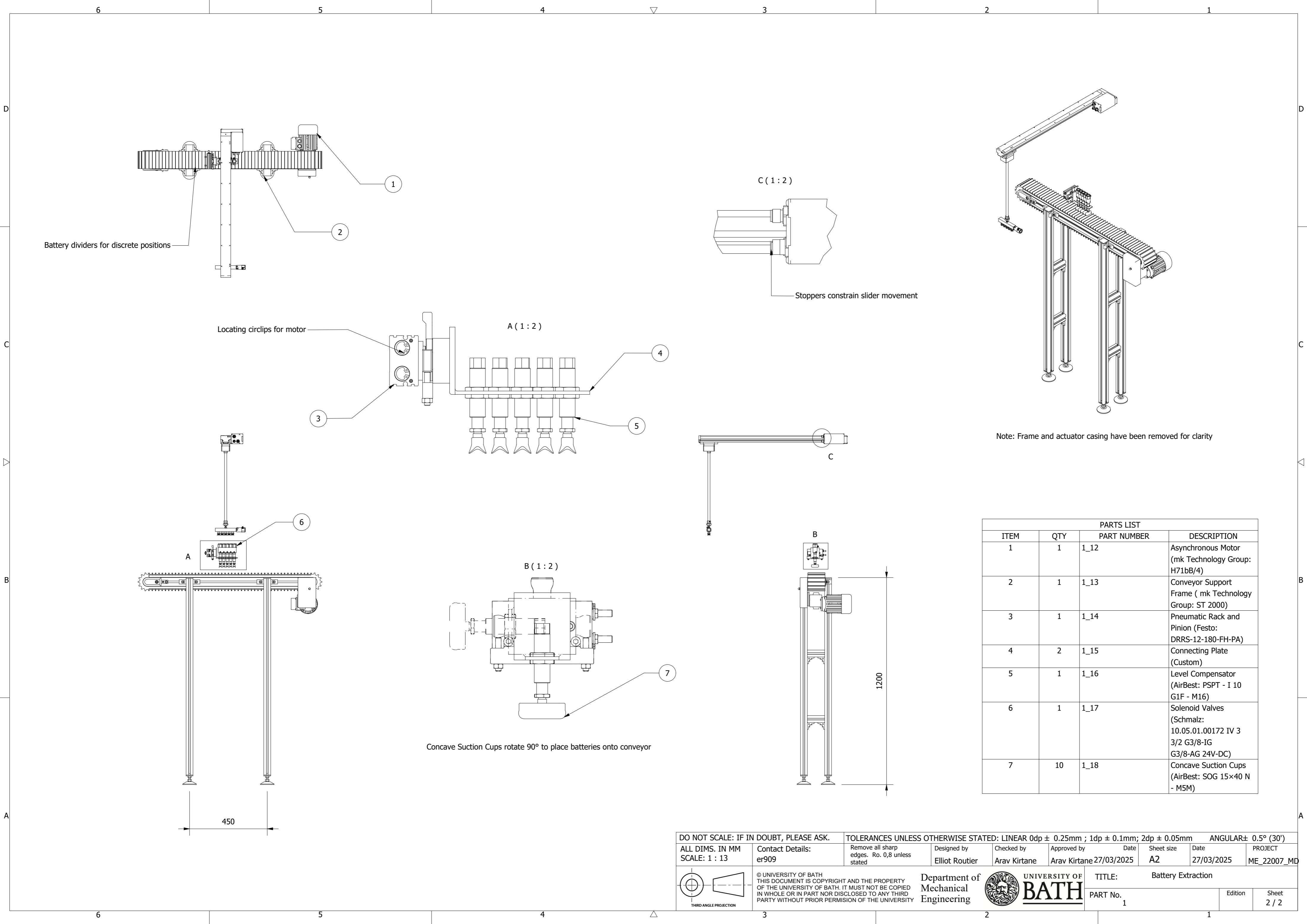


Note: Protective panels around Copper Strip Application removed for Drawing 61_0 clarity.

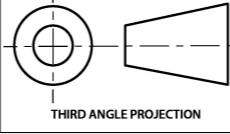



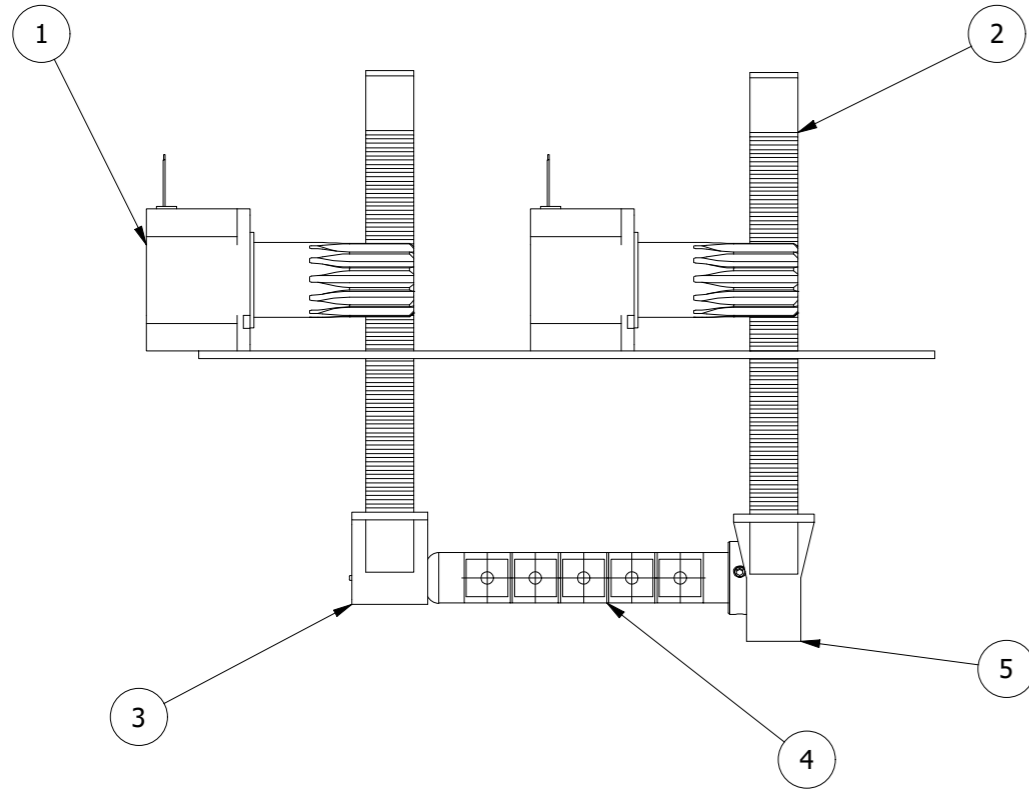
PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	1_01	Battery Conveyor (mk Technology Group: GUF-P 2000 AG/1000/100)
2	1	1_02	Actuator Casing (Custom)
3	1	1_03	Pneumatic Linear Actuator (SMC: 25A-C85Y12-367)
4	6	1_04	Support Frame (item24: 80 x80x 1900 aluminium extrusions)
5	3	1_05	Support Frame (item24: 40 x 40 x 200 aluminium extrusions)
6	1	1_06	Battery Rotation (SMC: EQFS25LHH-700-B6(0_0))
7	1	1_07	Cleated Belt (Custom)
8	1	1_08	Vacuum Filter (Custom)
9	1	1_09	Solenoid valve (Schmalz: 10.05.01.00172 IV 3 3/2 G3/8-IG G3/8-AG 24V-DC)
10	5	1_10	Suction cups (Schmalz: PFYN 15 NBR-55 G1/8-AG)
11	1	1_11	Electric slider (SMC: EQFS 25 LHH-700-B6)

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						PART No. 61_1		Edition	Sheet 1 / 2	

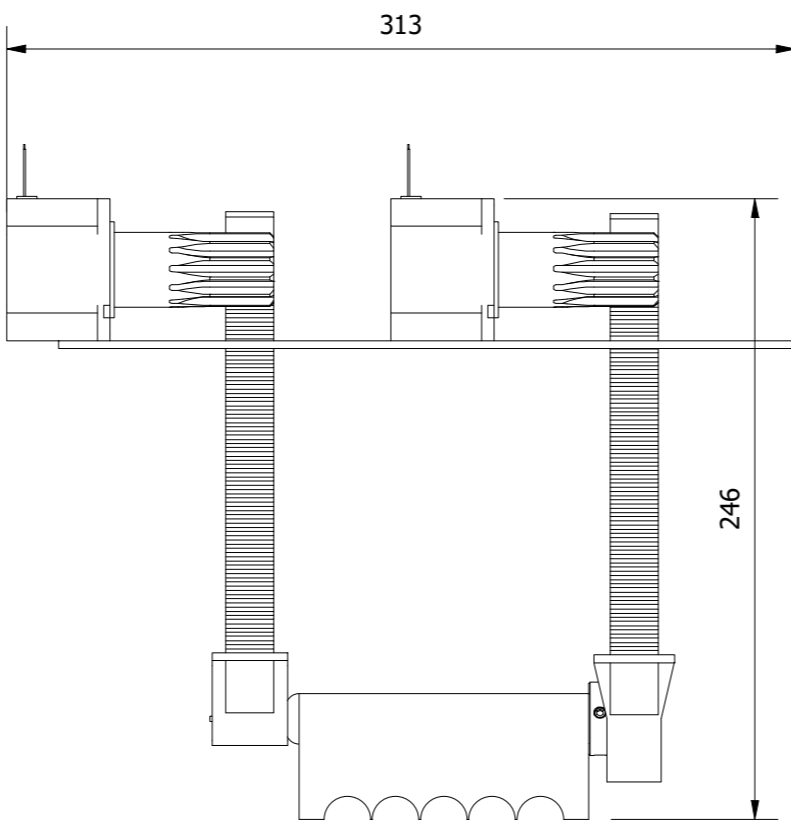


PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	1_12	Asynchronous Motor (mk Technology Group: H71bB/4)
2	1	1_13	Conveyor Support Frame (mk Technology Group: ST 2000)
3	1	1_14	Pneumatic Rack and Pinion (Festo: DRRS-12-180-FH-PA)
4	2	1_15	Connecting Plate (Custom)
5	1	1_16	Level Compensator (AirBest: PSPT - I 10 G1F - M16)
6	1	1_17	Solenoid Valves (Schmalz: 10.05.01.00172 IV 3 3/2 G3/8-IG G3/8-AG 24V-DC)
7	10	1_18	Concave Suction Cups (AirBest: SOG 15×40 N - M5M)

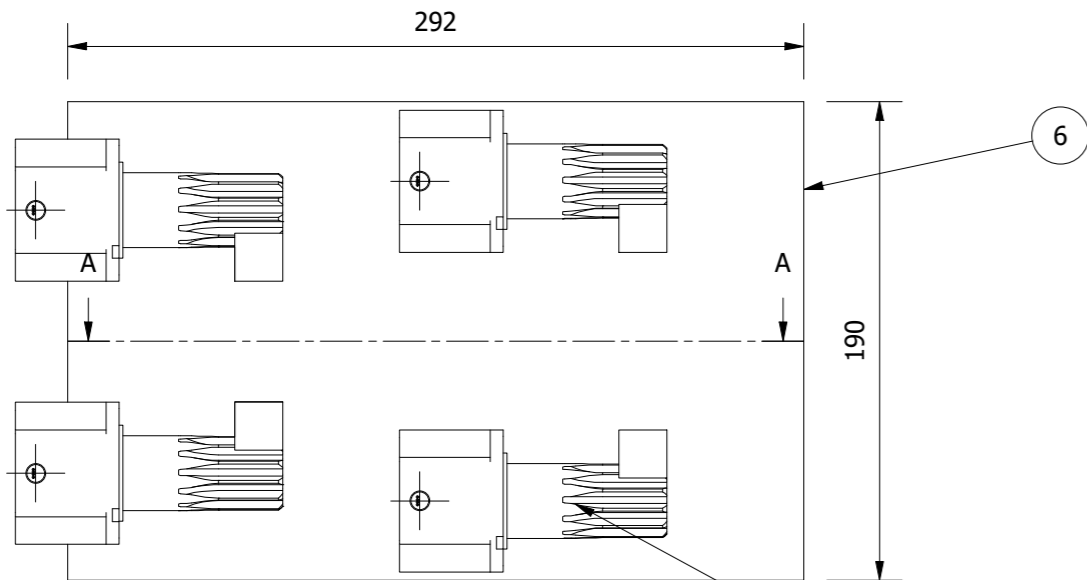
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ALL DIMS. IN MM SCALE: 1 : 13	Contact Details: er909	Remove all sharp edges. Ro. 0,8 unless stated	Designed by Elliot Routier	Checked by Arav Kirtane	Approved by Arav Kirtane	Date 27/03/2025	Sheet size A2	Date 27/03/2025	PROJECT ME_22007_MD
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							PART No. 1		
							Edition		Sheet 2 / 2



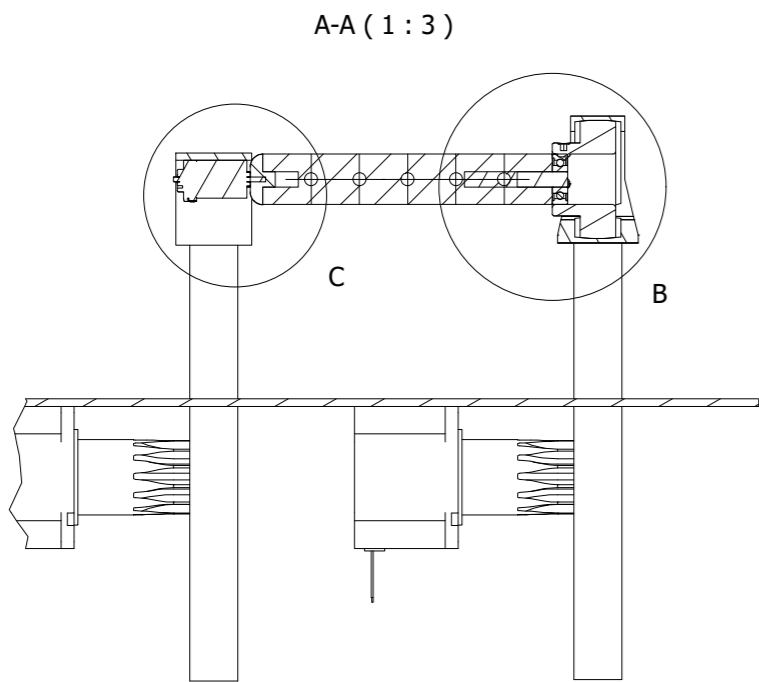
Scale (1:3)
Front view of subassembly in position for batteries to be extracted



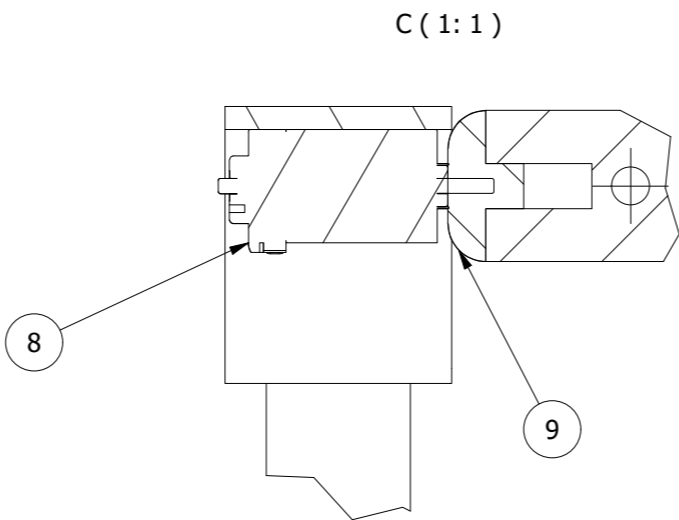
Scale (1:3)
Subassembly in position for batteries to be grabbed



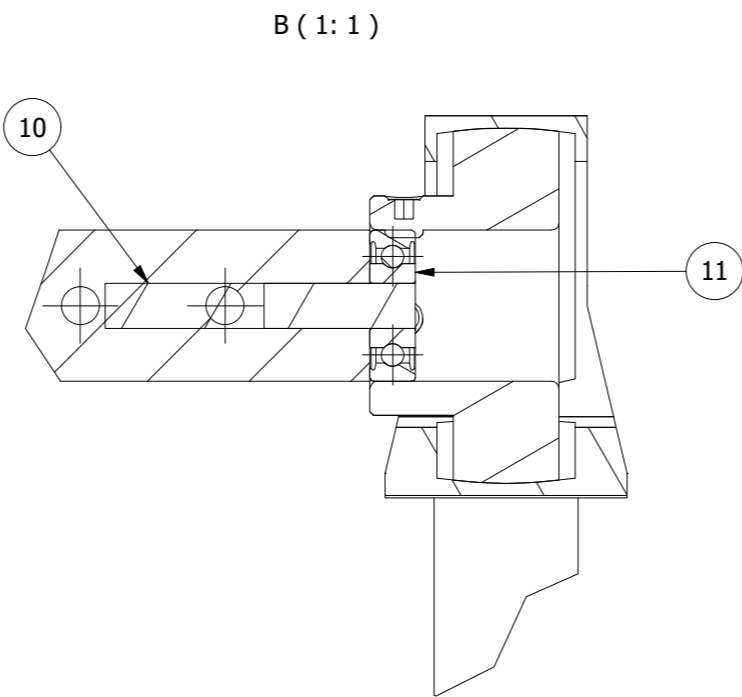
Scale (1:3)
Plan view of subassembly



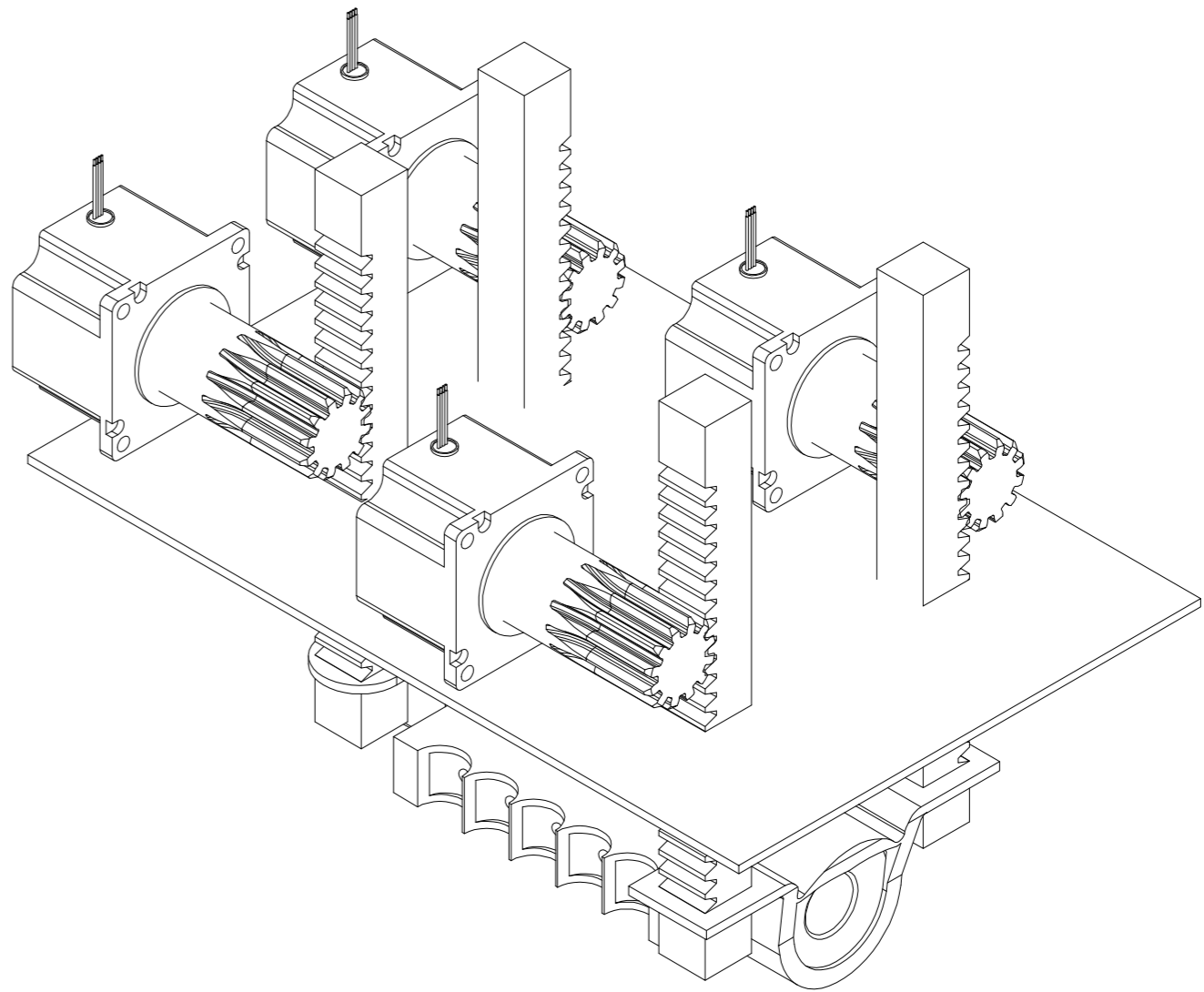
A-A (1 : 3)



C (1 : 1)

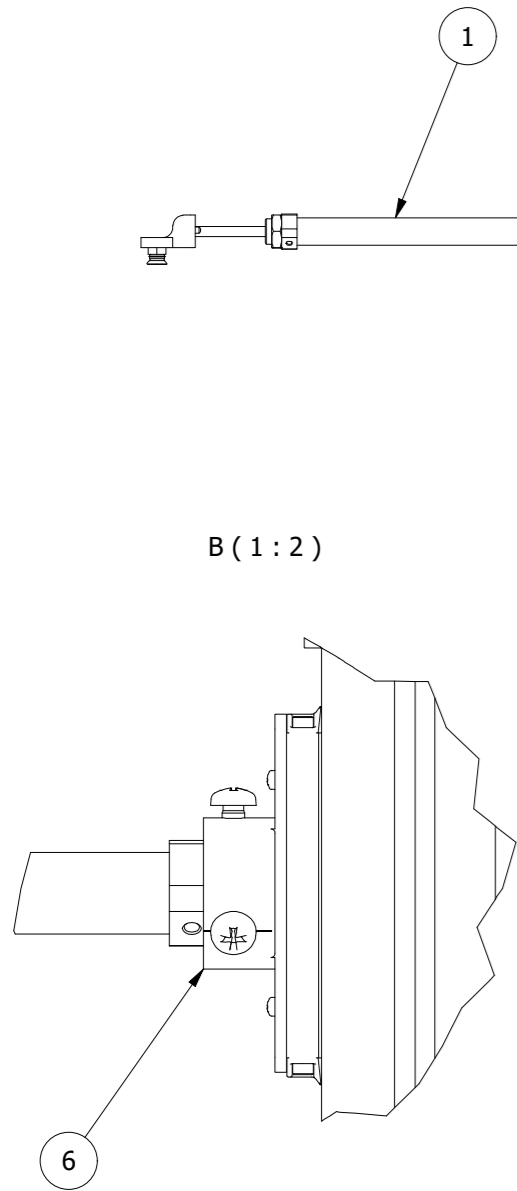


B (1 : 1)

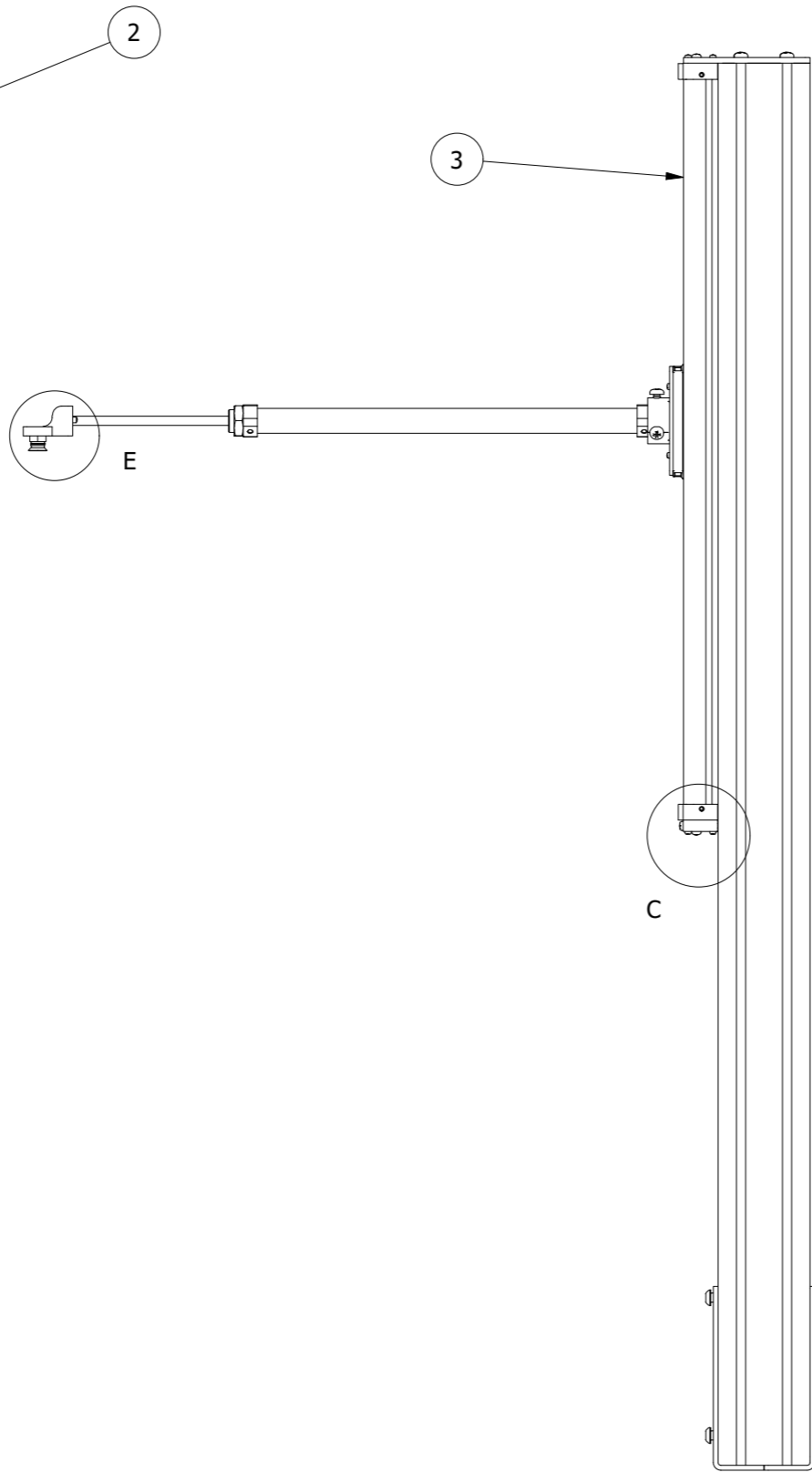


Scale 1:2
Isometric view of sub-assembly

PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	4	2_01	ECXSP19L BL KL B STEC 36V motor to rotate pinion
2	4	2_02	RS182-7860 rack to move assembly vertically
3	1	2_03	Housing for motor (custom)
4	1	2_04	Assembly for suction of batteries from conveyor (custom)
5	1	2_05	NP20-RHP bearing housing
6	1	2_06	Base plate for assembly (custom)
7	4	2_07	RS182-7801 pinion gear for assembly
8	1	2_08	DCX10L EB SL 4.5V motor for rotate suction assembly
9	1	2_09	End cap of suction assembly (custom)
10	1	2_10	Rod to connect suction assembly to bearing (custom)
11	1	2_11	626-SKF bearing

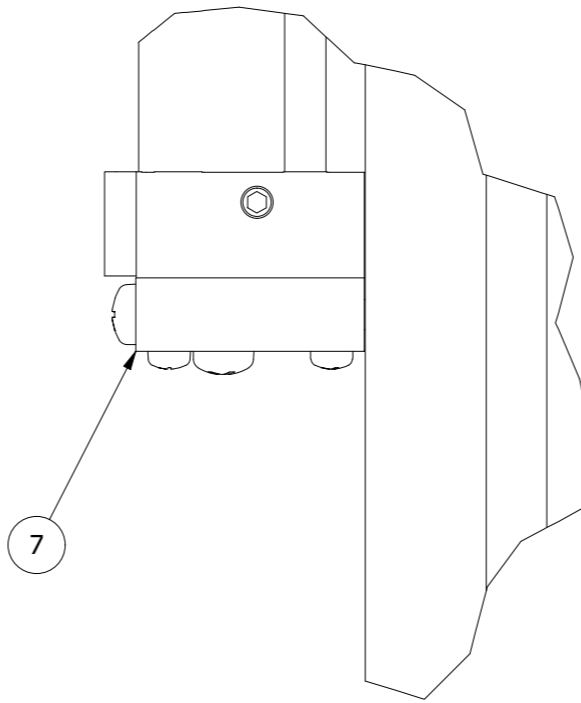


Scale (1:6)
Side view of actuator press subassembly

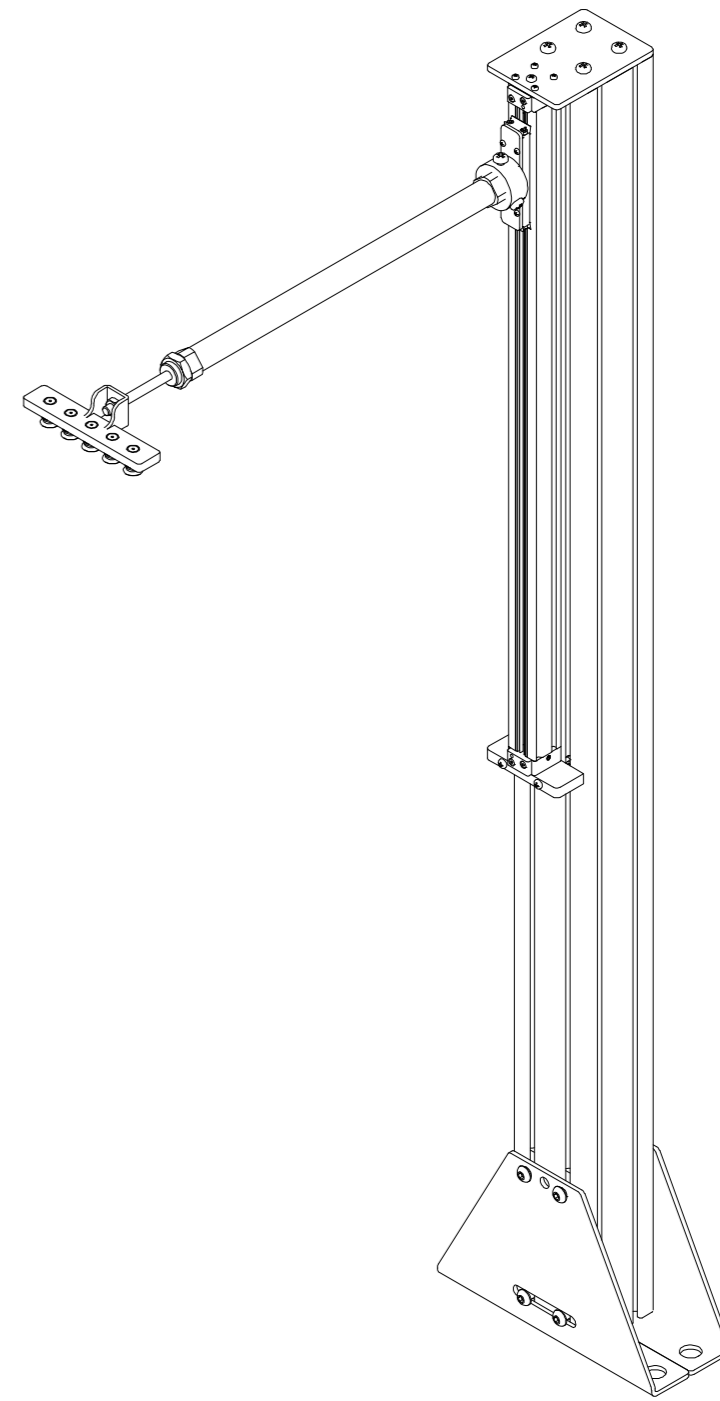
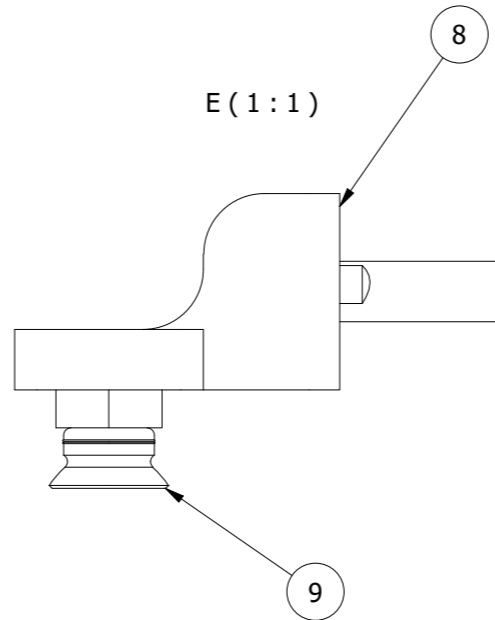


Scale (1:6)
A side view of the actuator assembly extended to press the batteries into the carriers. The vertical actuator moves downwards while the horizontal actuator extends outwards.

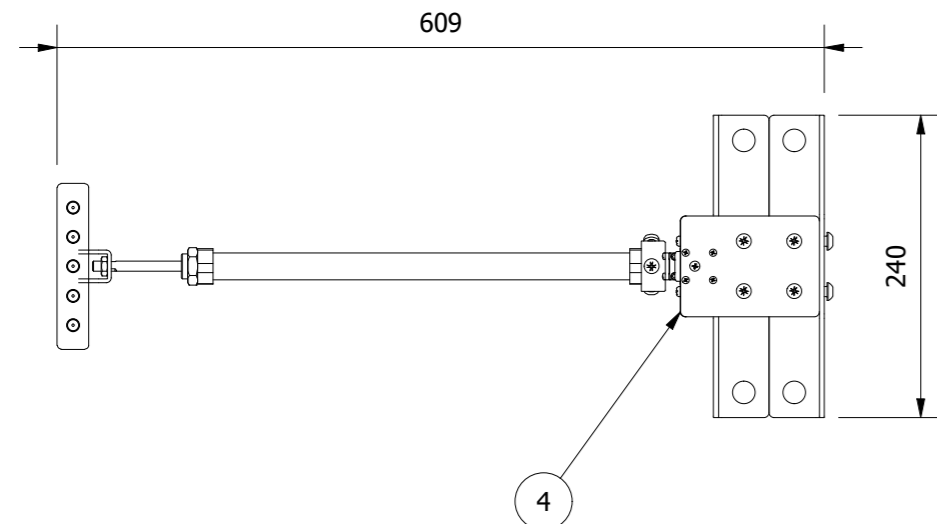
C (1:1)



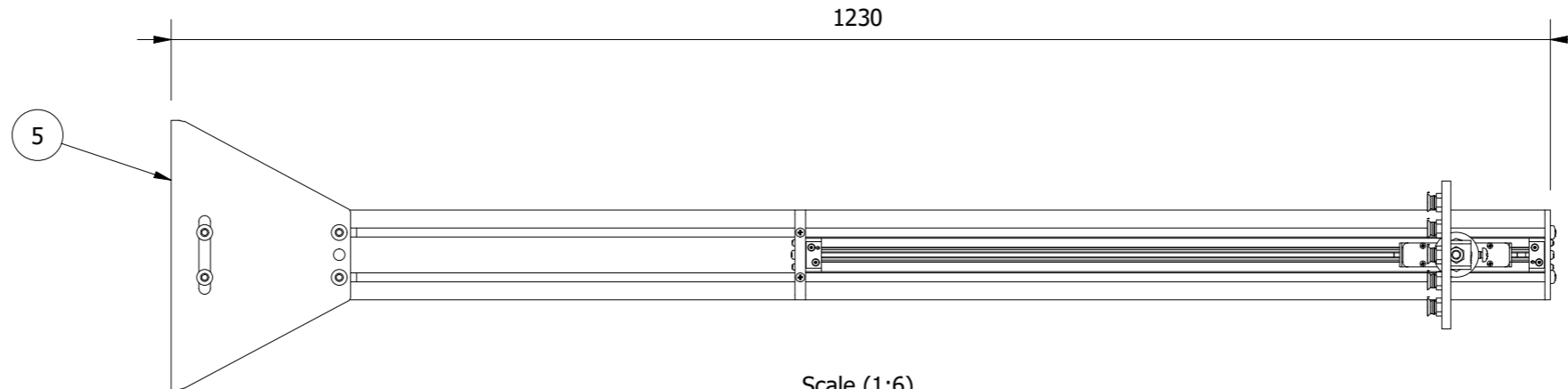
E (1:1)



Scale (1:6)
Isometric view of actuator press subassembly



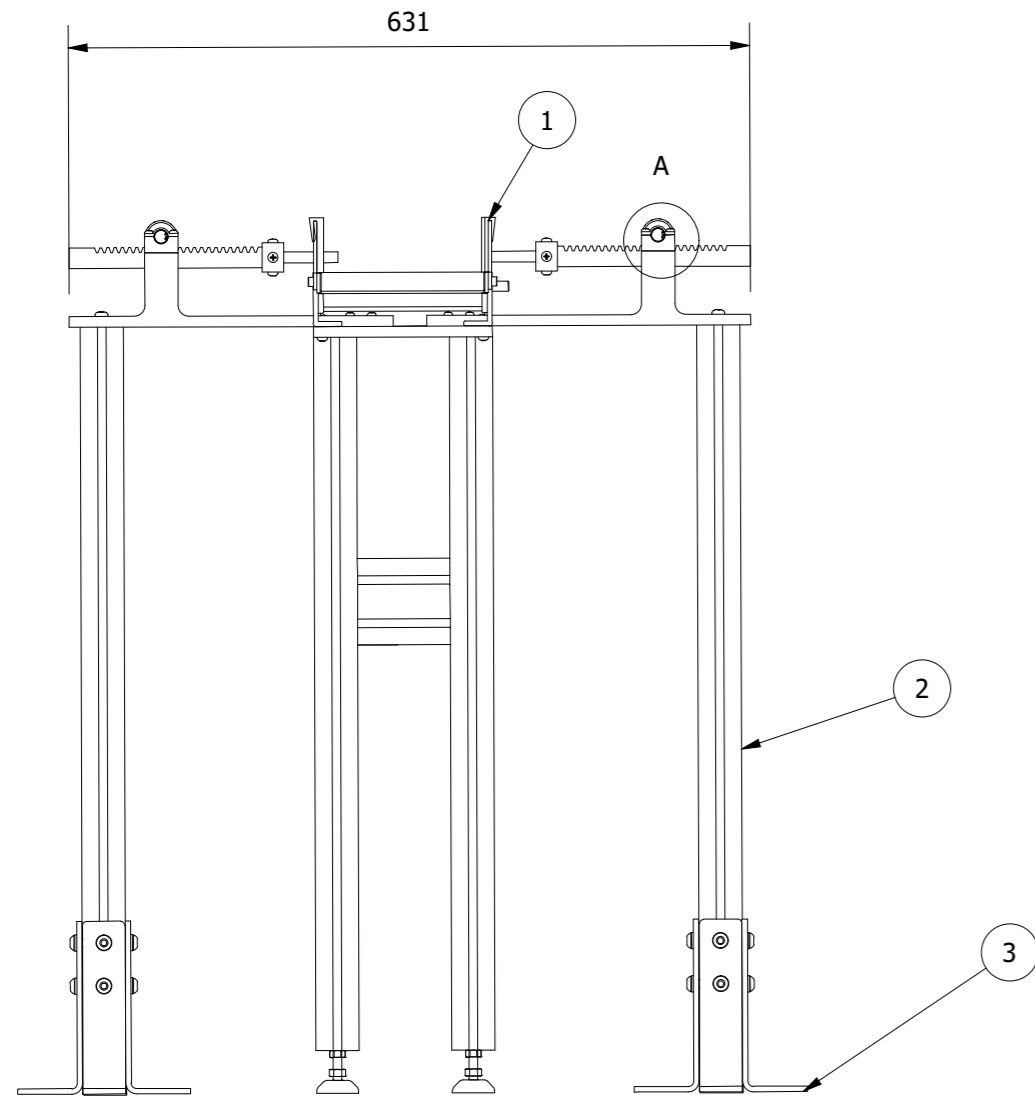
Scale (1:6)
Plan view of actuator press subassembly



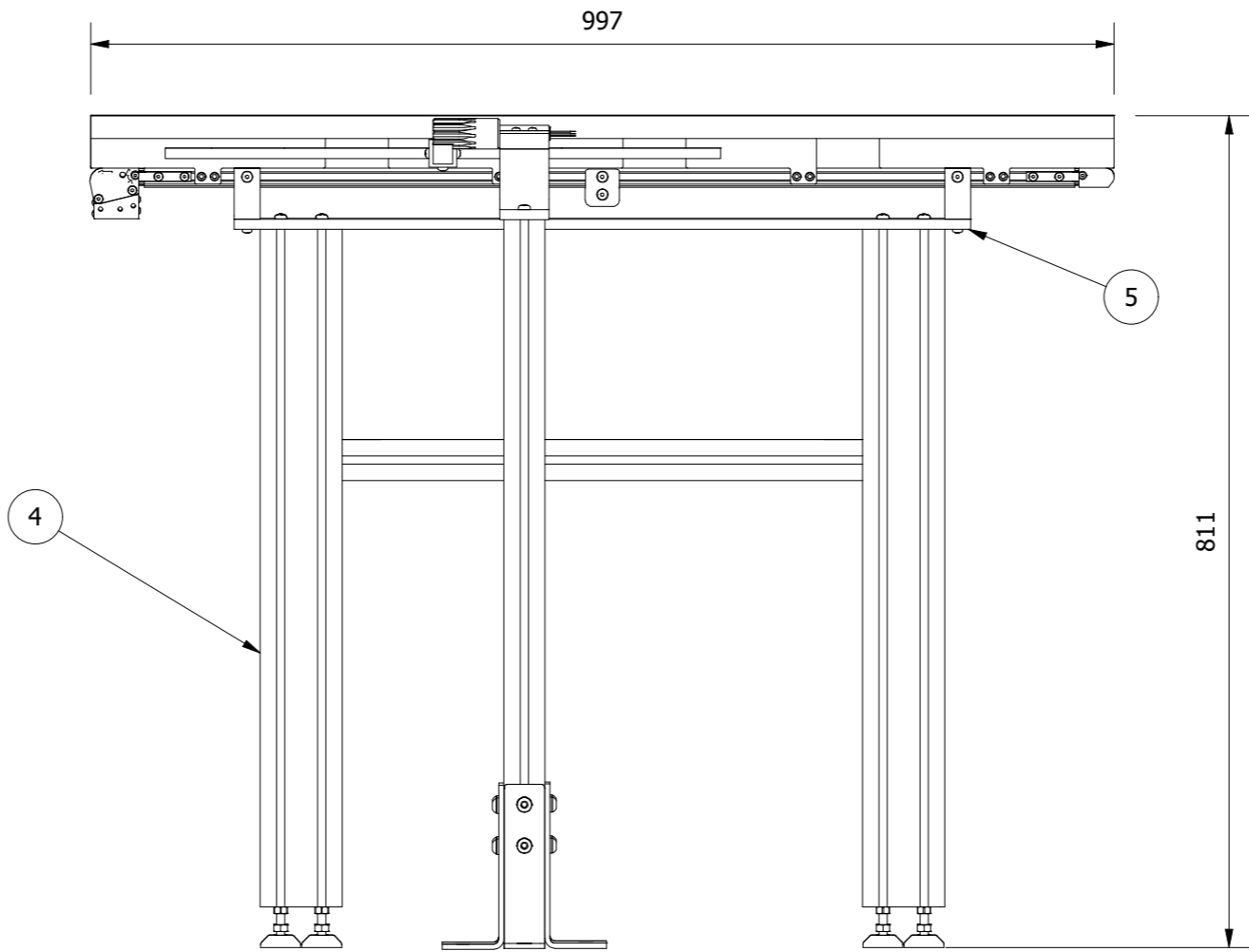
Scale (1:6)
Front view of actuator press subassembly

PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	2_12	SMCCM3B20-200 linear actuator
2	1	2_13	0.0.452.35 from item24 as a support frame
3	1	2_14	MotionControlProducts3600-4 222 tolomatic rodless linear actuator
4	1	2_15	Support for top of subassembly (custom)
5	1	2_16	0.0.492.47 from item24 to provide a connection to the floor
6	1	2_17	Support for extending actuator (custom)
7	1	2_18	Lower support for actuator (custom)
8	1	2_19	Housing for suction cups (custom)
9	1	2_20	PFYN 15 NBR-ESD-55 G1/8-AG Schmalz suction cup to lift/place batteries

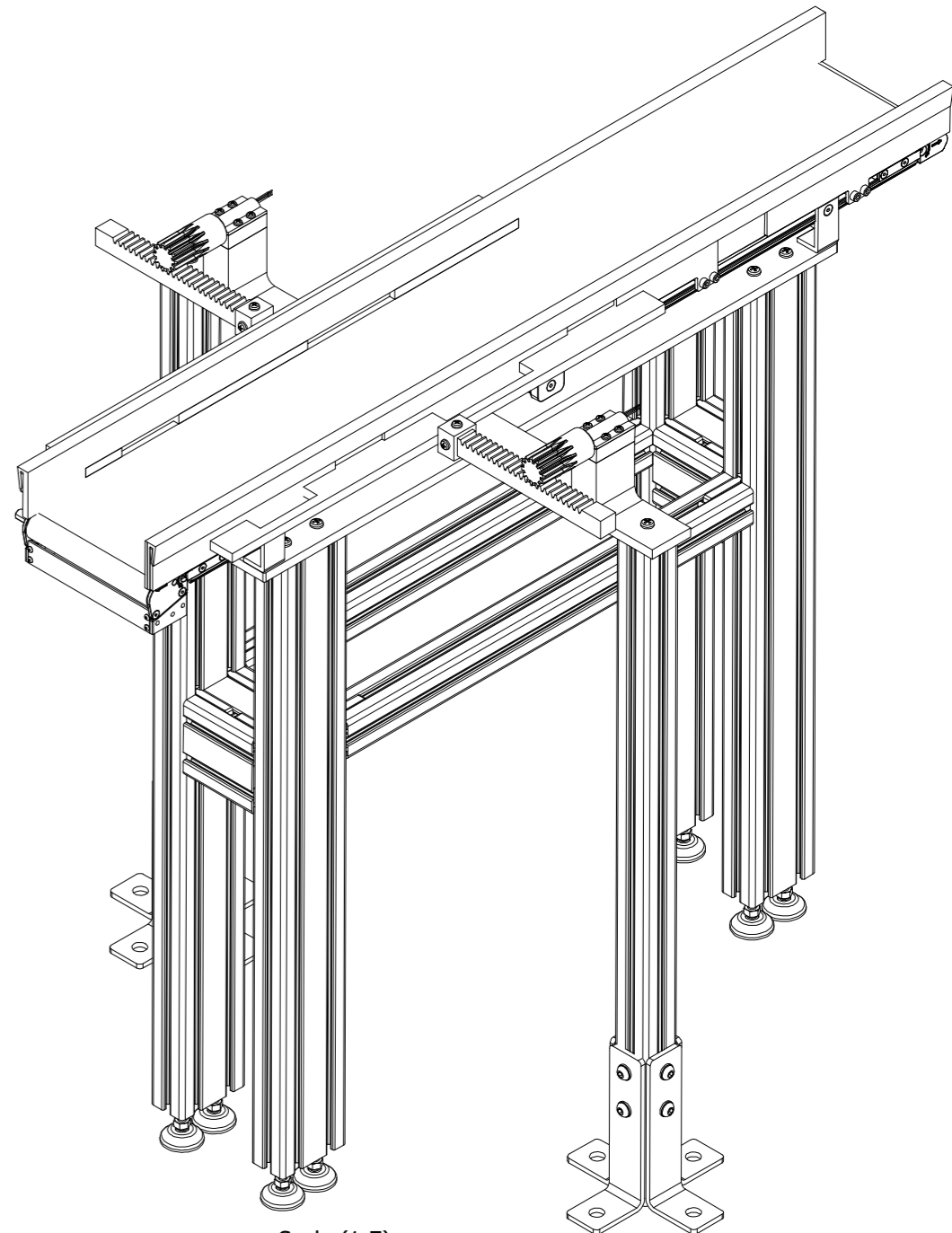
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THIRD ANGLE PROJECTION				PART No. 61_2		Edition		Sheet 1 / 1	



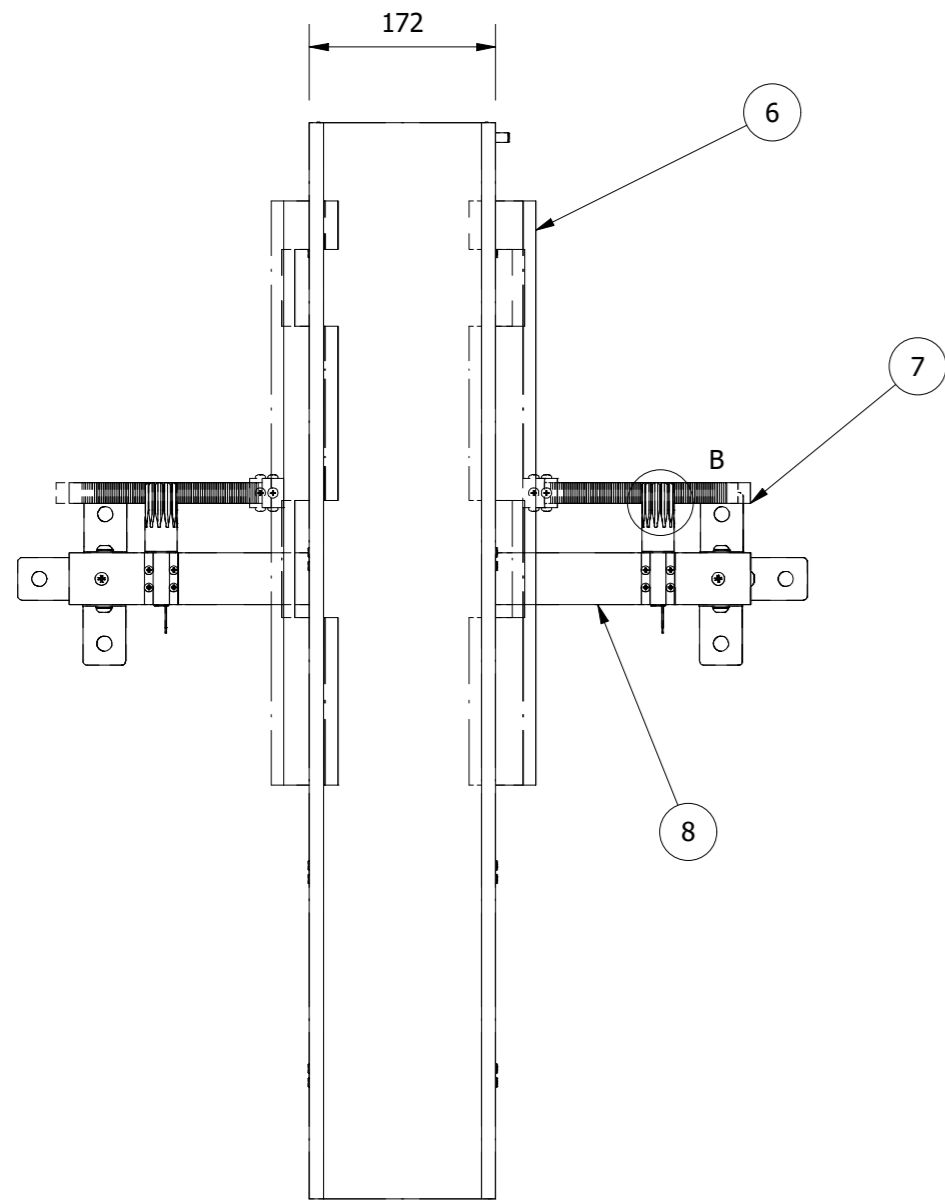
Scale (1:7)
Front view of subassembly



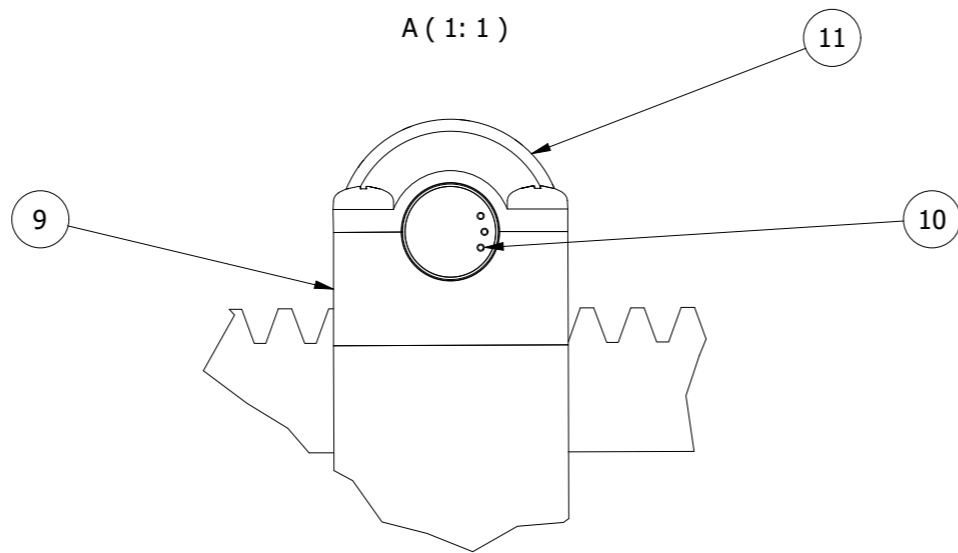
Scale (1:7)
Side view of subassembly



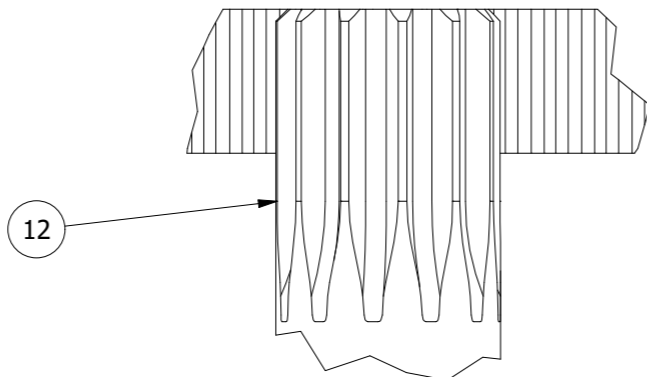
Scale (1:7)
Isometric view of subassembly



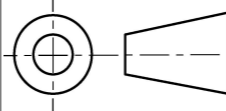

Scale (1:7)
Plane view of subassembly showing how the carrier is pushed to align the holes with the press

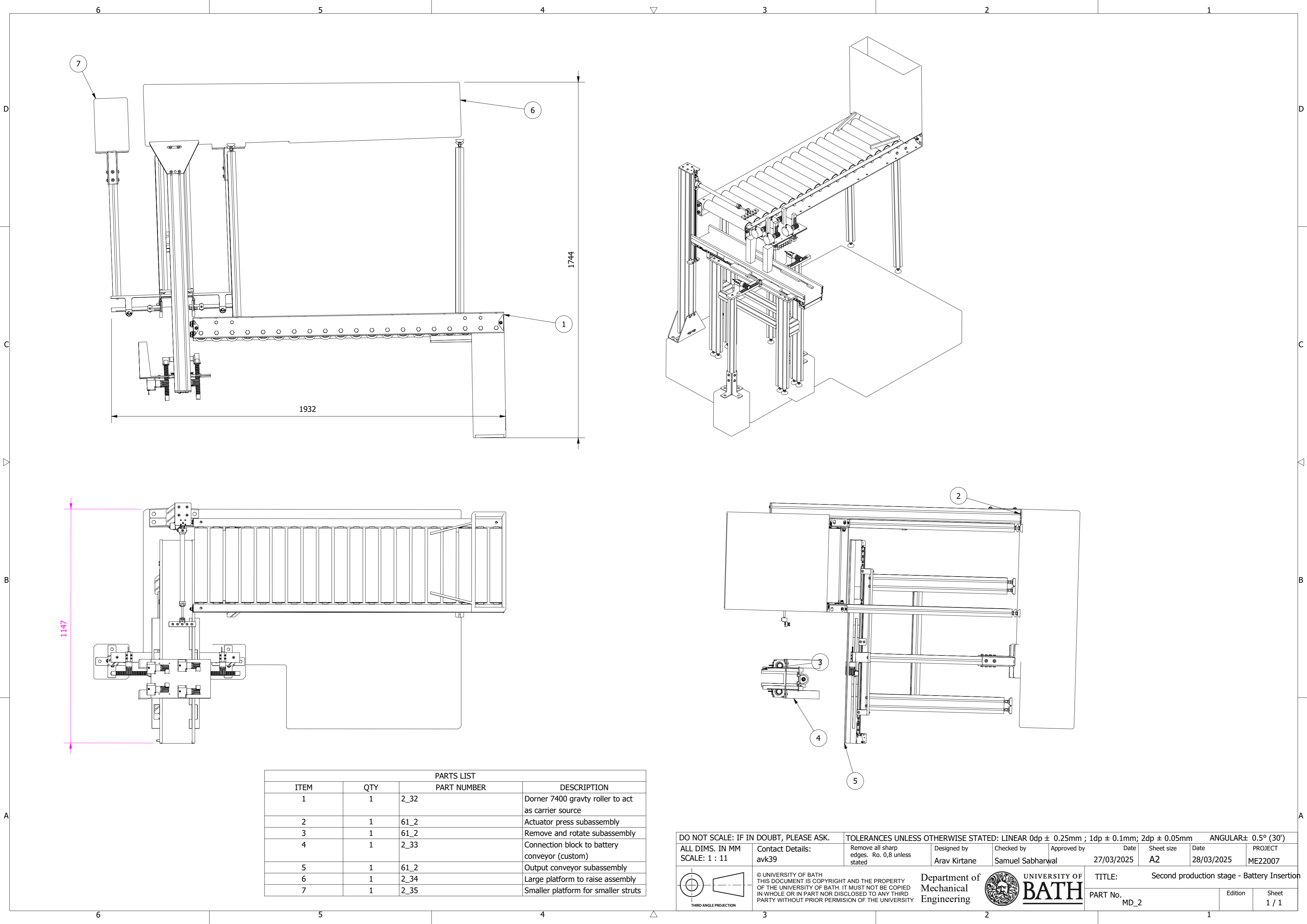


B (1 : 1)



PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	2_21	0.0.706.16 from item24 as the main conveyor
2	2	2_22	0.0.452.65 from item24 as the supports for the motor extrusion
3	8	2_23	0.0.666.50 from item24 to add some support from the floor
4	1	2_24	0.0.452.35 from item24 to act as the main frame
5	1	2_25	Base of the conveyor to connect the frame to (custom)
6	2	2_26	Push surfaces to move the carrier so that the battery holes align with the press
7	2	2_27	RS182-7860 rack to move assembly vertically
8	2	2_28	Extrusions to support the motors (custom)
9	2	2_29	Lower housing for motor (custom)
10	2	2_30	ECXSP19L BL KL B STEC 36V motor to rotate pinion
11	2	2_31	Upper housing for motor (custom)
12	1	2_32	RS182-7801 pinion gear

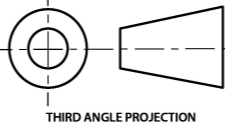
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ALL DIMS. IN MM SCALE: 1 : 6		Contact Details: avk39	Remove all sharp edges. Ro. 0,8 unless stated	Designed by Arav Kirtane	Checked by Samuel Sabharwal	Approved by Date 27/03/2025	Sheet size A2	Date 27/03/2025	PROJECT ME22007	
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									PART No. 61_2_3	Edition 1 / 1



PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	2_32	Dorner 7400 gravity roller to act as carrier source
2	1	61_2	Actuator press subassembly
3	1	61_2	Remove and rotate subassembly
4	1	2_33	Connection block to battery conveyor (custom)
5	1	61_2	Output conveyor subassembly
6	1	2_34	Large platform to raise assembly
7	1	2_35	Smaller platform for smaller struts

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ALL DIMS. IN MM
SCALE: 1 : 11


THIRD ANGLE PROJECTION

Contact Details:
avk39

Remove all sharp edges. Ro. 0,8 unless stated

Designed by
Arav Kirtane

Checked by
Samuel Sabharwal

Approved by

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27/03/2025

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Date
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ME22007

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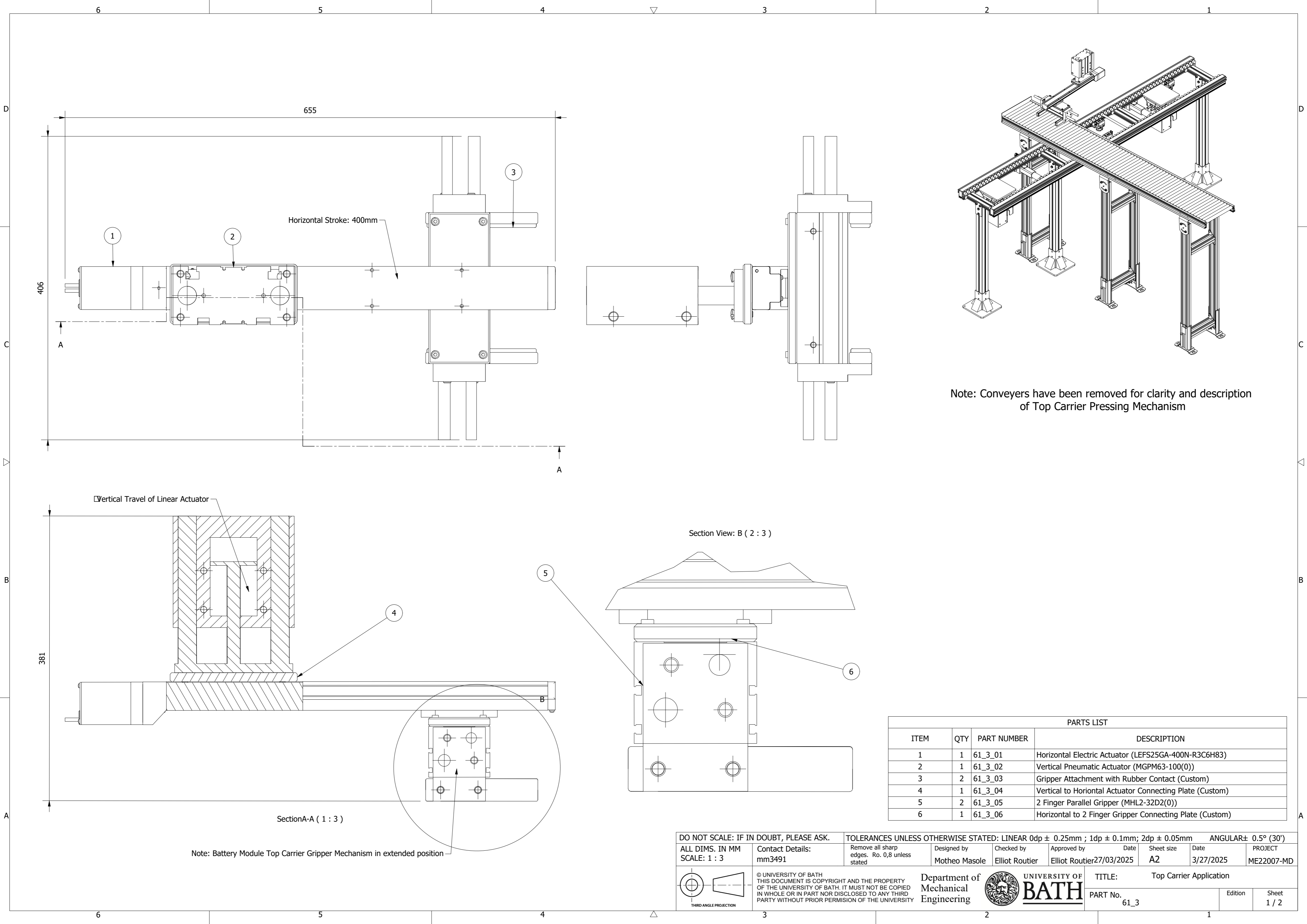
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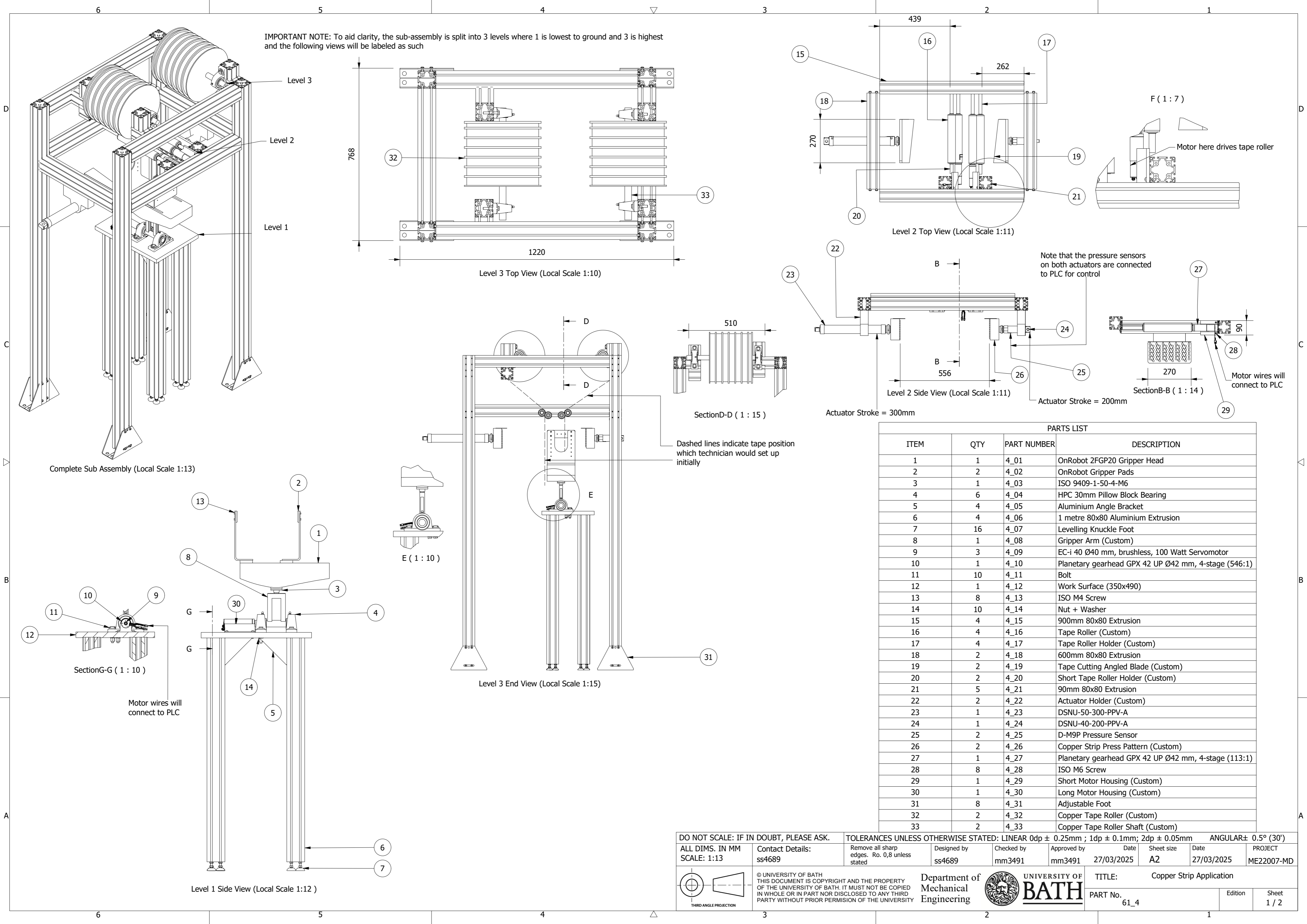
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Second production stage - Battery Insertion

PART No.
MD_2

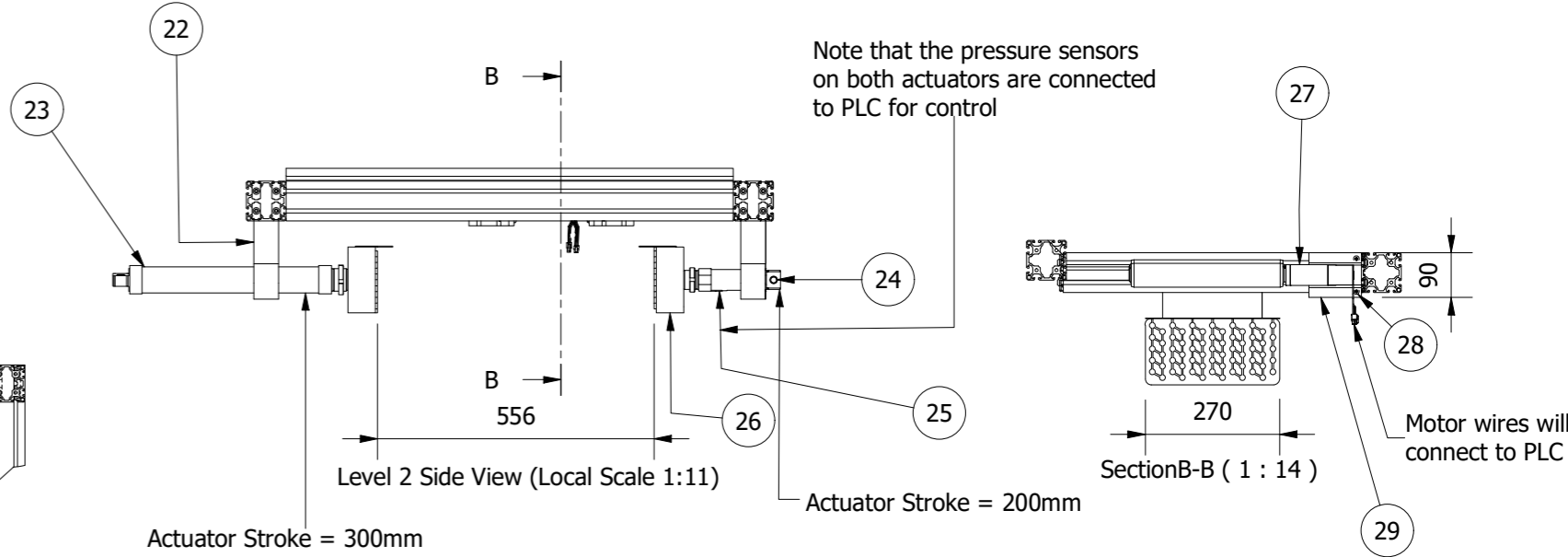
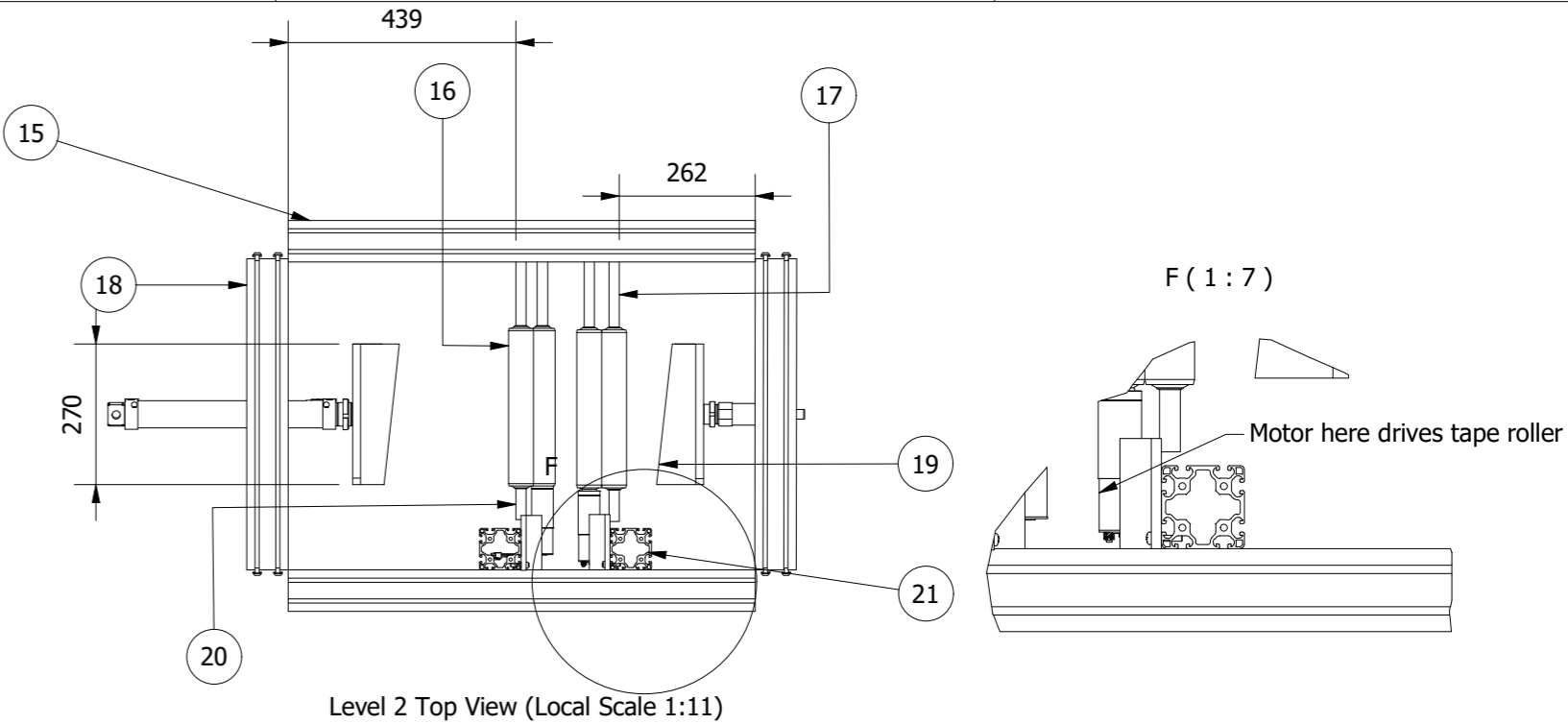
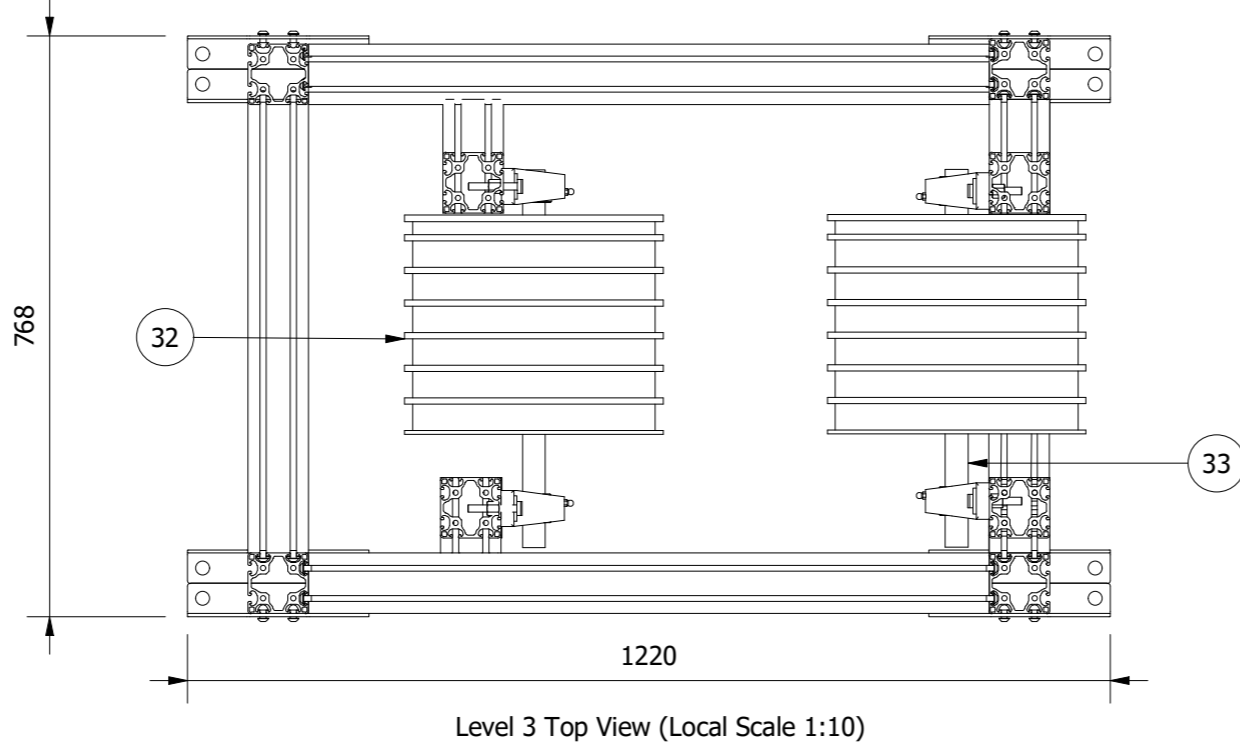
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Sheet
1 / 1

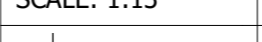
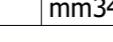





IMPORTANT NOTE: To aid clarity, the sub-assembly is split into 3 levels where 1 is lowest to ground and 3 is highest and the following views will be labeled as such



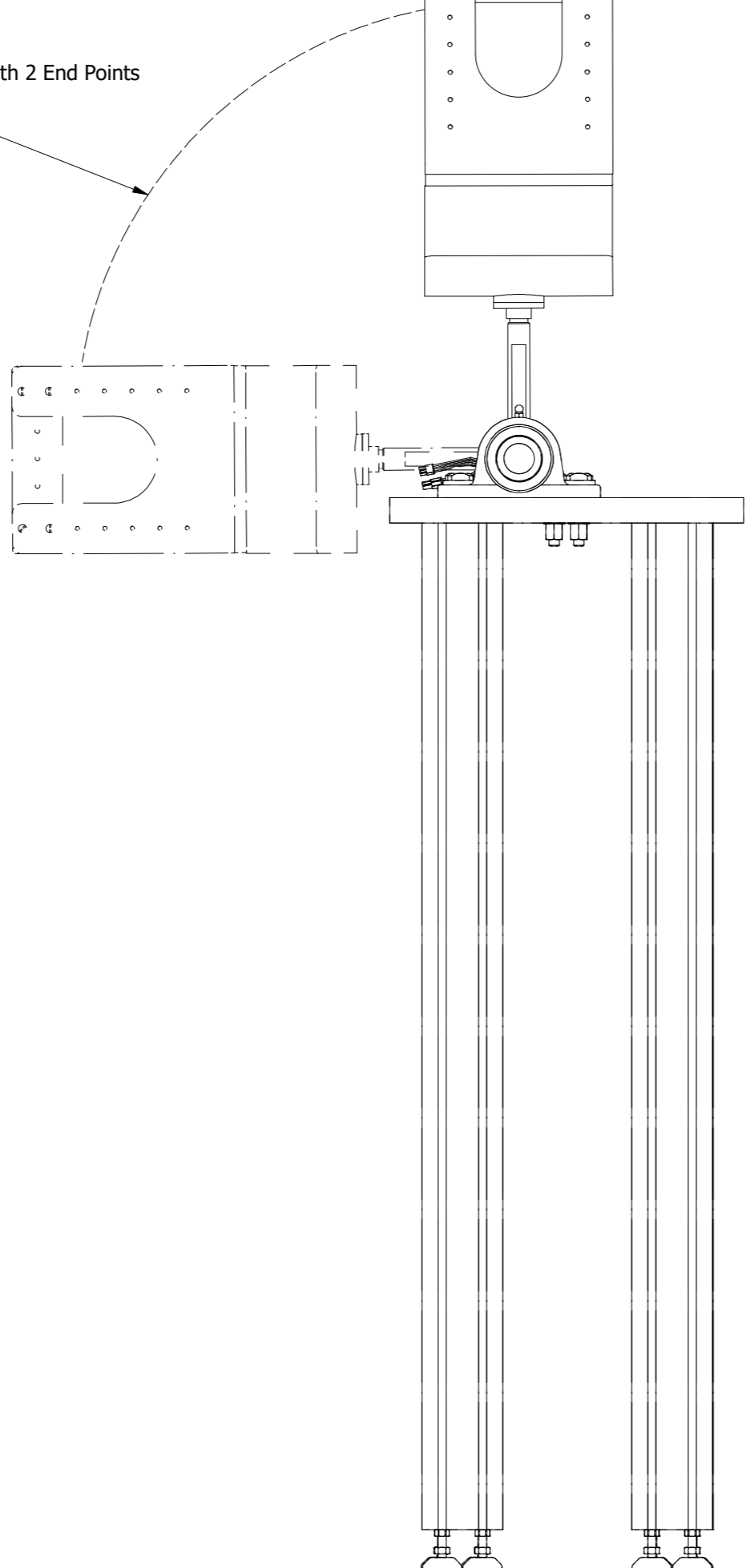
PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	4_01	OnRobot 2FGP20 Gripper Head
2	2	4_02	OnRobot Gripper Pads
3	1	4_03	ISO 9409-1-50-4-M6
4	6	4_04	HPC 30mm Pillow Block Bearing
5	4	4_05	Aluminium Angle Bracket
6	4	4_06	1 metre 80x80 Aluminium Extrusion
7	16	4_07	Levelling Knuckle Foot
8	1	4_08	Gripper Arm (Custom)
9	3	4_09	EC-i 40 Ø40 mm, brushless, 100 Watt Servomotor
10	1	4_10	Planetary gearhead GPX 42 UP Ø42 mm, 4-stage (546:1)
11	10	4_11	Bolt
12	1	4_12	Work Surface (350x490)
13	8	4_13	ISO M4 Screw
14	10	4_14	Nut + Washer
15	4	4_15	900mm 80x80 Extrusion
16	4	4_16	Tape Roller (Custom)
17	4	4_17	Tape Roller Holder (Custom)
18	2	4_18	600mm 80x80 Extrusion
19	2	4_19	Tape Cutting Angled Blade (Custom)
20	2	4_20	Short Tape Roller Holder (Custom)
21	5	4_21	90mm 80x80 Extrusion
22	2	4_22	Actuator Holder (Custom)
23	1	4_23	DSNU-50-300-PPV-A
24	1	4_24	DSNU-40-200-PPV-A
25	2	4_25	D-M9P Pressure Sensor
26	2	4_26	Copper Strip Press Pattern (Custom)
27	1	4_27	Planetary gearhead GPX 42 UP Ø42 mm, 4-stage (113:1)
28	8	4_28	ISO M6 Screw
29	1	4_29	Short Motor Housing (Custom)
30	1	4_30	Long Motor Housing (Custom)
31	8	4_31	Adjustable Foot
32	2	4_32	Copper Tape Roller (Custom)
33	2	4_33	Copper Tape Roller Shaft (Custom)

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THIRD ANGLE PROJECTION								PART No. 61_4	

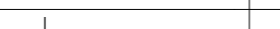
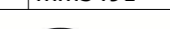
er Arm with 2 End Points

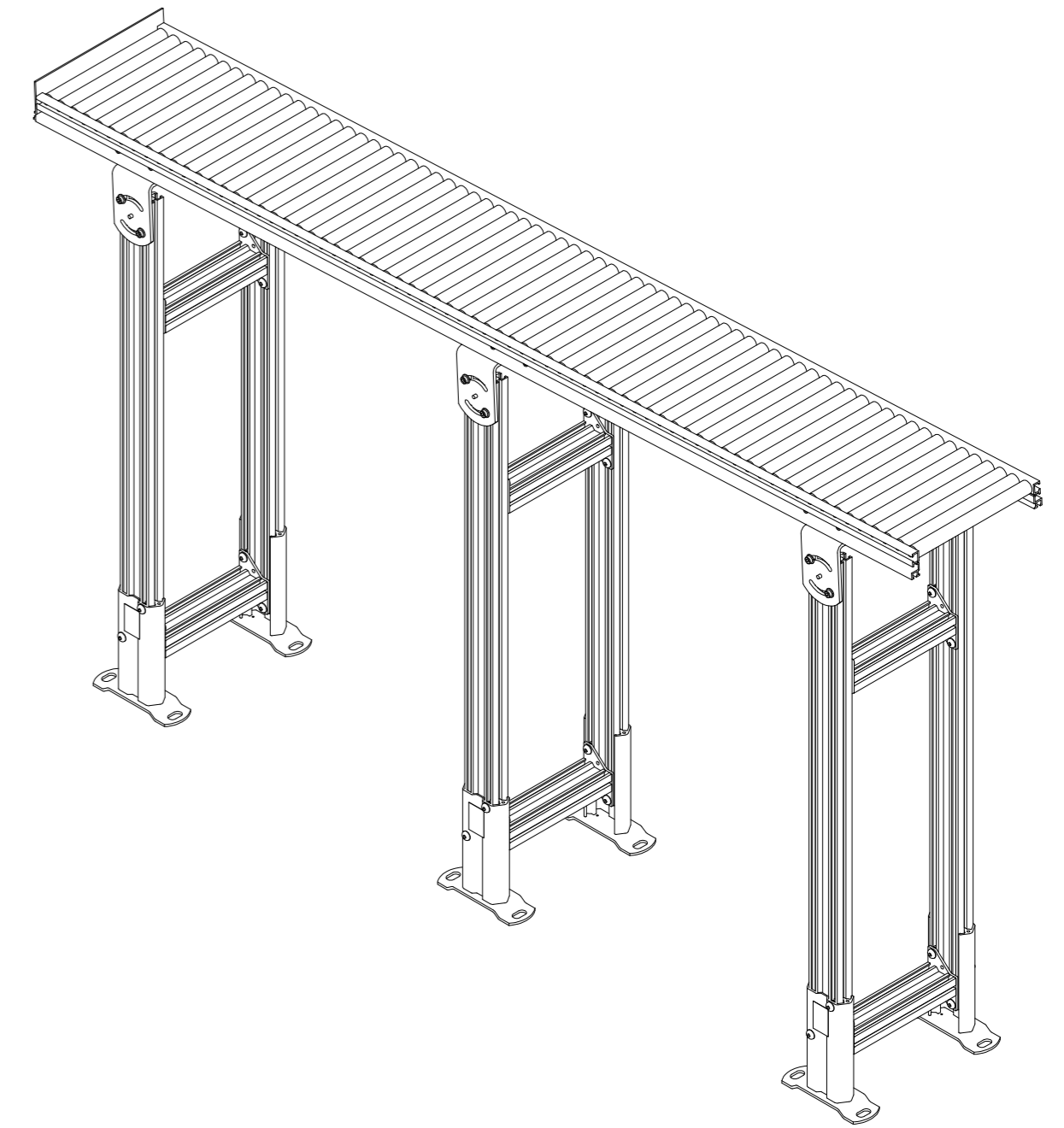



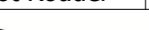
A diagram showing a single line segment with arrows at both ends, representing an arm with two endpoints.



Level 1 Positional End View (1:10)

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ALL DIMS. IN MM SCALE: 1 : 6	Contact Details: ss4689	Remove all sharp edges. Ro. 0,8 unless stated	Designed by ss4689	Checked by mm3491	Approved by mm3491	Date 27/03/2025	Sheet size A2	Date 27/03/2025	PROJECT ME22007-MD
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PART No. 61_4						Edition		Sheet 2 / 2	



DO NOT SCALE: IF IN DOUBT, PLEASE ASK.		TOLERANCES UNLESS OTHERWISE STATED: LINEAR $0dp \pm 0.25mm$; $1dp \pm 0.1mm$; $2dp \pm 0.05mm$					ANGULAR $\pm 0.5^\circ (30')$		
ALL DIMS. IN MM SCALE: 0.09	Contact Details: MM3491	Remove all sharp edges. Ro. 0,8 unless stated	Designed by Motheo Masole	Checked by Elliot Routier	Approved by Elliot Routier	Date	Sheet size A2	Date 3/27/2025	PROJECT ME22007-MD
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PART No. 61_5						Edition		Sheet 2 / 2	