

D

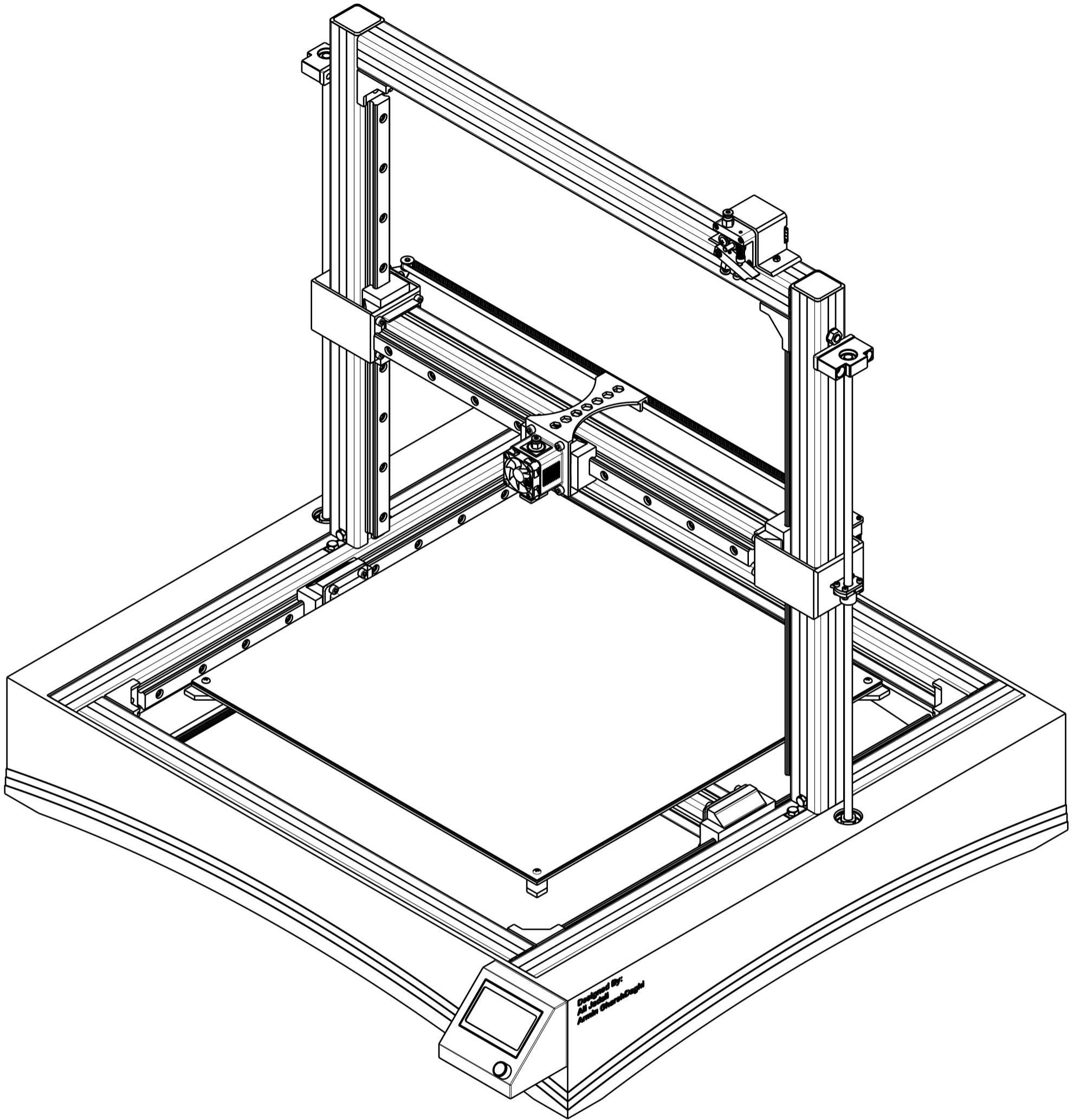
C

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Designed By:  
Ali Jadali  
Armin Gharehdaghi



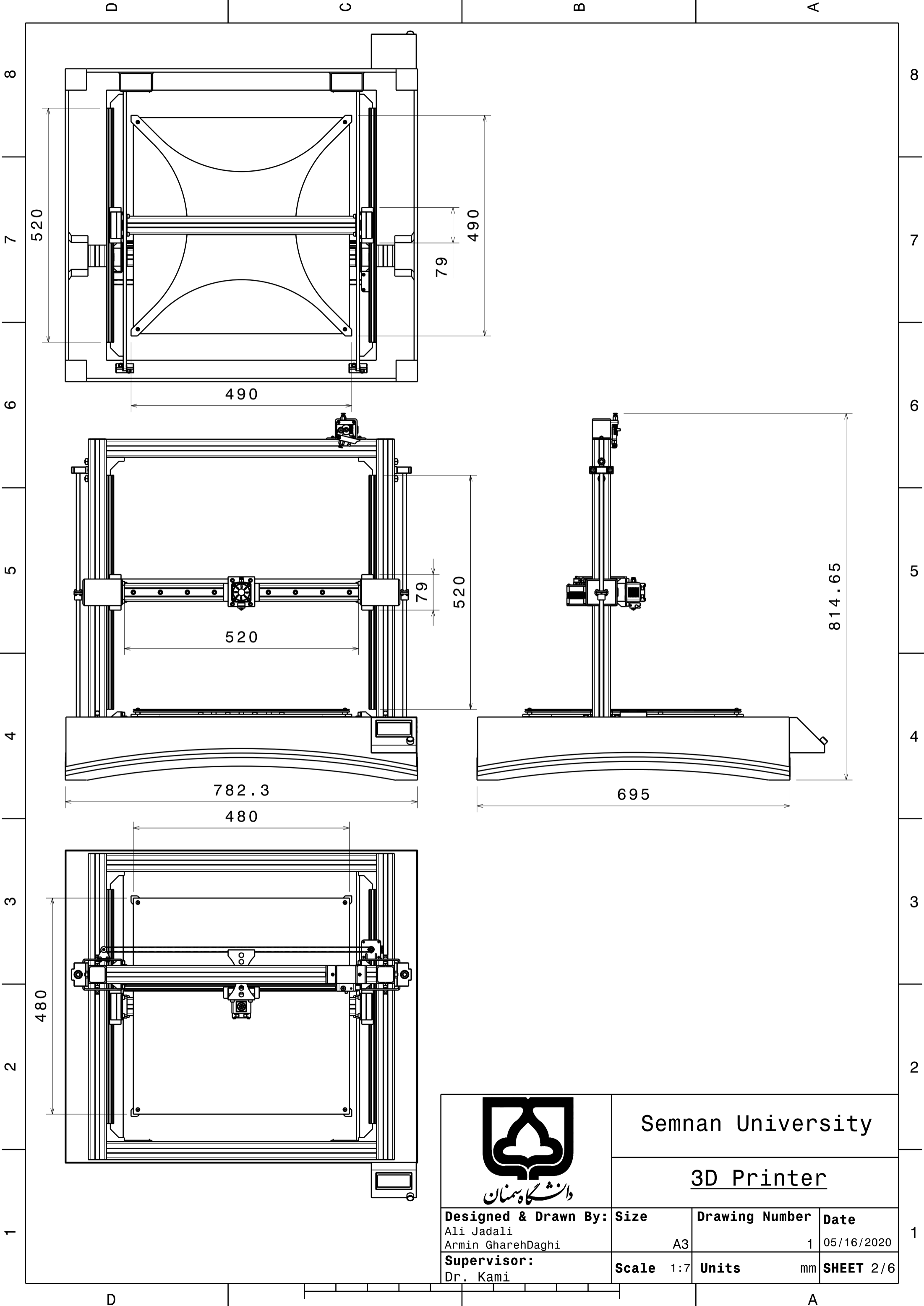
Semnan University

3D Printer

<b>Designed &amp; Drawn By:</b> Ali Jadali Armin Gharehdaghi	<b>Size</b>	<b>Drawing Number</b>	<b>Date</b>
	A3	1	05/16/2020
<b>Supervisor:</b> Dr. Kami	<b>Scale 1:4</b>	<b>Units</b>	<b>SHEET 1/6</b>
		mm	

D

A



دانشگاه سمنان

Semnan University

3D Printer

<b>Designed &amp; Drawn By:</b> Ali Jadali Armin GharehDaghi	<b>Size</b>	<b>Drawing Number</b>	<b>Date</b>
	A3	1	05/16/2020
<b>Supervisor:</b> Dr. Kami	<b>Scale</b> 1:7	<b>Units</b> mm	<b>SHEET</b> 2/6

D

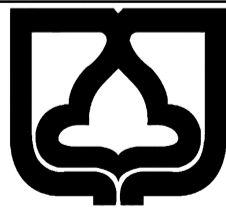
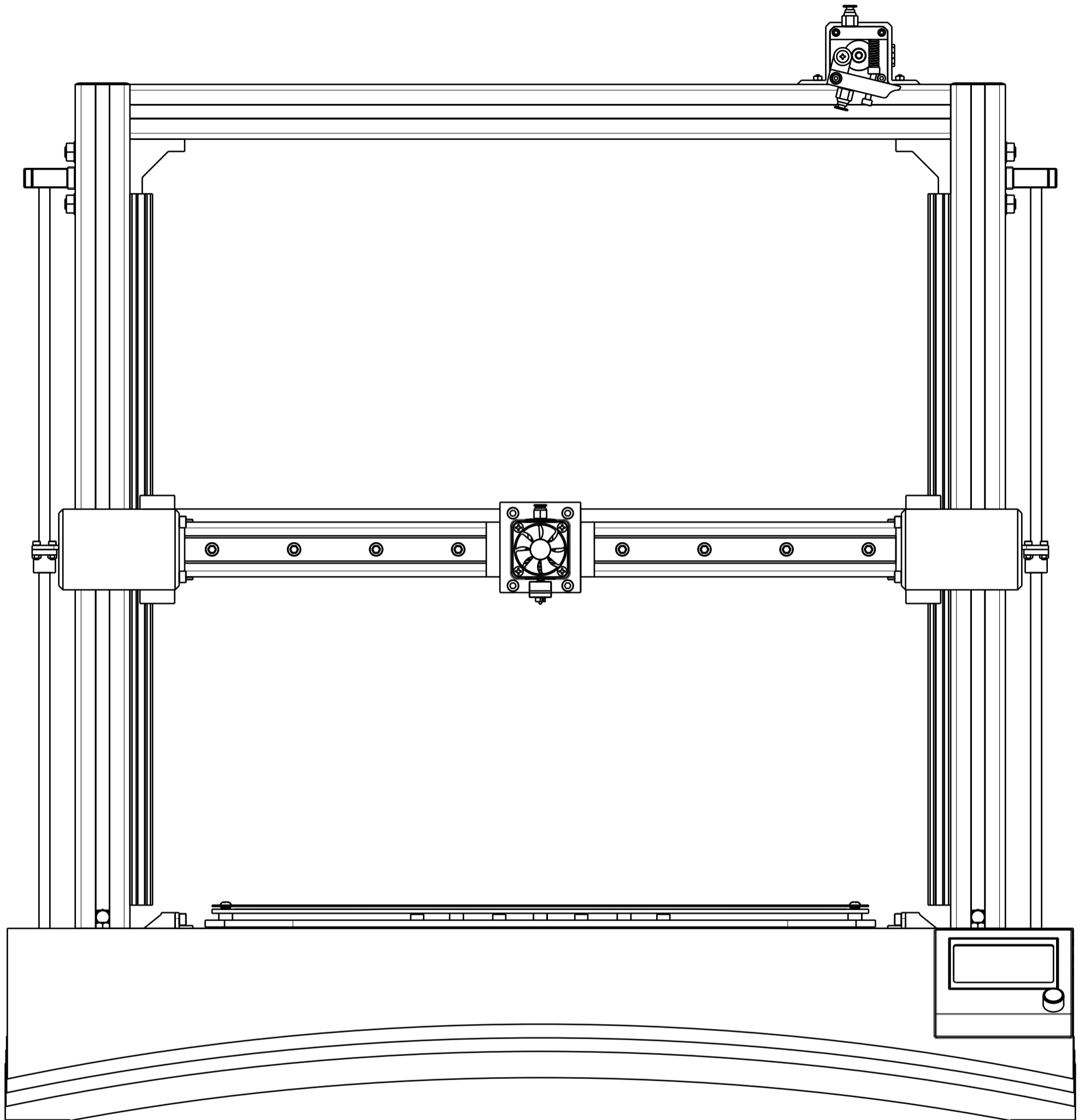
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دانشگاه سمنان

Semnan University

3D Printer

Front View

<b>Designed &amp; Drawn By:</b> Ali Jadali Armin GharehDaghi	<b>Size</b>	<b>Drawing Number</b>	<b>Date</b>
	A3	1	05/16/2020
<b>Supervisor:</b> Dr. Kami	<b>Scale 1:3</b>	<b>Units</b>	<b>SHEET 3/6</b>
		mm	

D

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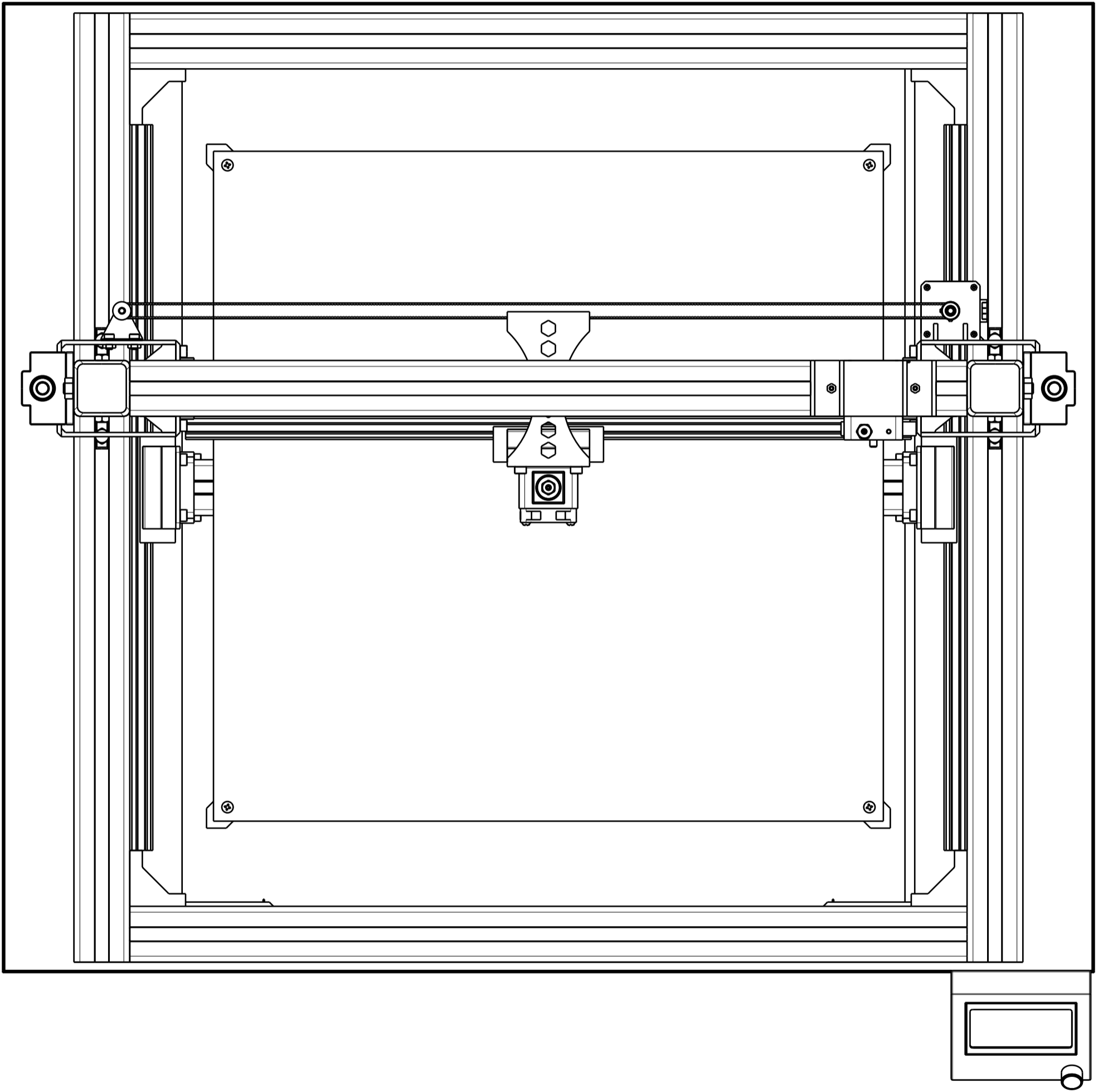
C

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دانشگاه سمنان

Semnan University

3D Printer

Top View

<b>Designed &amp; Drawn By:</b> Ali Jadali Armin GharehDaghi	<b>Size</b>	<b>Drawing Number</b>	<b>Date</b>
	A3	1	05/16/2020
<b>Supervisor:</b> Dr. Kami	<b>Scale 1:3</b>	<b>Units</b>	<b>SHEET 4/6</b>
		mm	

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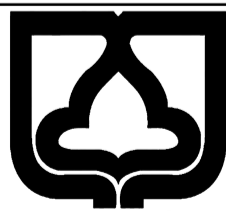
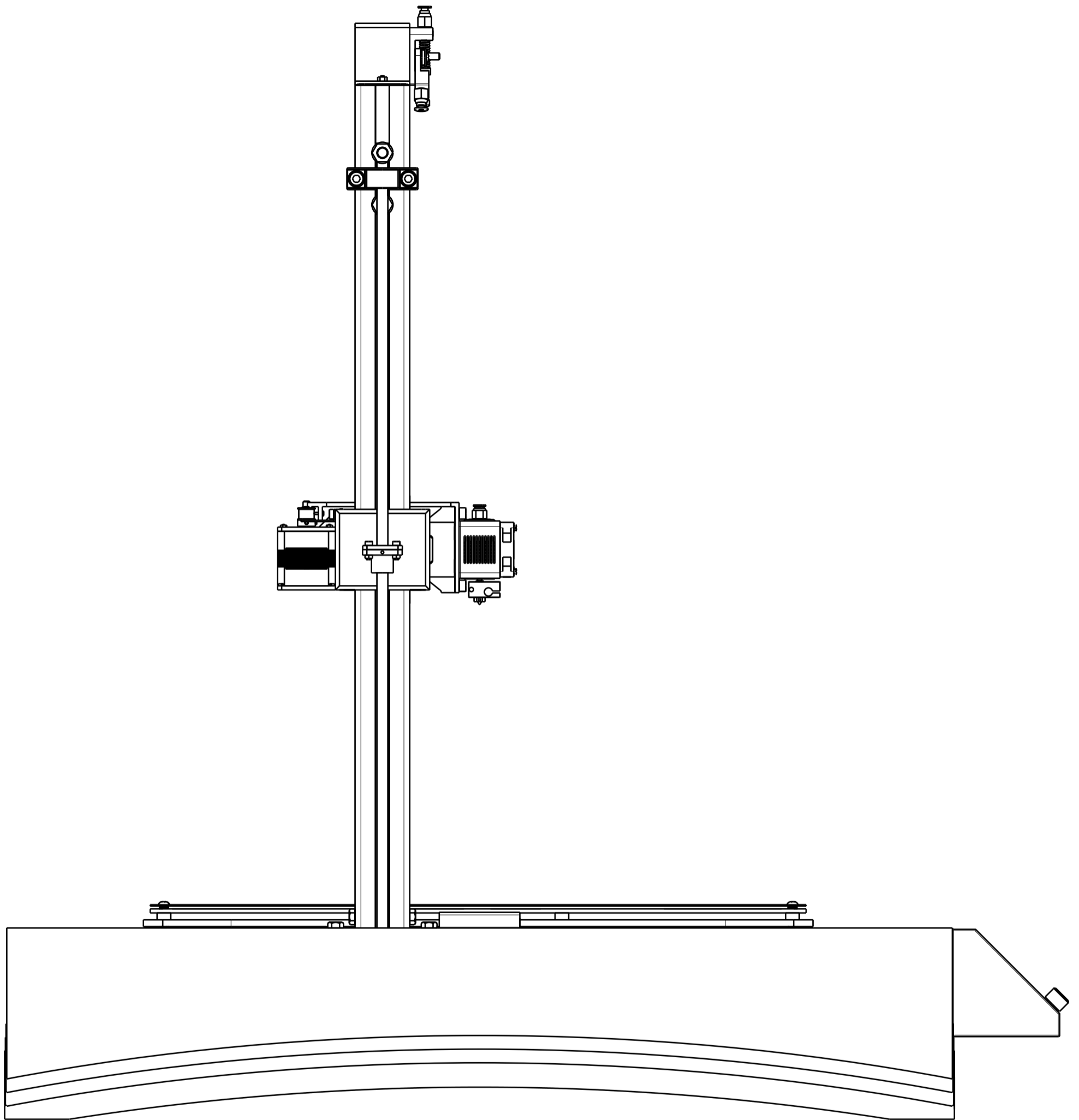
3

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دانشگاه سمنان

Semnan University

3D Printer

Left View

Designed & Drawn By: Ali Jadali Armin GharehDaghi	Size	Drawing Number	Date
	A3	1	05/16/2020
Supervisor: Dr. Kami	Scale 1:3	Units	SHEET 5/6
		mm	

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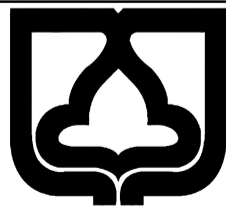
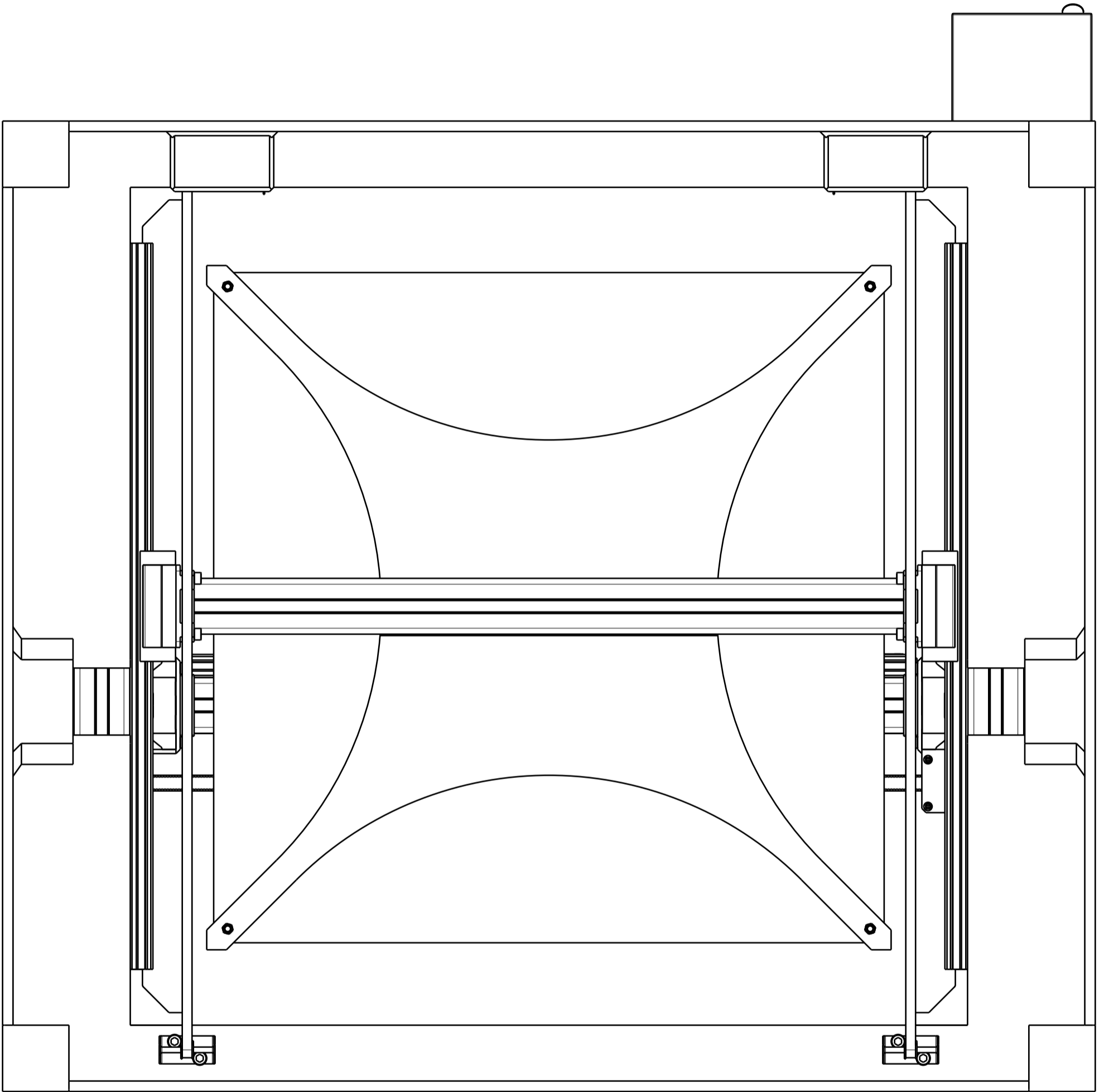
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دانشگاه سمنان

Semnan University

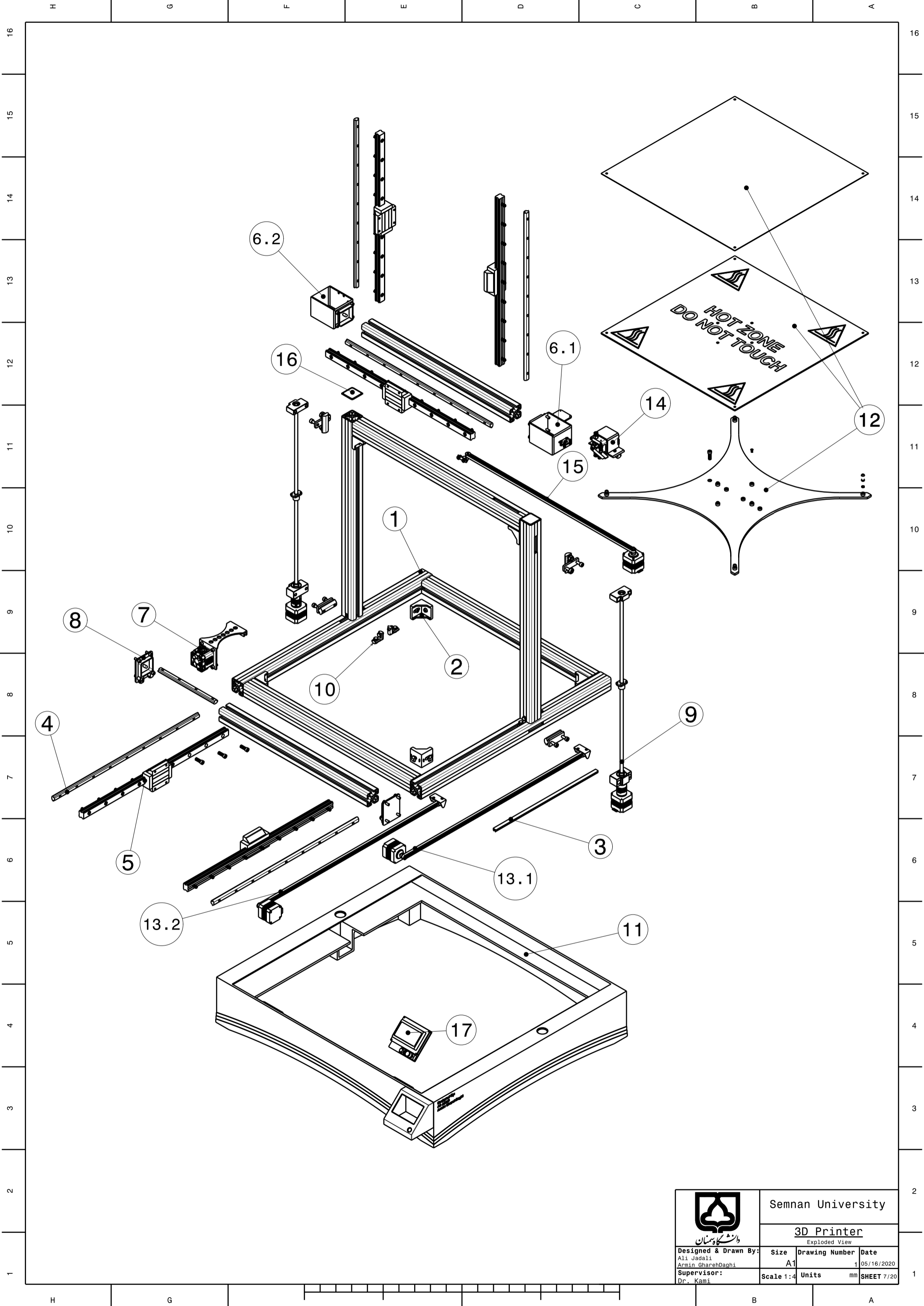
3D Printer


Bottom View

<b>Designed &amp; Drawn By:</b> Ali Jadali Armin GharehDaghi	<b>Size</b>	<b>Drawing Number</b>	<b>Date</b>
	A3	1	05/16/2020
<b>Supervisor:</b> Dr. Kami	<b>Scale 1:3</b>	<b>Units</b>	<b>SHEET 6/6</b>
		mm	

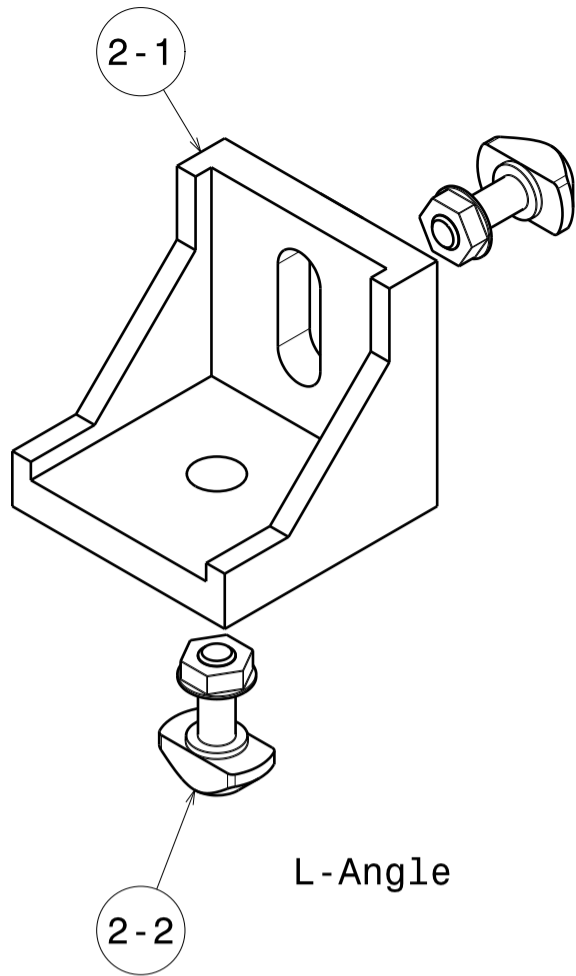
D

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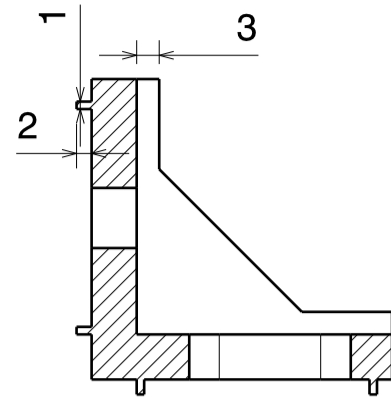
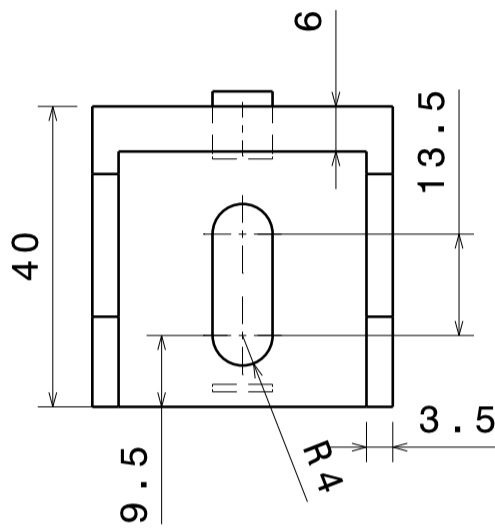
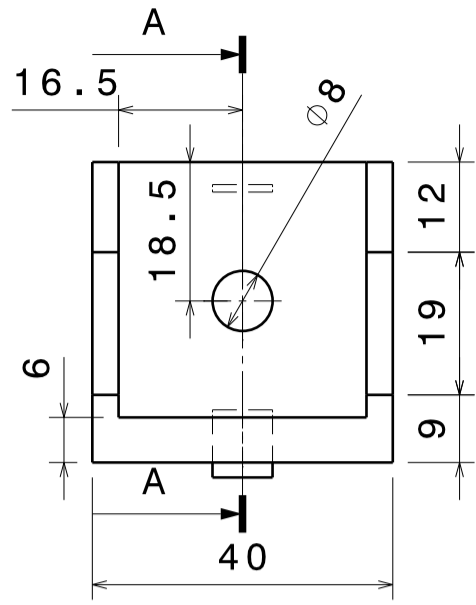


 دانشگاه سمنان	Semnan University		
	3D Printer		
Designed & Drawn By:	Size	Drawing Number	Date
Ali Jadali	A1	1	05/16/2020
Supervisor:	Scale 1:4	Units	mm
Dr. Kami			SHEET 7/20

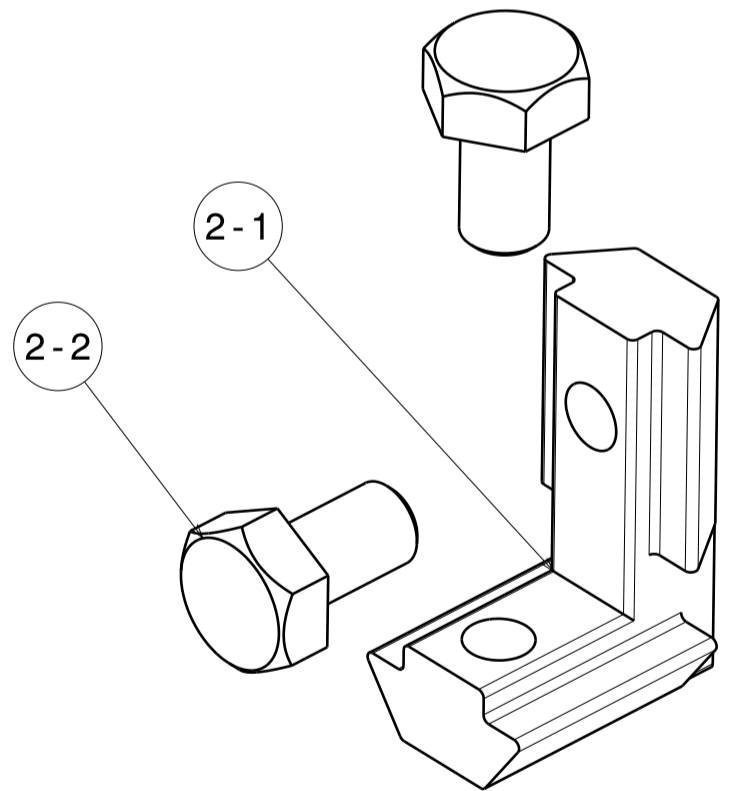
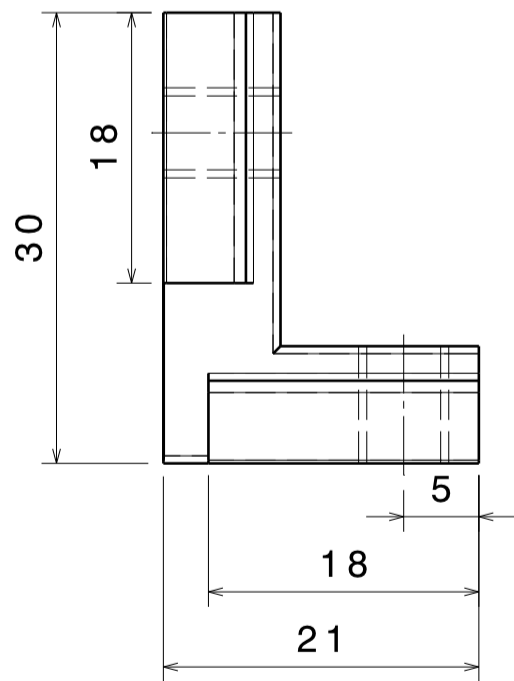
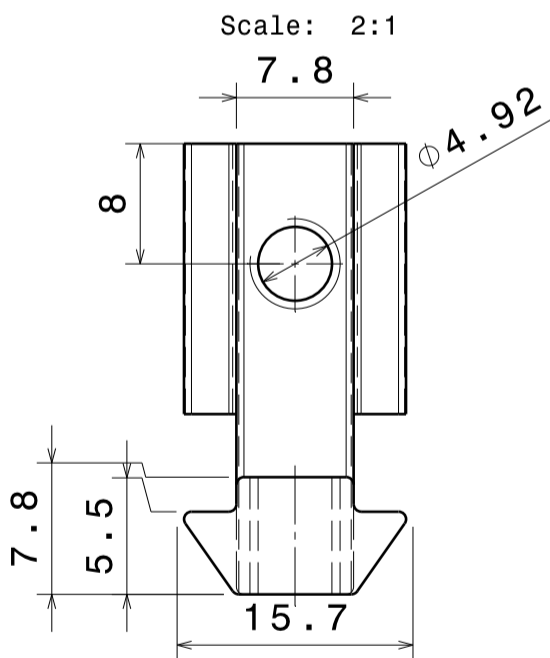
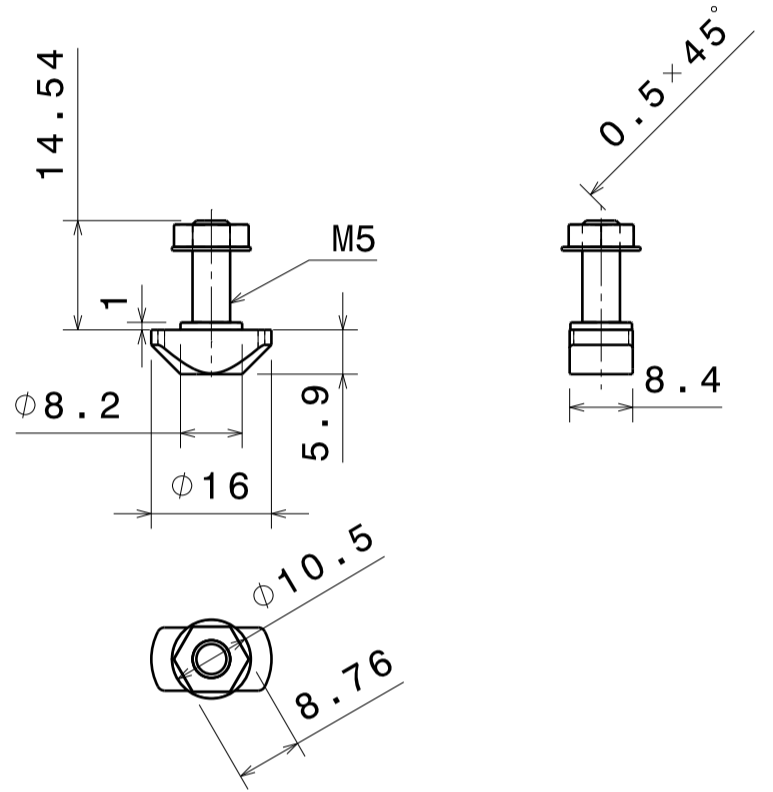




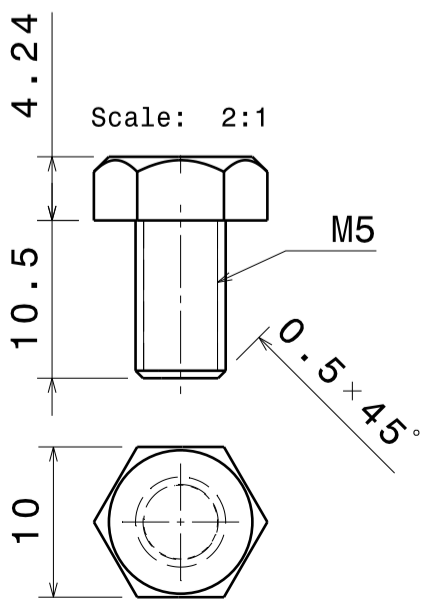
L-Angle




Section view A-A



Hidden L-Angle  
Scale: 2:1



 دانشگاه سمنان	Semnan University		
	L-Angle & Fan		
<b>Designed &amp; Drawn By:</b> Ali Jadali Armin GharehDaghi	<b>Size</b> A3	<b>Drawing Number</b> 1	<b>Date</b> 05/16/2020
<b>Supervisor:</b> Dr. Kami	<b>Scale</b> 1:1	<b>Units</b> mm	<b>SHEET</b> 8/20

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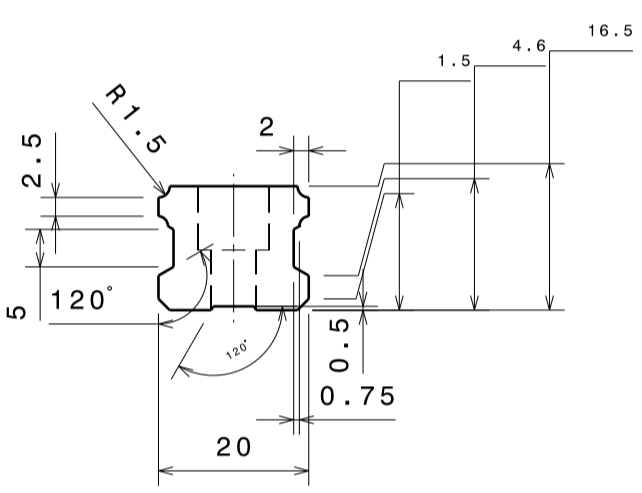
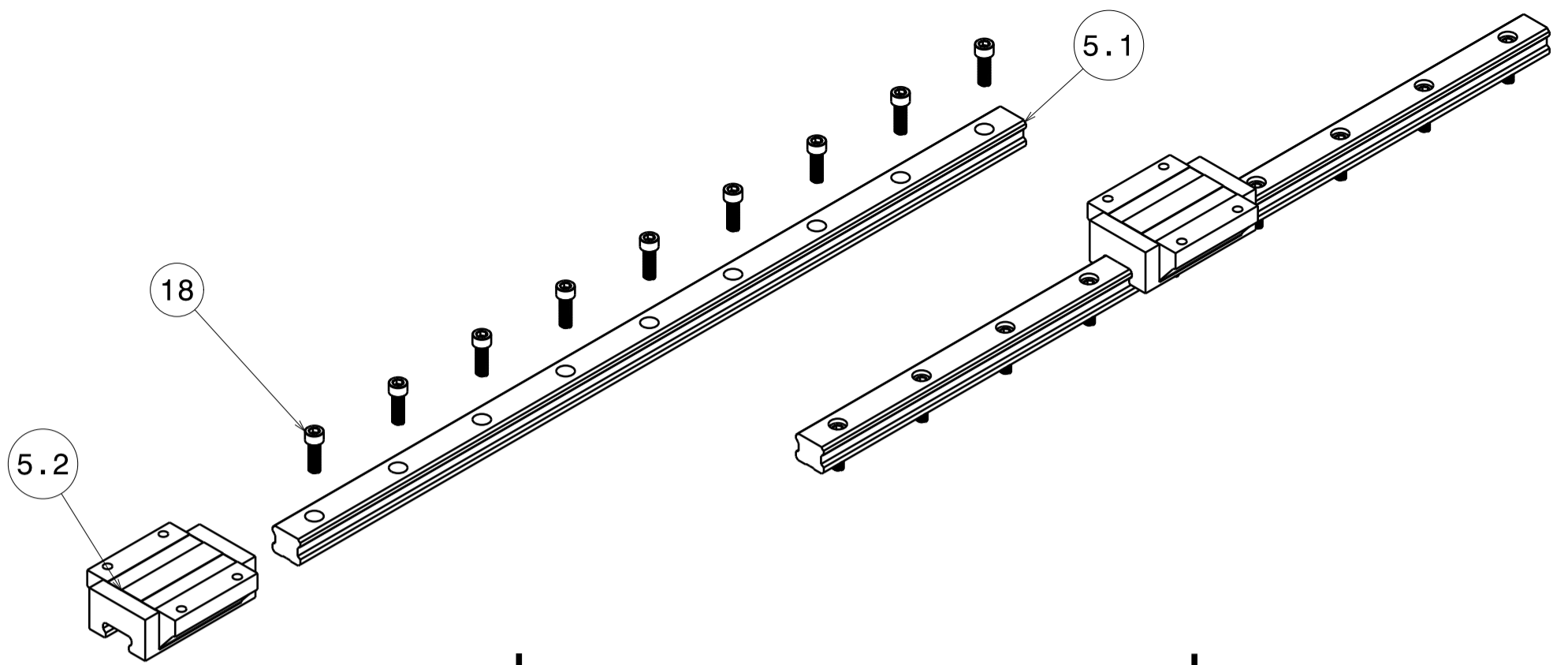
3

2

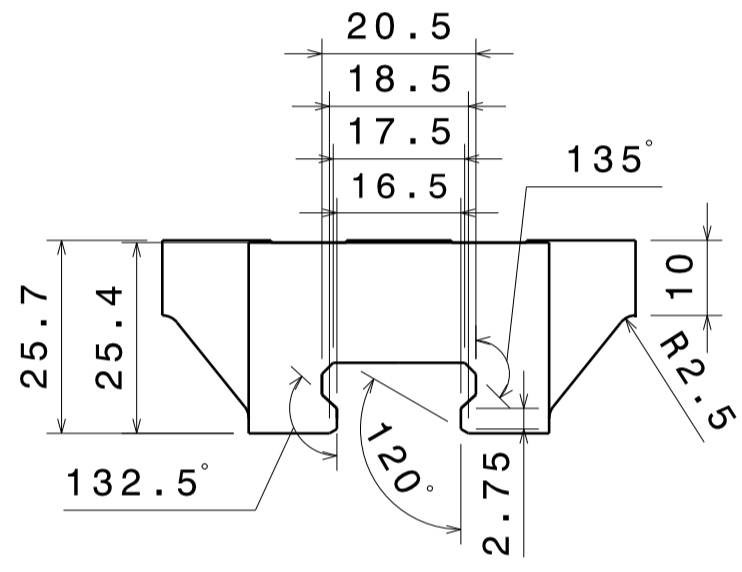
2

1

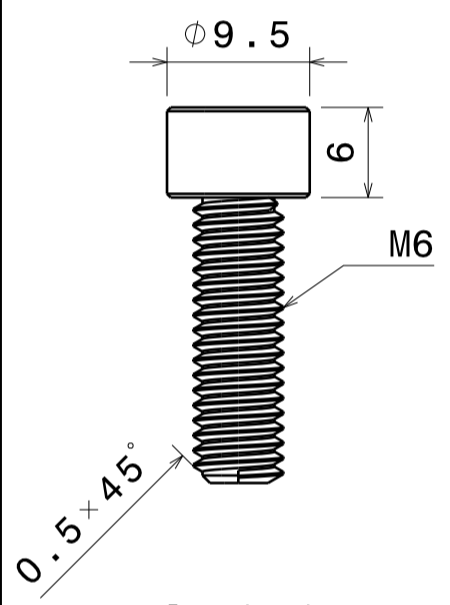
1



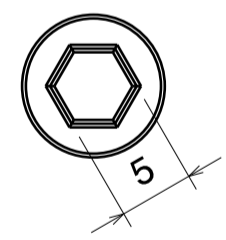
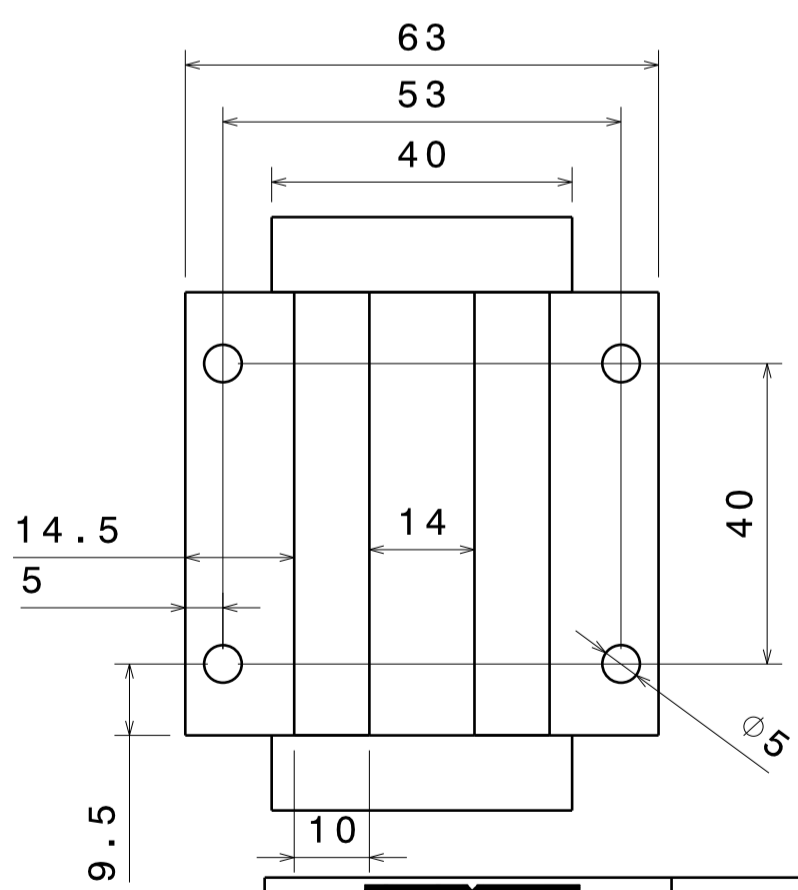
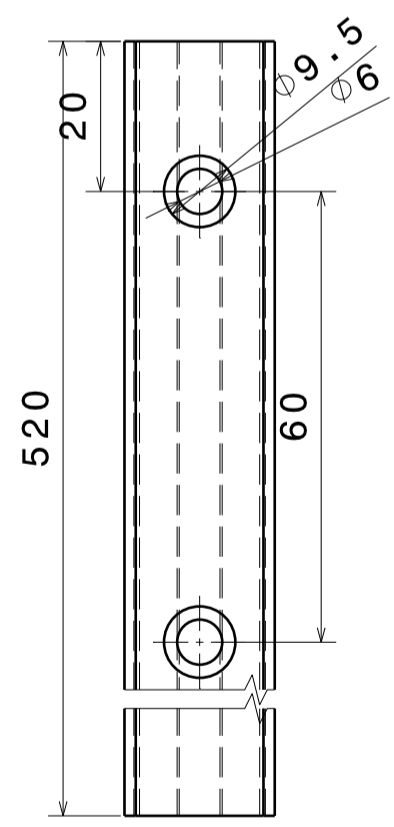

Rail  
Scale: 1:1



Wagon  
Scale: 1:1



Bolt (M6)  
Scale: 2:1

دانشگاه سمنان

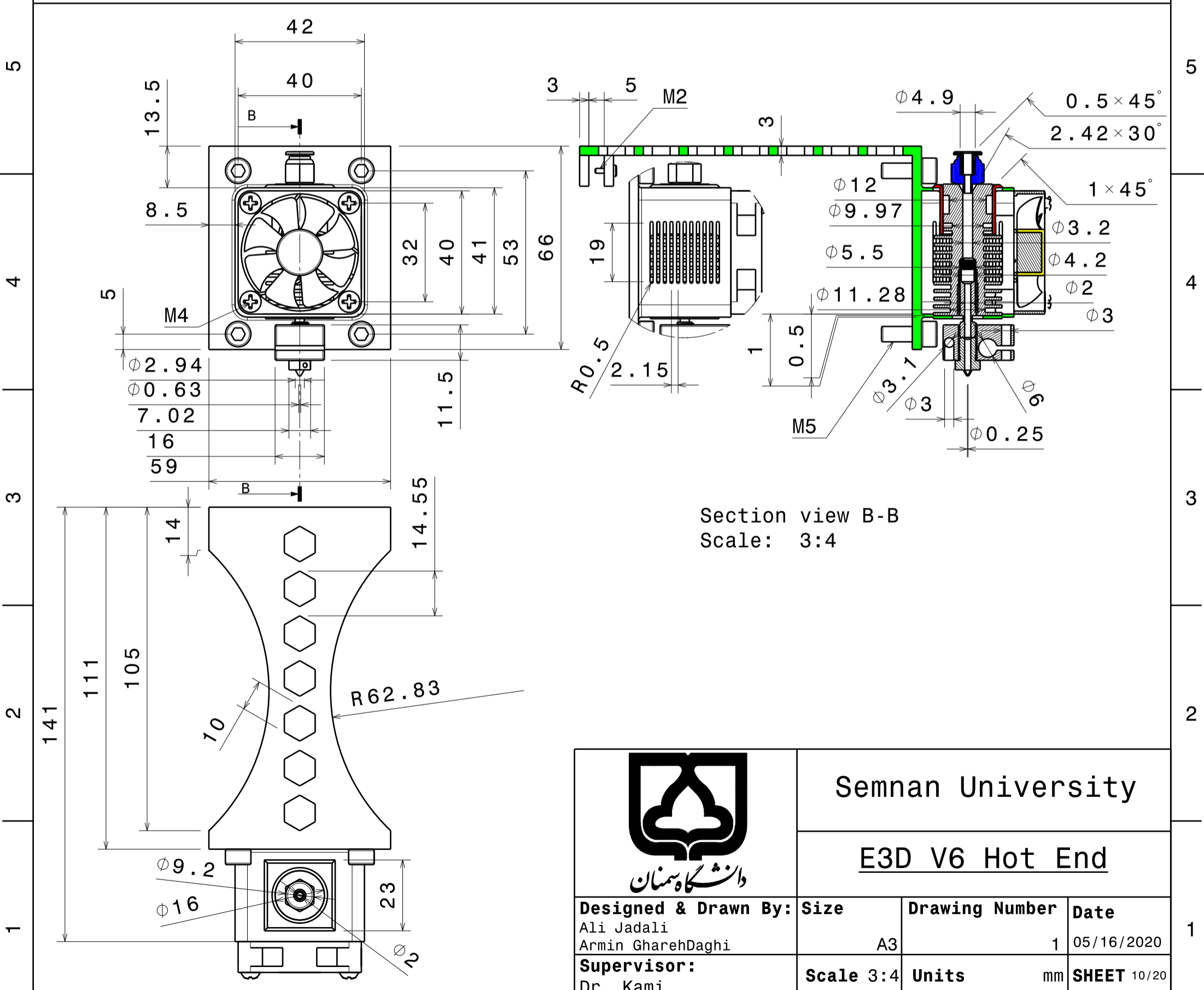
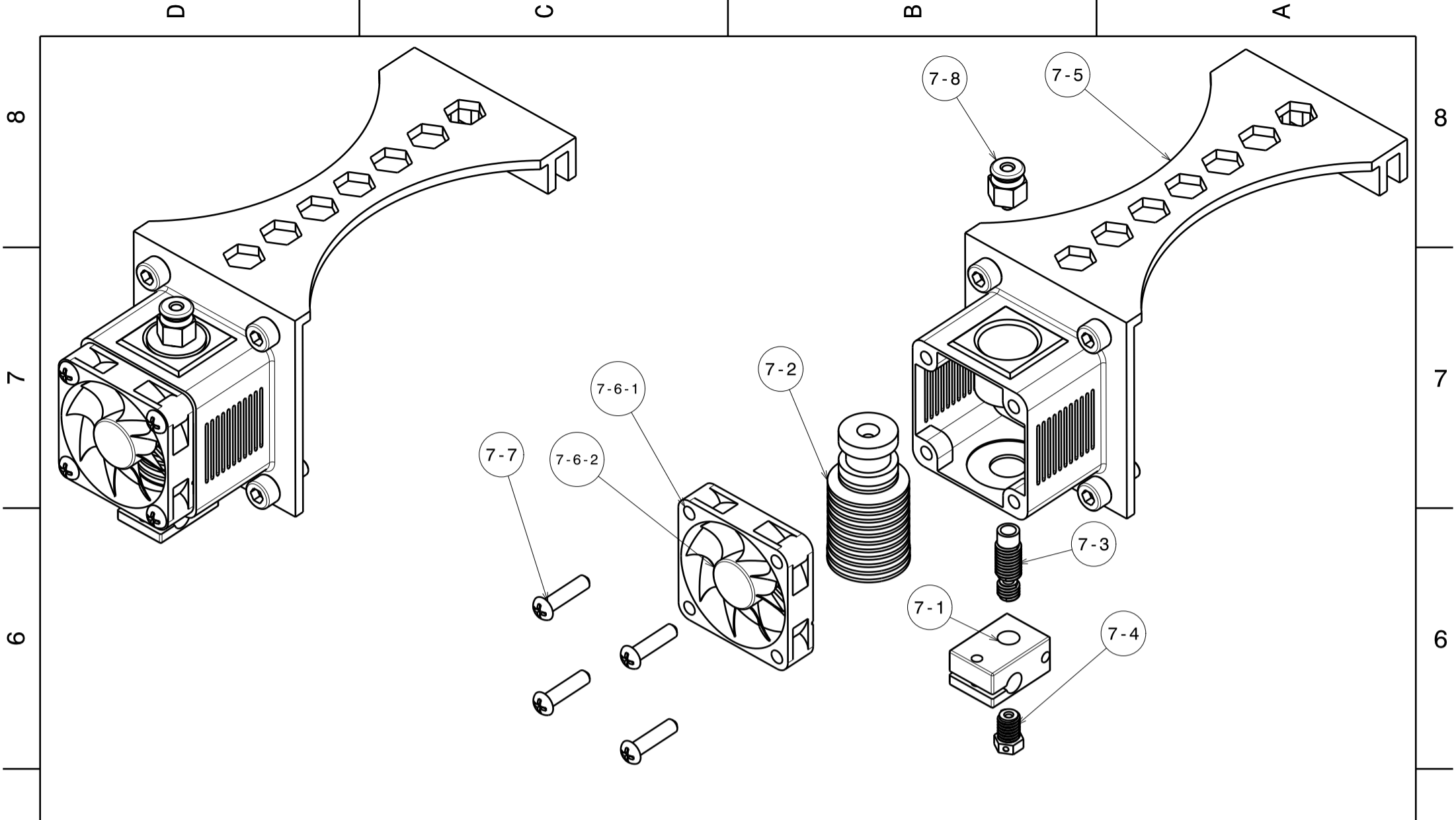
**Designed & Drawn By:**  
Ali Jadali  
Armin GharehDaghi

**Supervisor:**  
Dr. Kami

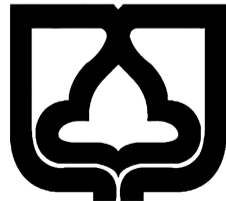
<b>Semnan University</b>			
<b>Rail &amp; Wagon</b>			
<b>Size</b>	<b>Drawing Number</b>	<b>Date</b>	
A3	1	05/16/2020	
<b>Scale</b> 1:3	<b>Units</b>	mm	<b>SHEET</b> 9/20

D

A



Section view B-B  
Scale: 3:4

 دانشگاه سمنان	Semnan University		
	E3D V6 Hot End		
<b>Designed &amp; Drawn By:</b> Ali Jadali Armin GharehDaghi	<b>Size</b> A3	<b>Drawing Number</b> 1	<b>Date</b> 05/16/2020
<b>Supervisor:</b> Dr. Kami	<b>Scale</b> 3:4	<b>Units</b> mm	<b>SHEET</b> 10/20

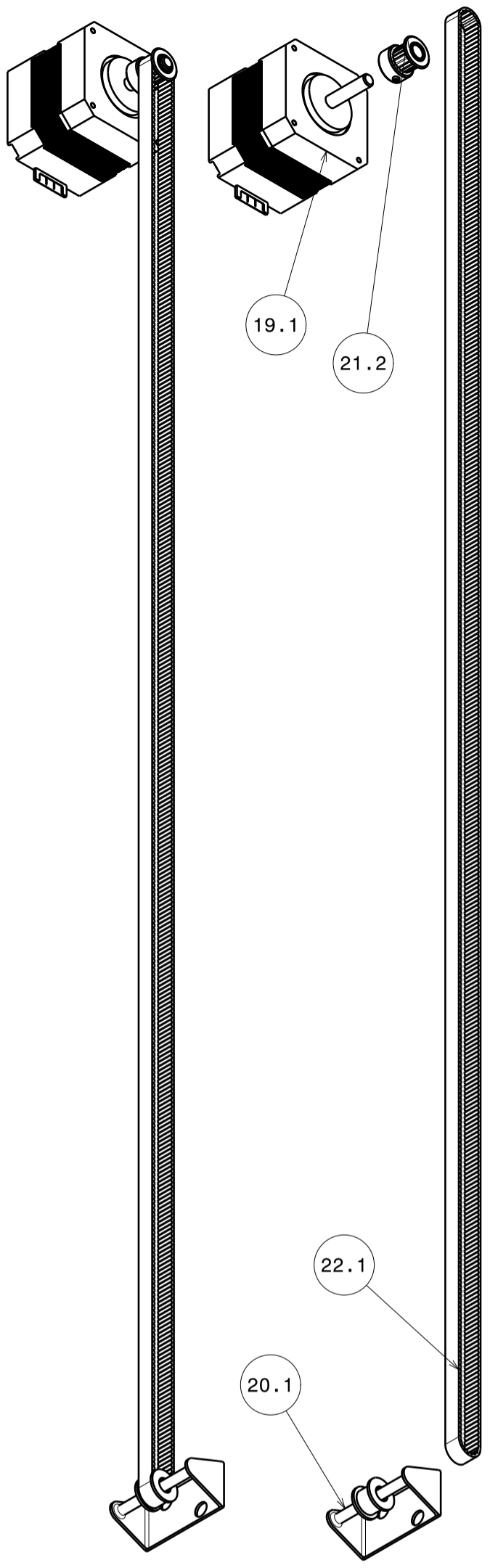
8  
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C

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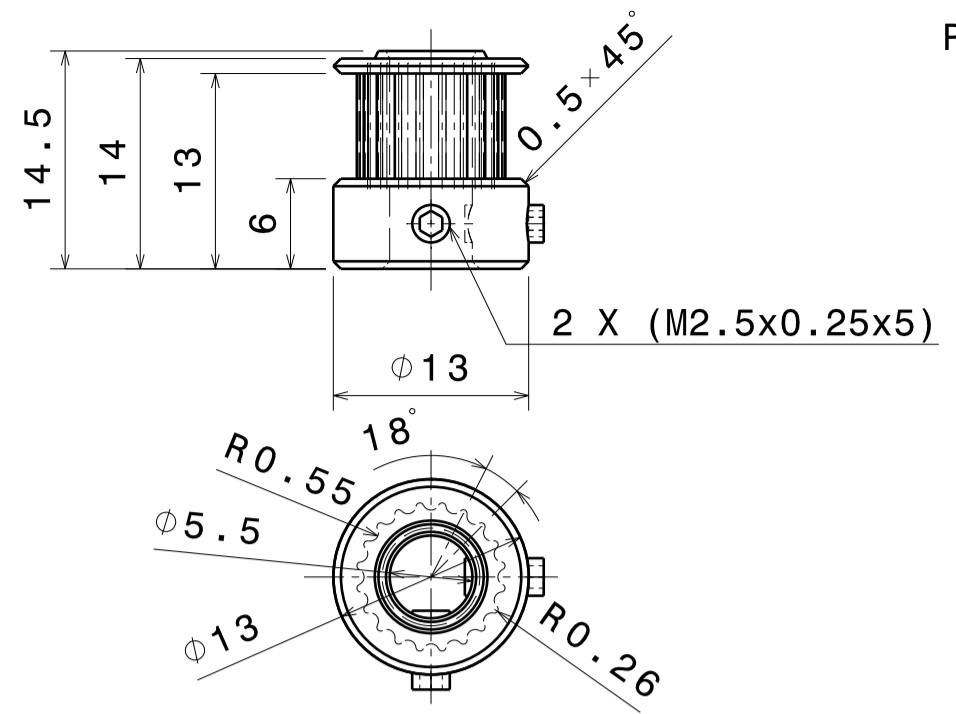
D



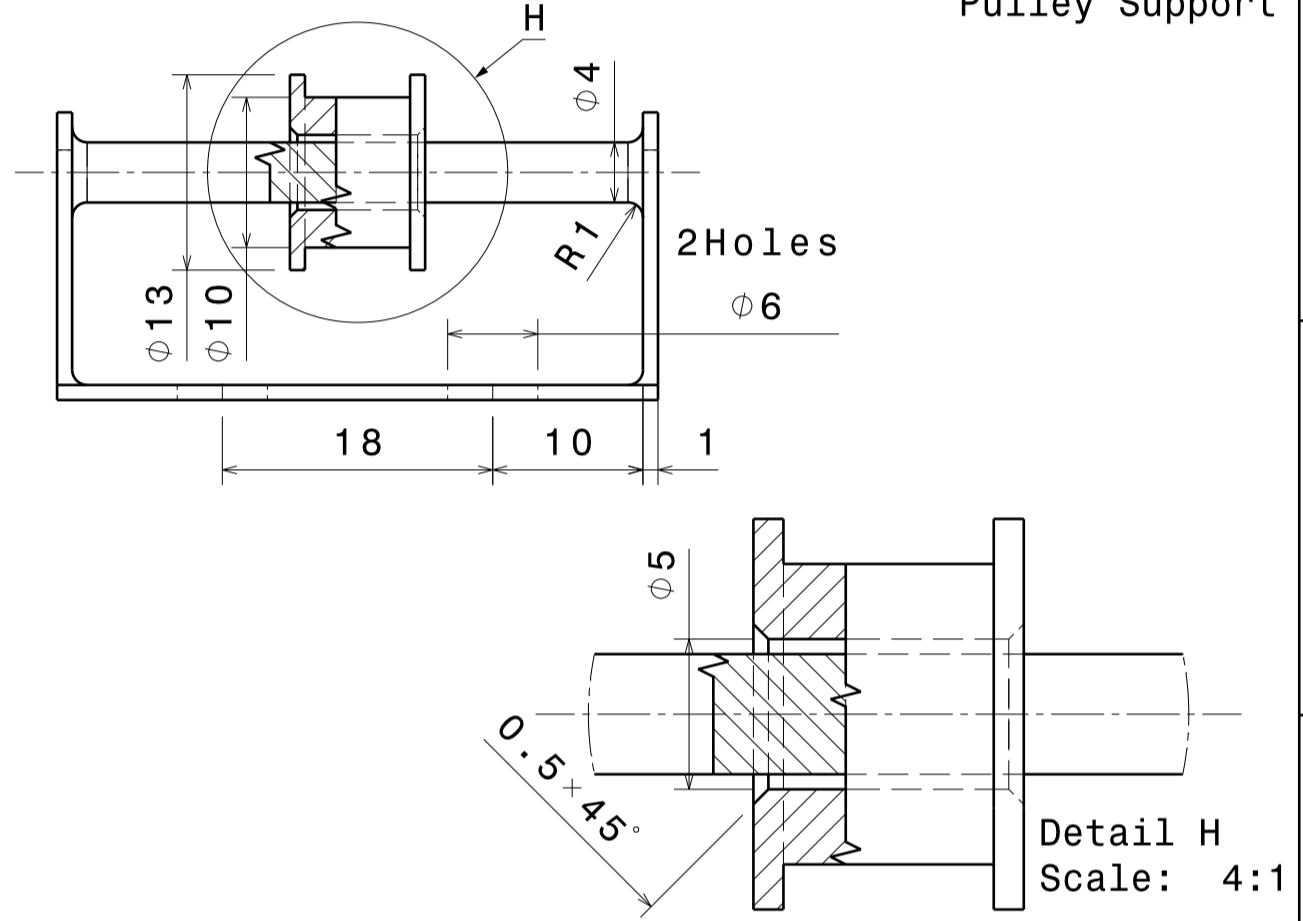
Scale: 1:2

Scale: 1:2

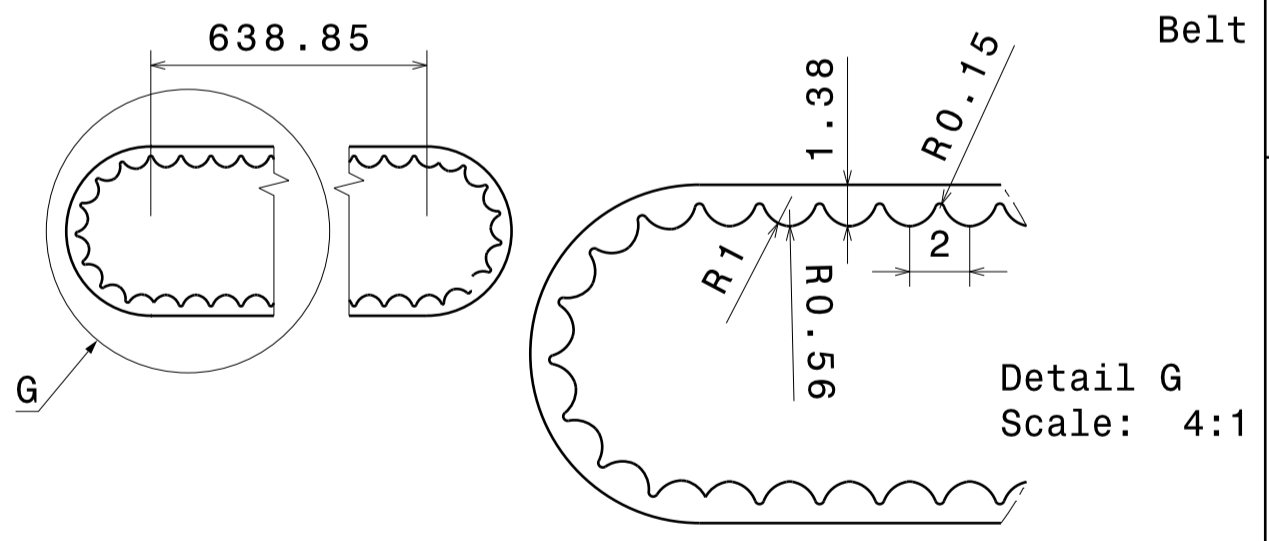
Pulley



Pulley Support



Belt



Designed & Drawn By:  
Ali Jadali  
Armin GharehDaghi  
Supervisor:  
Dr. Kami

Semnan University			
X-Axis Motion System			
Size	Drawing Number	Date	
A3	1	05/16/2020	
Scale 2:1	Units	mm	SHEET 11/20

D

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Pulley Support

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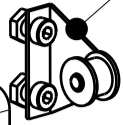
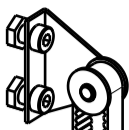
2

2

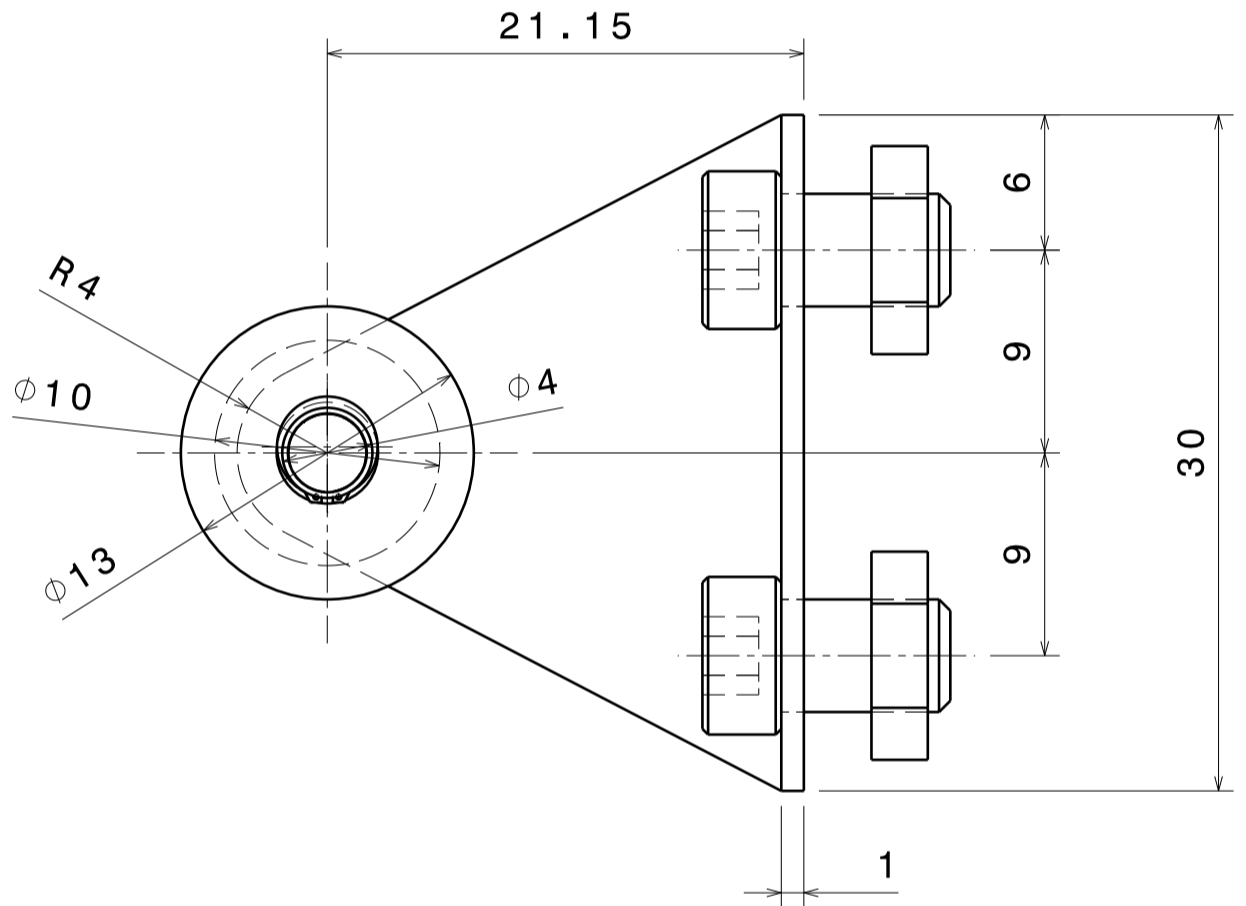
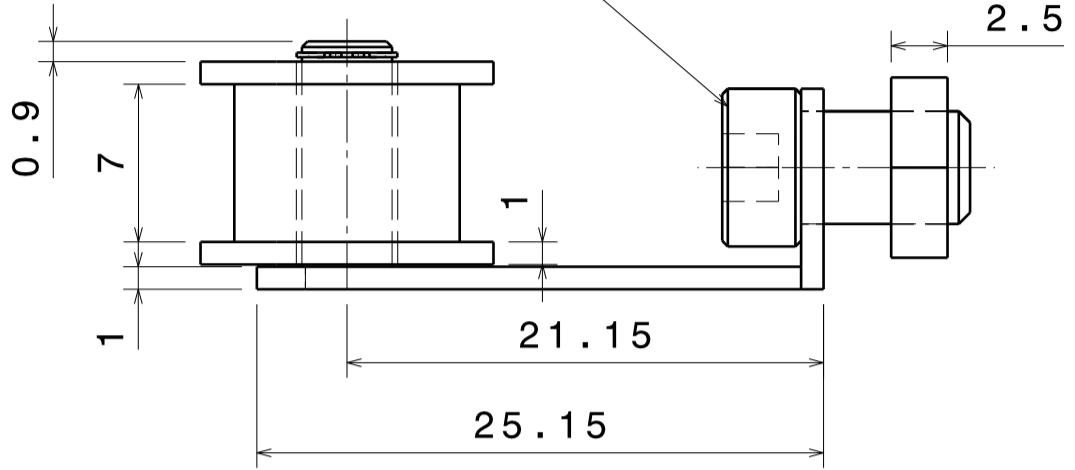
1

1

20.2



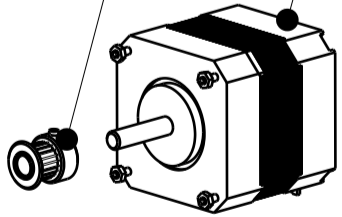
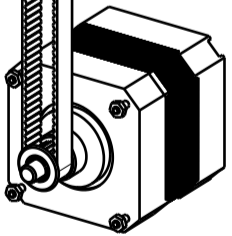
2 X (M5x0.75x7.5)



22.2

21.2

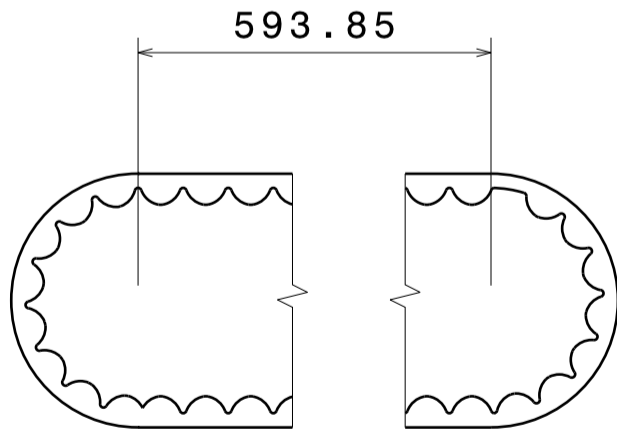
19.2



Scale: 1:2

Scale: 1:2

Belt



دانشگاه سمنان

Semnan University

Y-Axis Motion System

Designed & Drawn By:

Ali Jadali  
Armin GharehDaghi

Supervisor:  
Dr. Kami

Size

Drawing Number

Date

A3

1

05/16/2020

Scale 3:1

Units

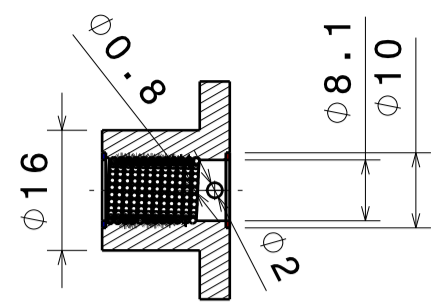
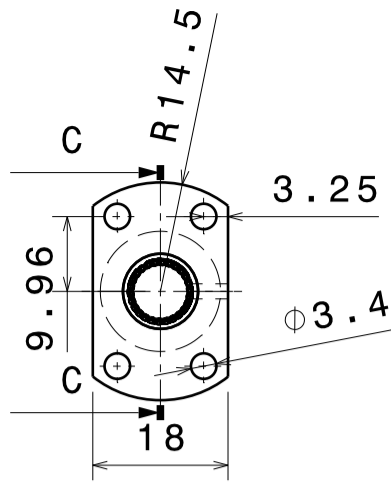
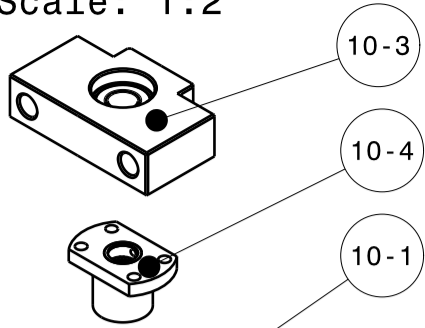
mm

SHEET 12/20

D

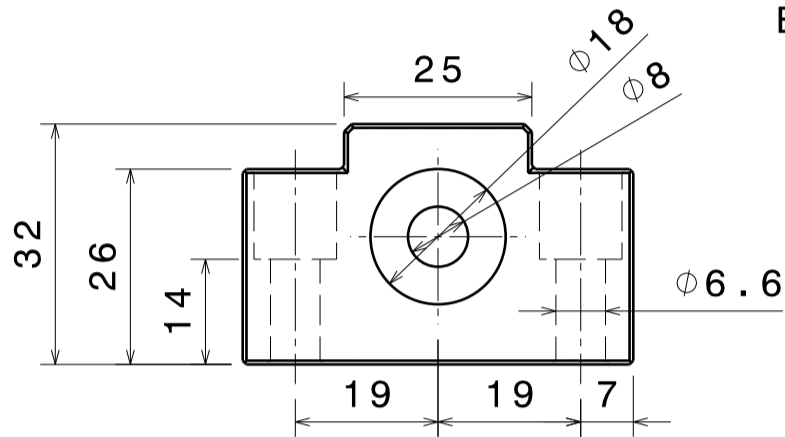
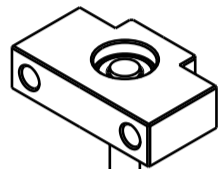
A

Scale: 1:2

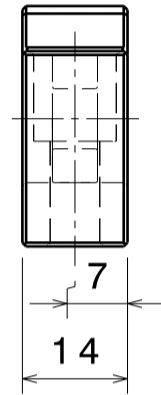


Nut

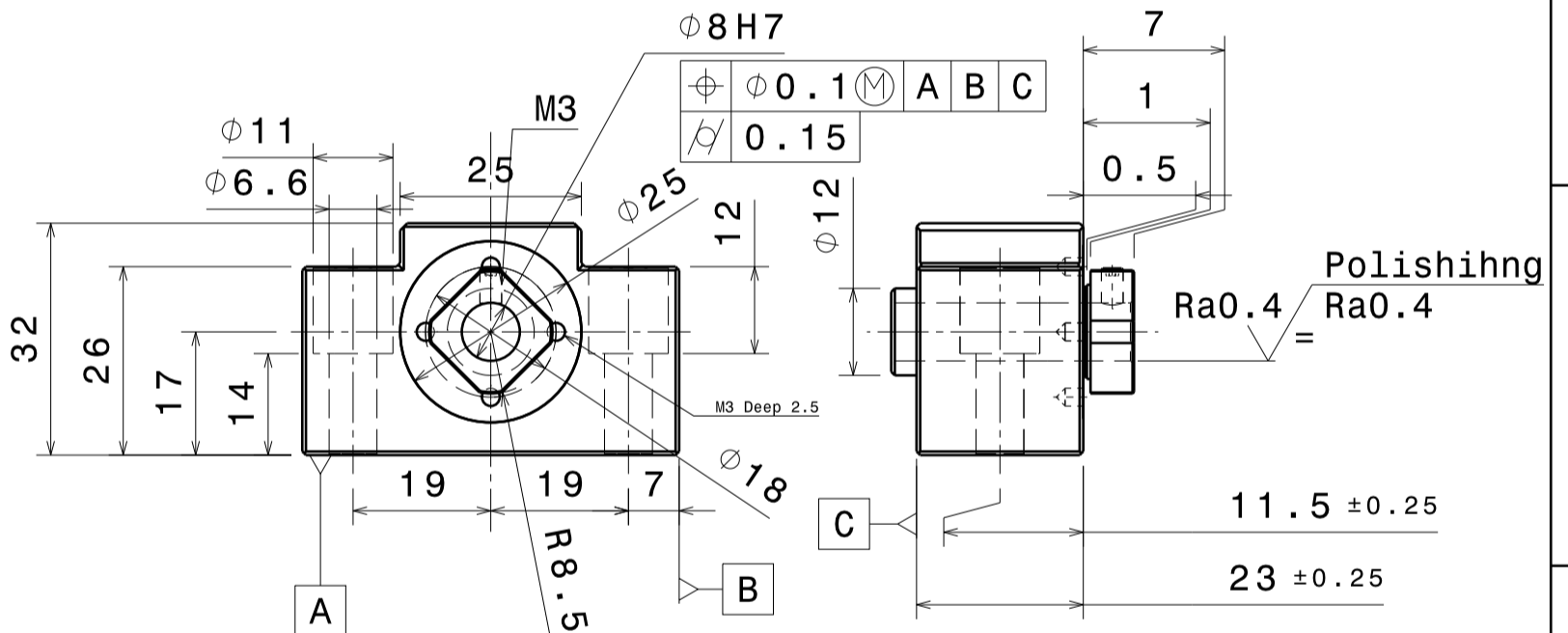
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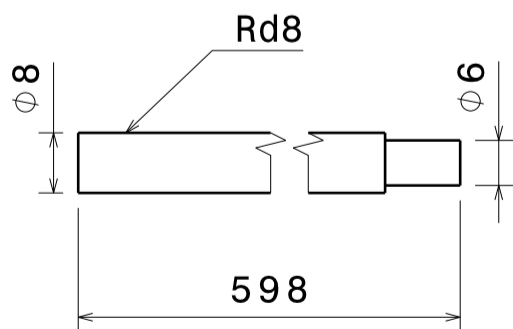
Ball Screw Support Unit BF6



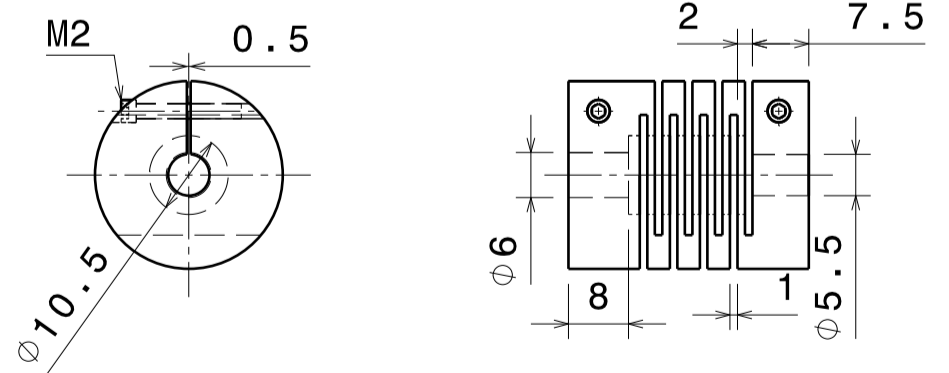
Ball Screw Support Unit EK8



Screw



Coupling

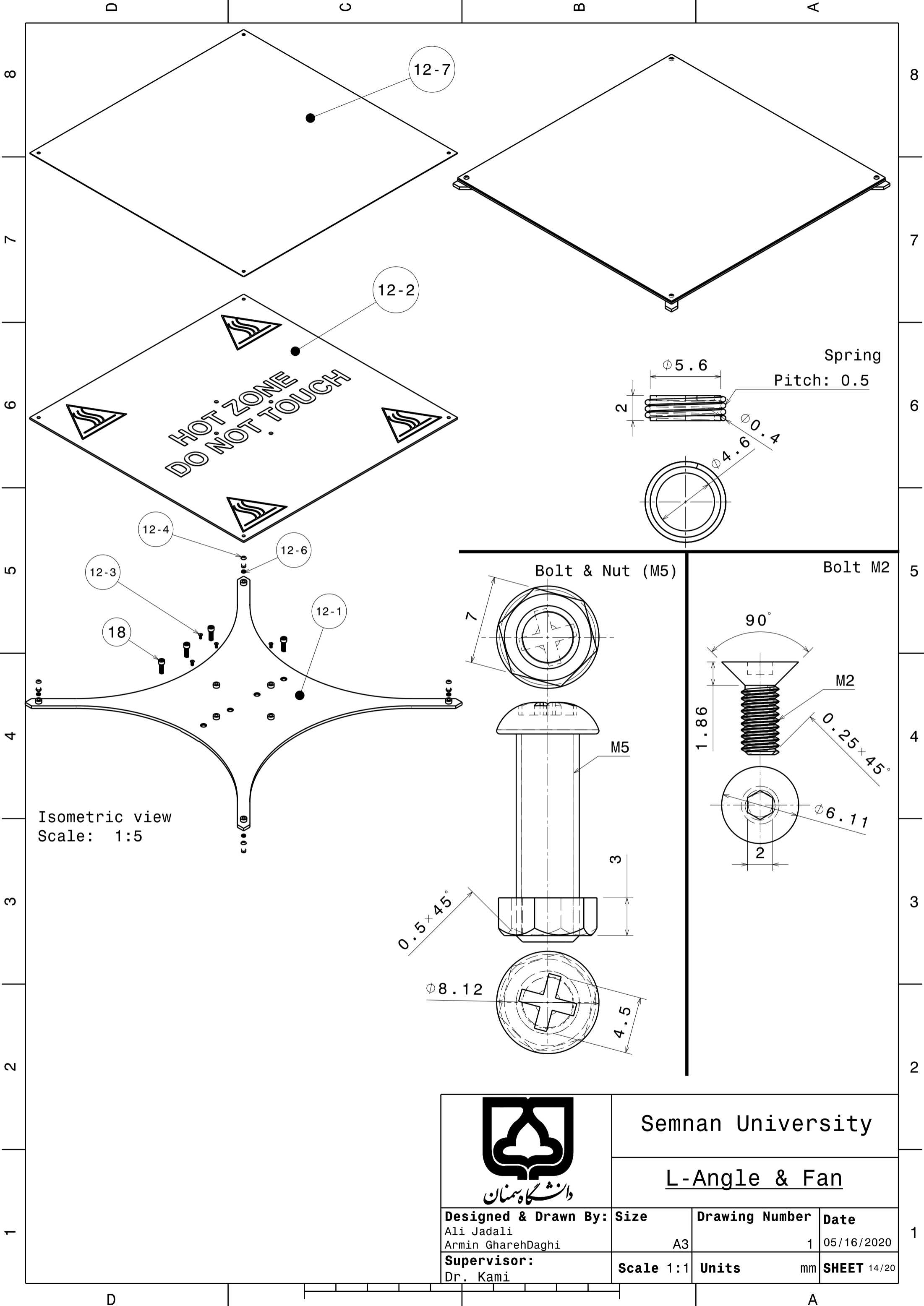


Designed & Drawn By:  
Ali Jadali  
Armin GharehDaghi  
Supervisor:  
Dr. Kami

Semnan University			
Z-Axis Motion System			
Size	Drawing Number	Date	
A3	1	05/16/2020	
Scale 1:1	Units	mm	SHEET 13/20

D

A



Isometric view  
Scale: 1:5

Spring  
Pitch: 0.5

Bolt & Nut (M5)

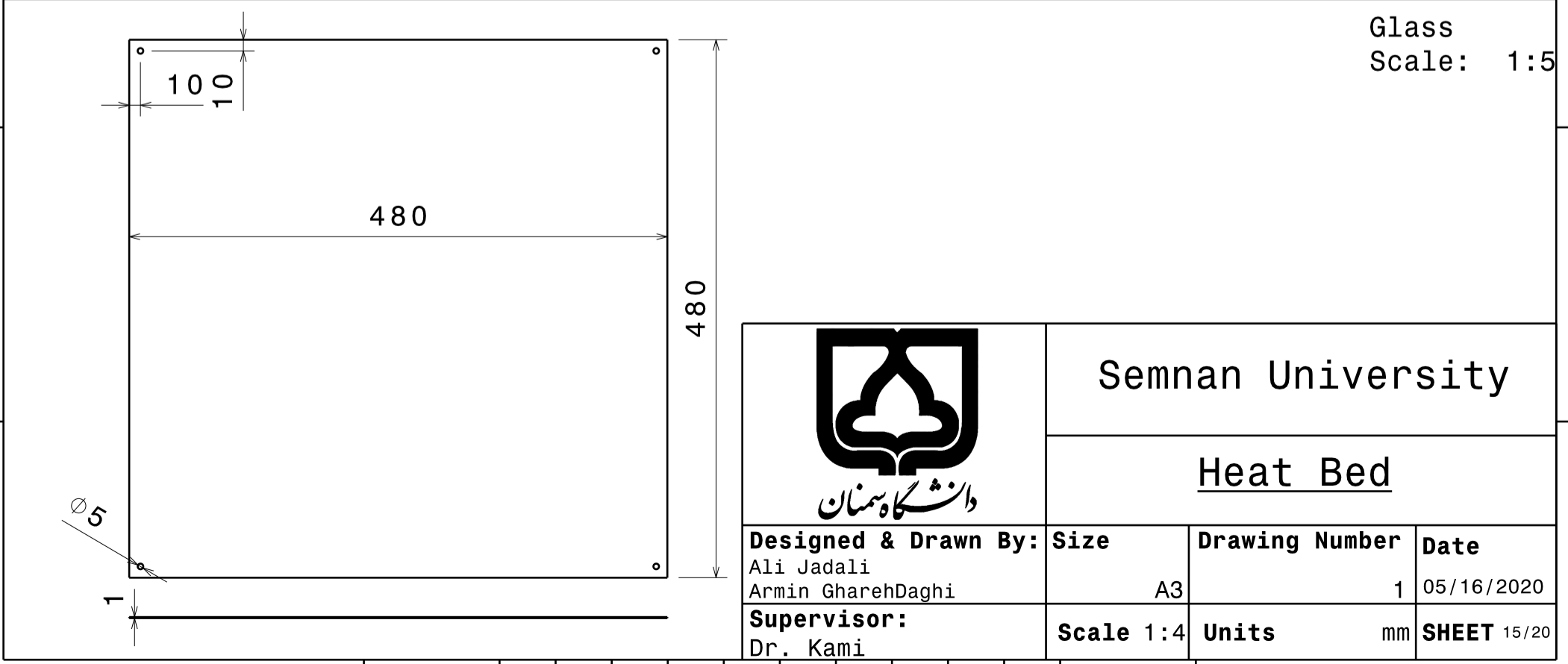
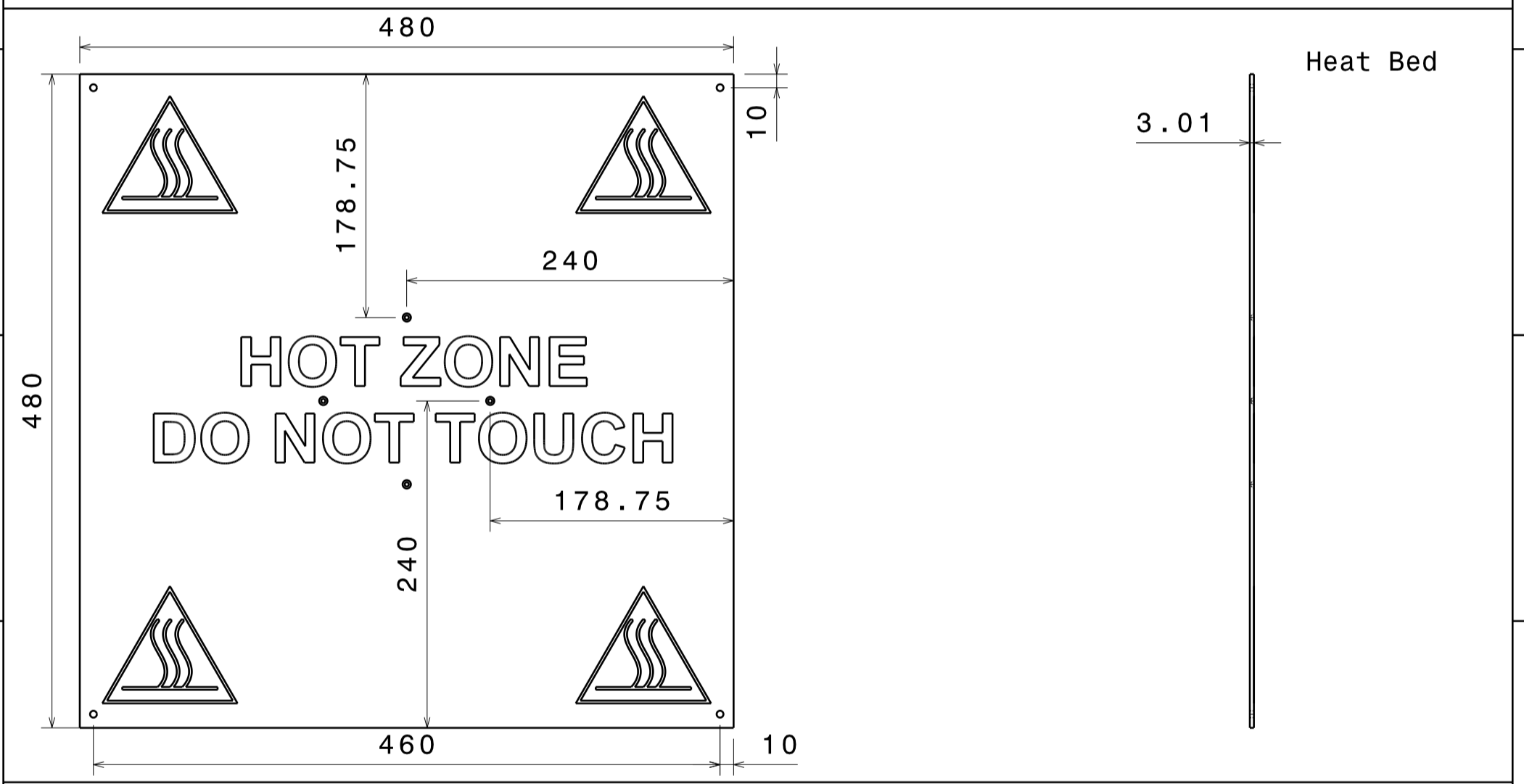
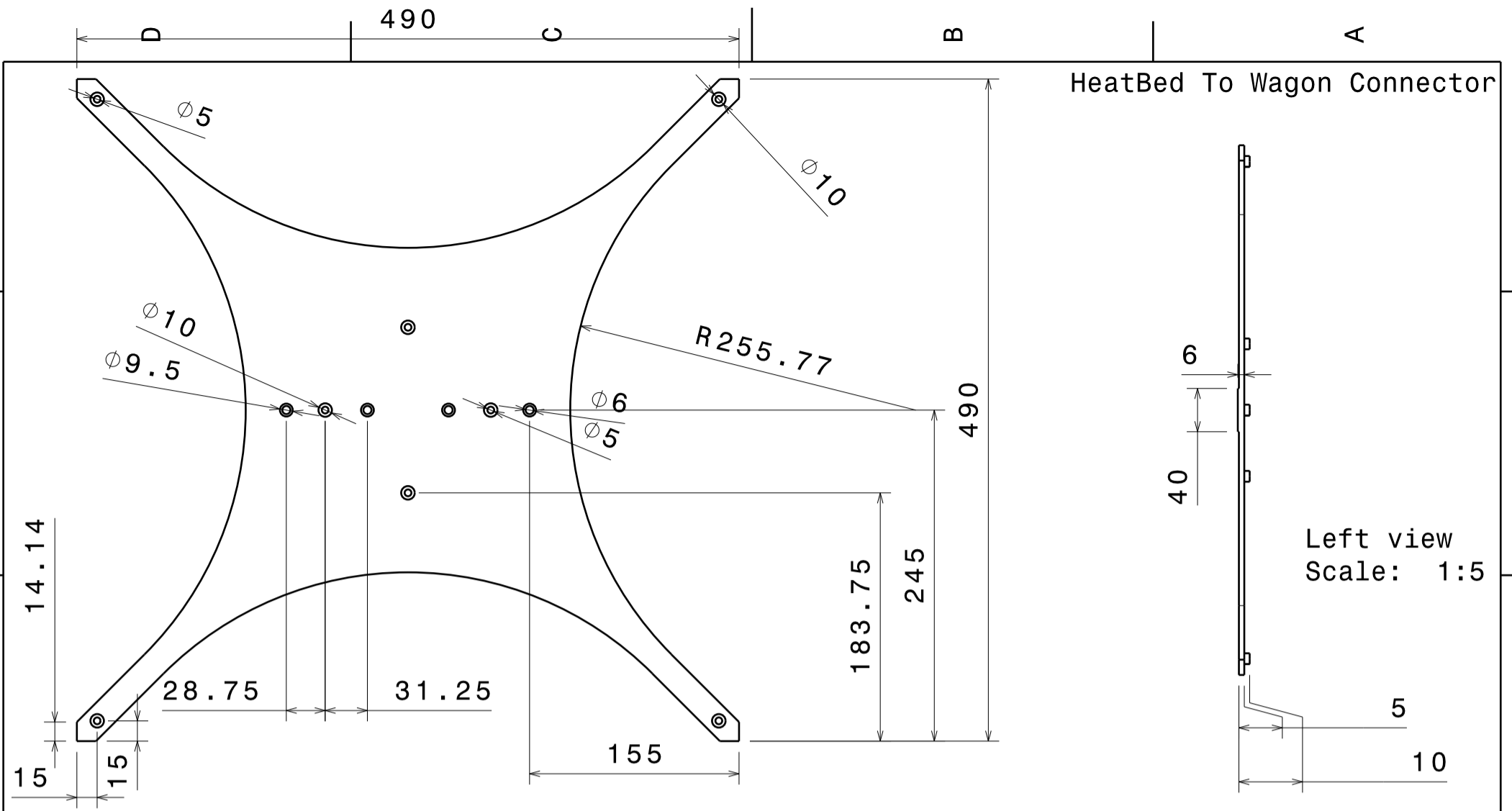
Bolt M2




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L-Angle & Fan

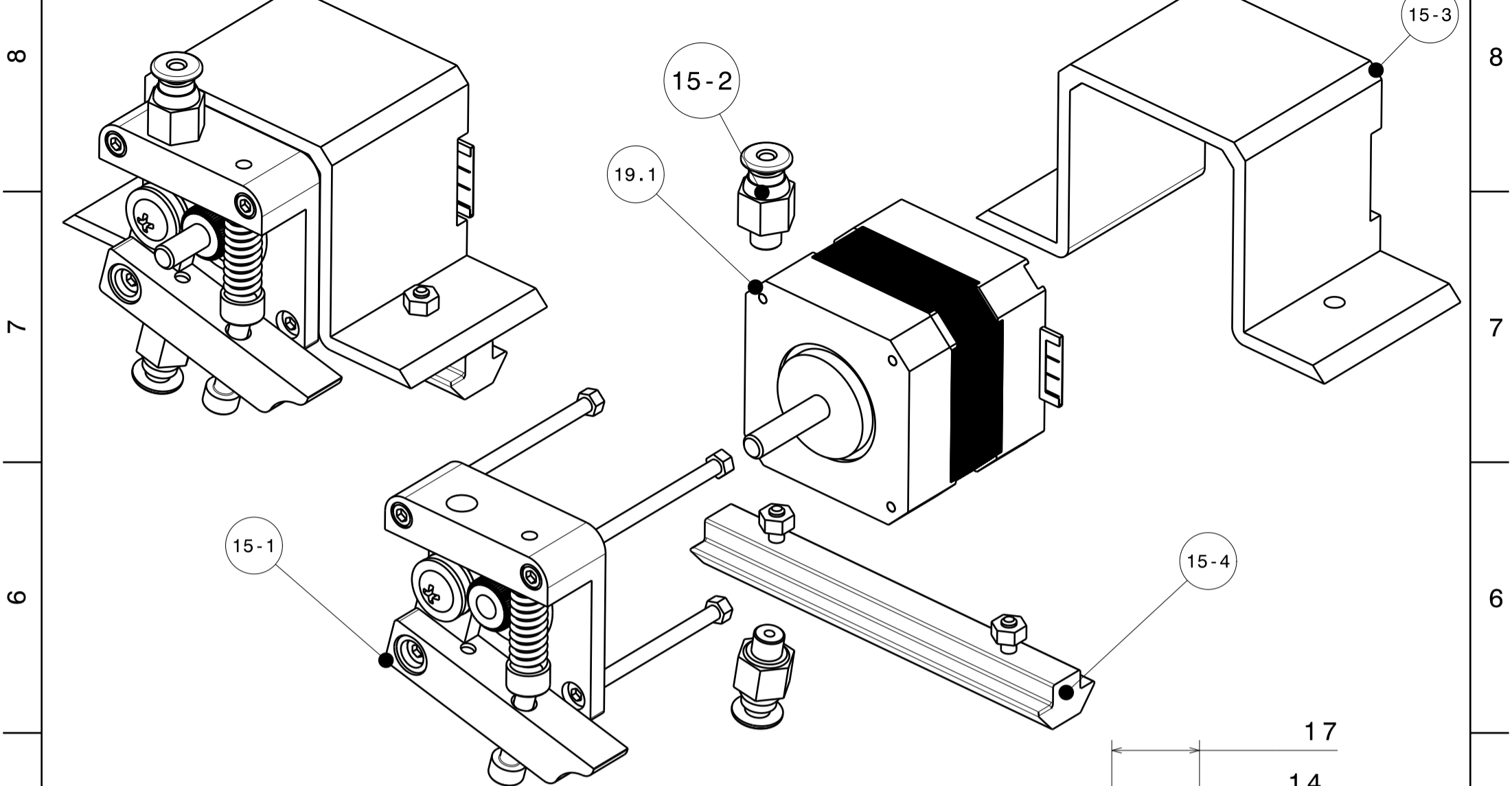
<b>Designed &amp; Drawn By:</b> Ali Jadali Armin GharehDaghi	<b>Size</b>	<b>Drawing Number</b>	<b>Date</b>
	A3	1	05/16/2020
<b>Supervisor:</b> Dr. Kami	<b>Scale 1:1</b>	<b>Units</b>	<b>SHEET 14/20</b>
		mm	



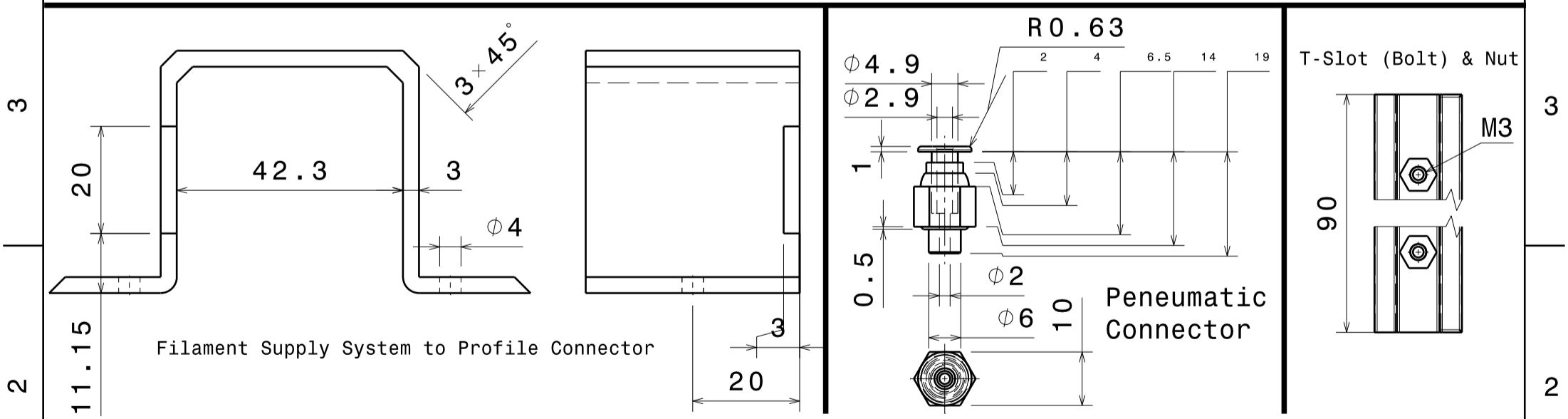
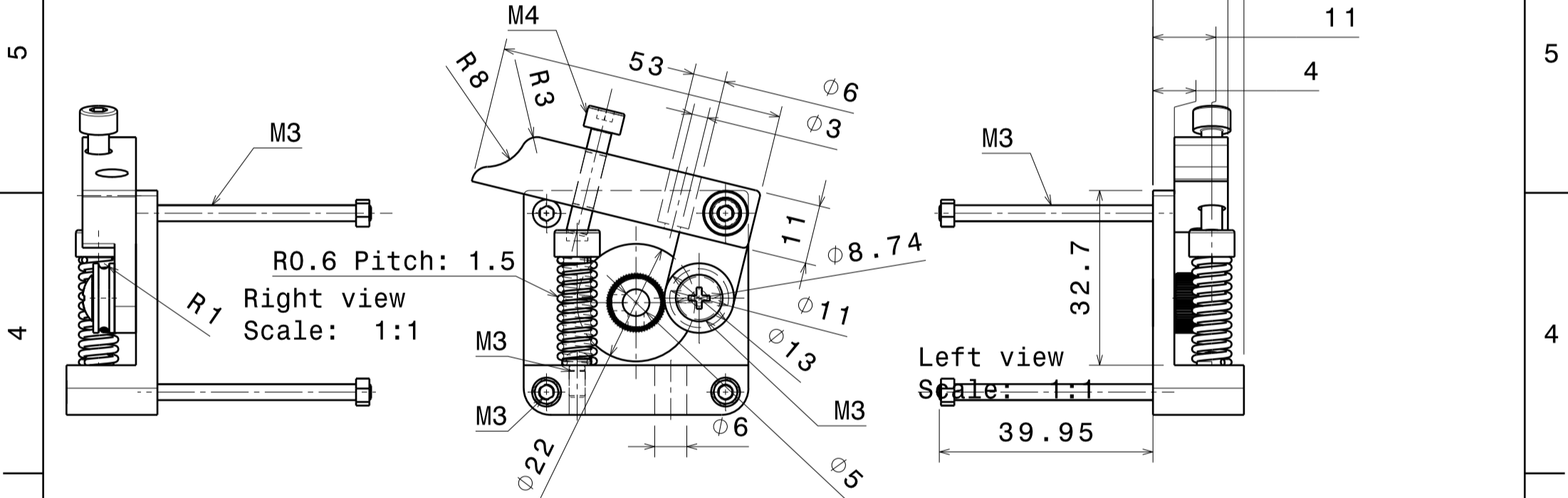
 دانشگاه سمنان	Semnan University		
	Heat Bed		
Designed & Drawn By: Ali Jadali Armin GharehDaghi	Size A3	Drawing Number 1	Date 05/16/2020
Supervisor: Dr. Kami	Scale 1:4	Units mm	SHEET 15/20



D C B A

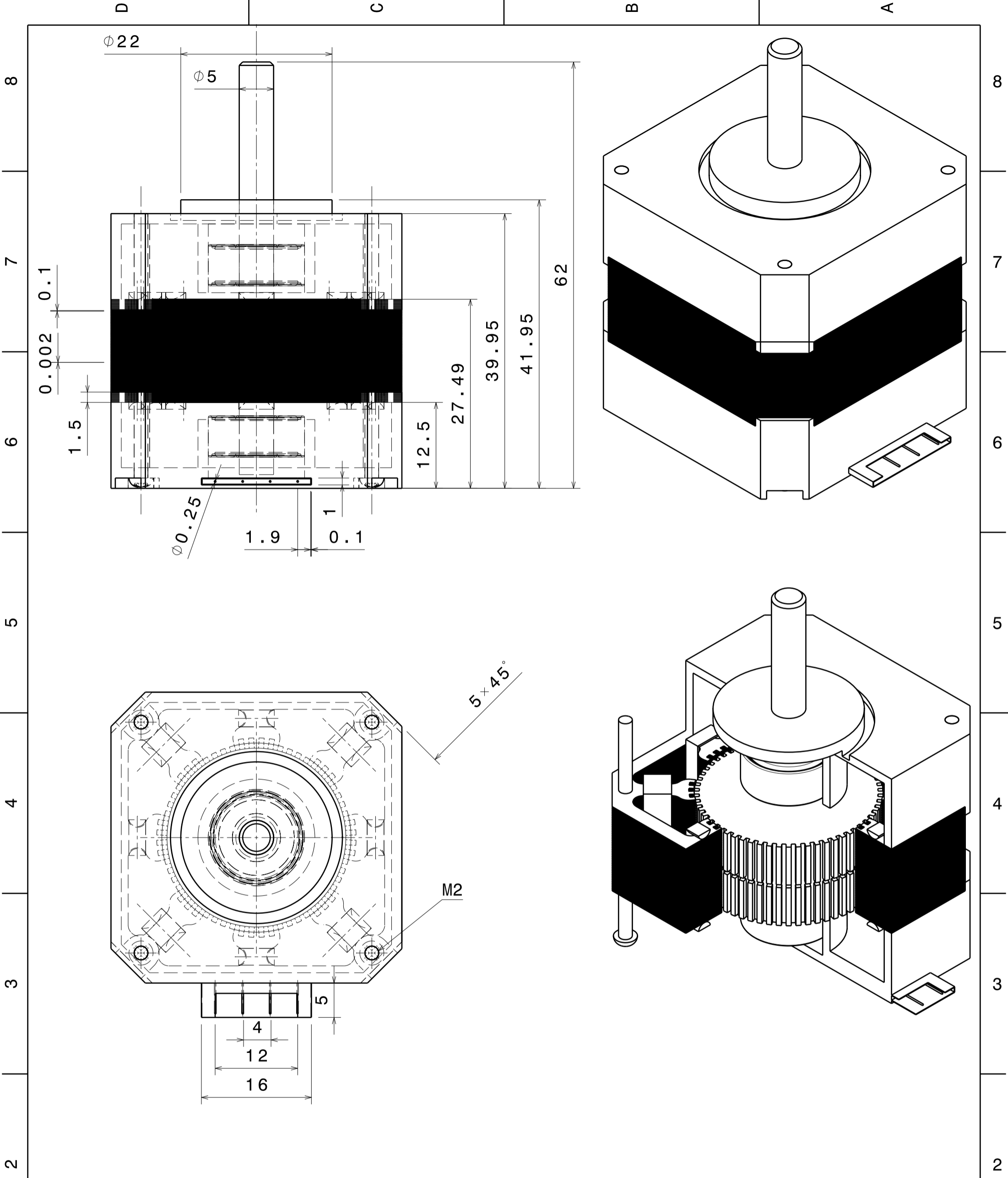



MK8 Extruder Bracket



 دانشگاه سمنان	Semnan University		
	L-Angle & Fan		
<b>Designed &amp; Drawn By:</b> Ali Jadali Armin GharehDaghi	<b>Size</b> A3	<b>Drawing Number</b> 1	<b>Date</b> 05/16/2020
<b>Supervisor:</b> Dr. Kami	<b>Scale</b> 1:1	<b>Units</b> mm	<b>SHEET</b> 16/20

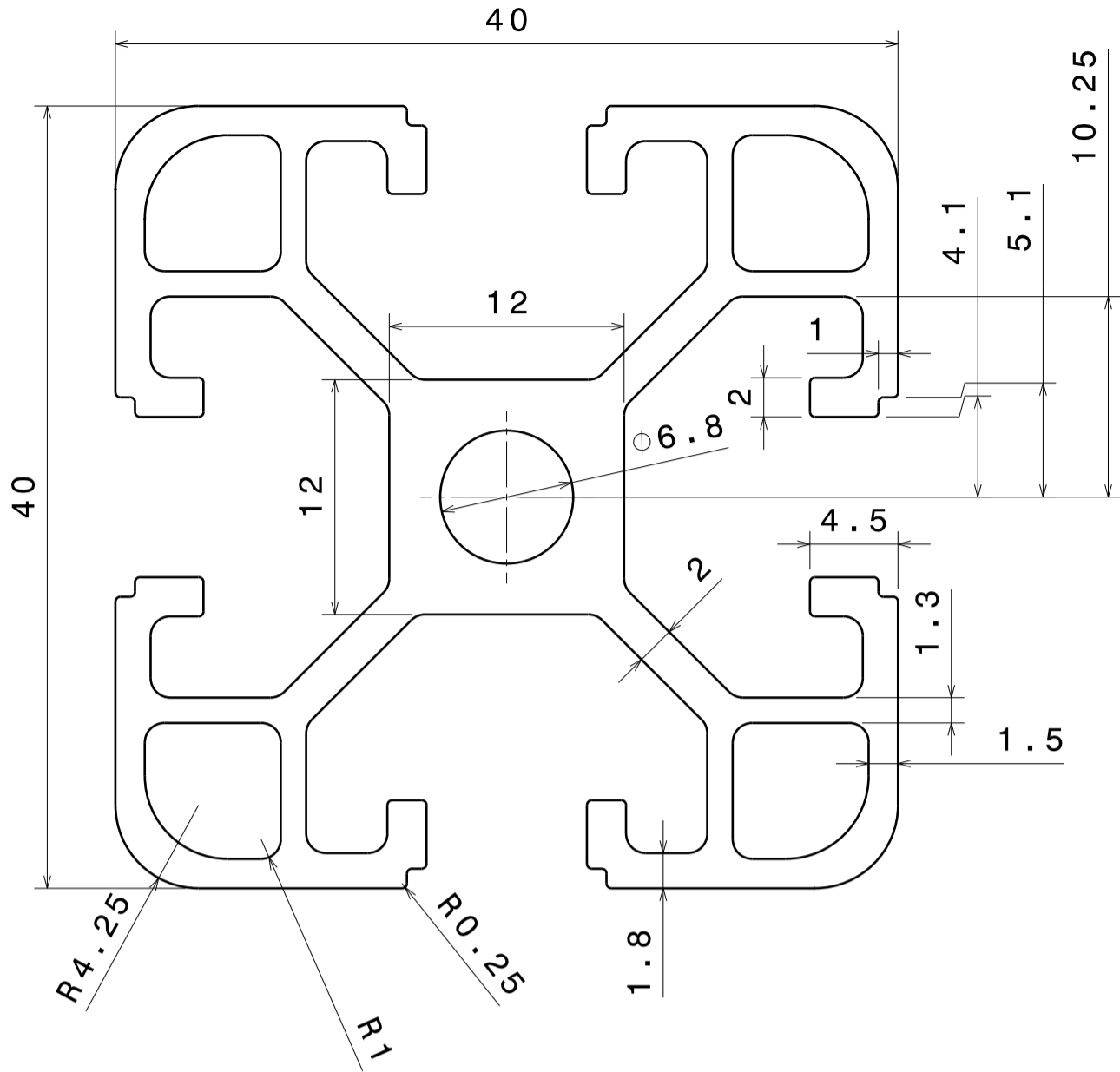
D A



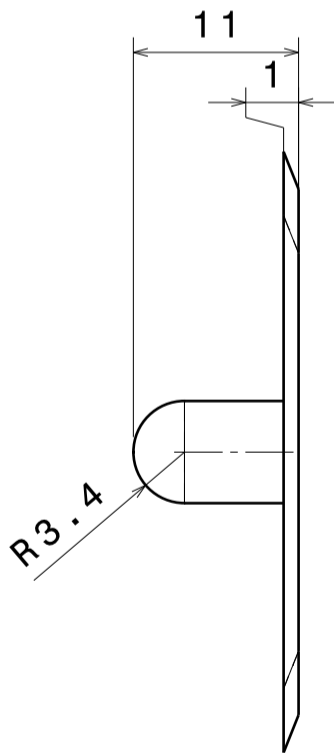
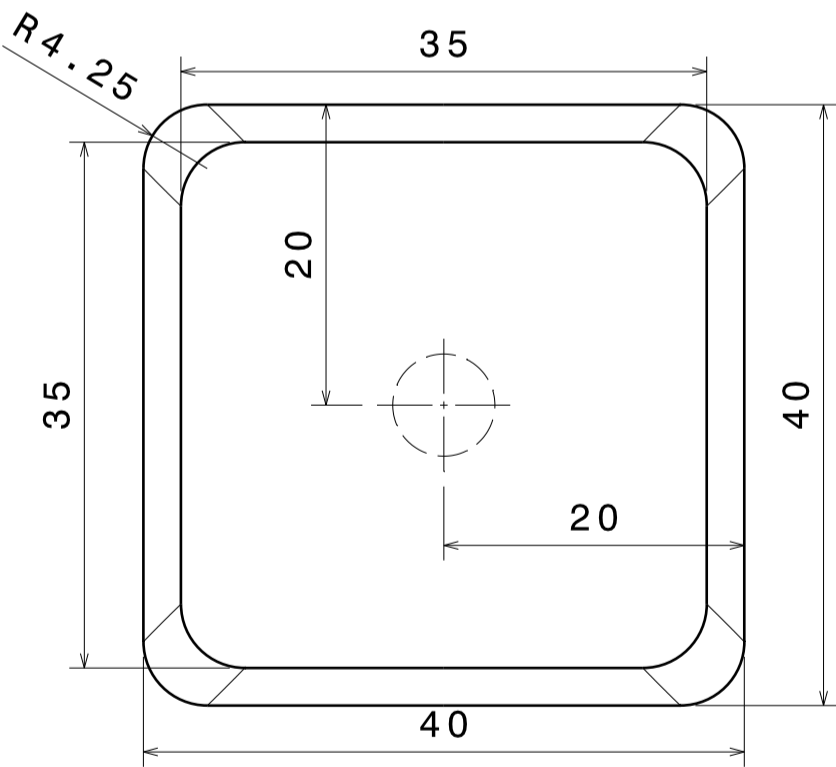
  
 دانشگاه سمنان  
**Designed & Drawn By:**  
 Ali Jadali  
 Armin GharehDaghi  
**Supervisor:**  
 Dr. Kami

Semnan University			
Stepper Motor			
<b>Size</b>	<b>Drawing Number</b>	<b>Date</b>	
A3	1	05/16/2020	
<b>Scale</b> 2:1	<b>Units</b>	mm	<b>SHEET</b> 17/20

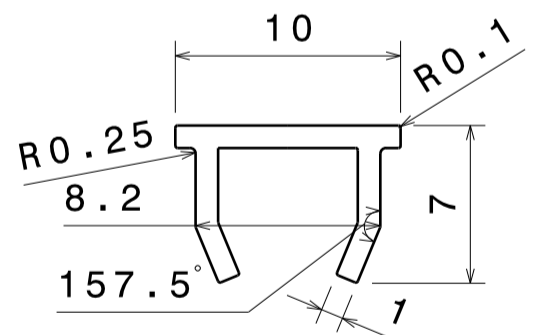
Profile



Profile Cover  
Scale: 2:1



Slot Cover

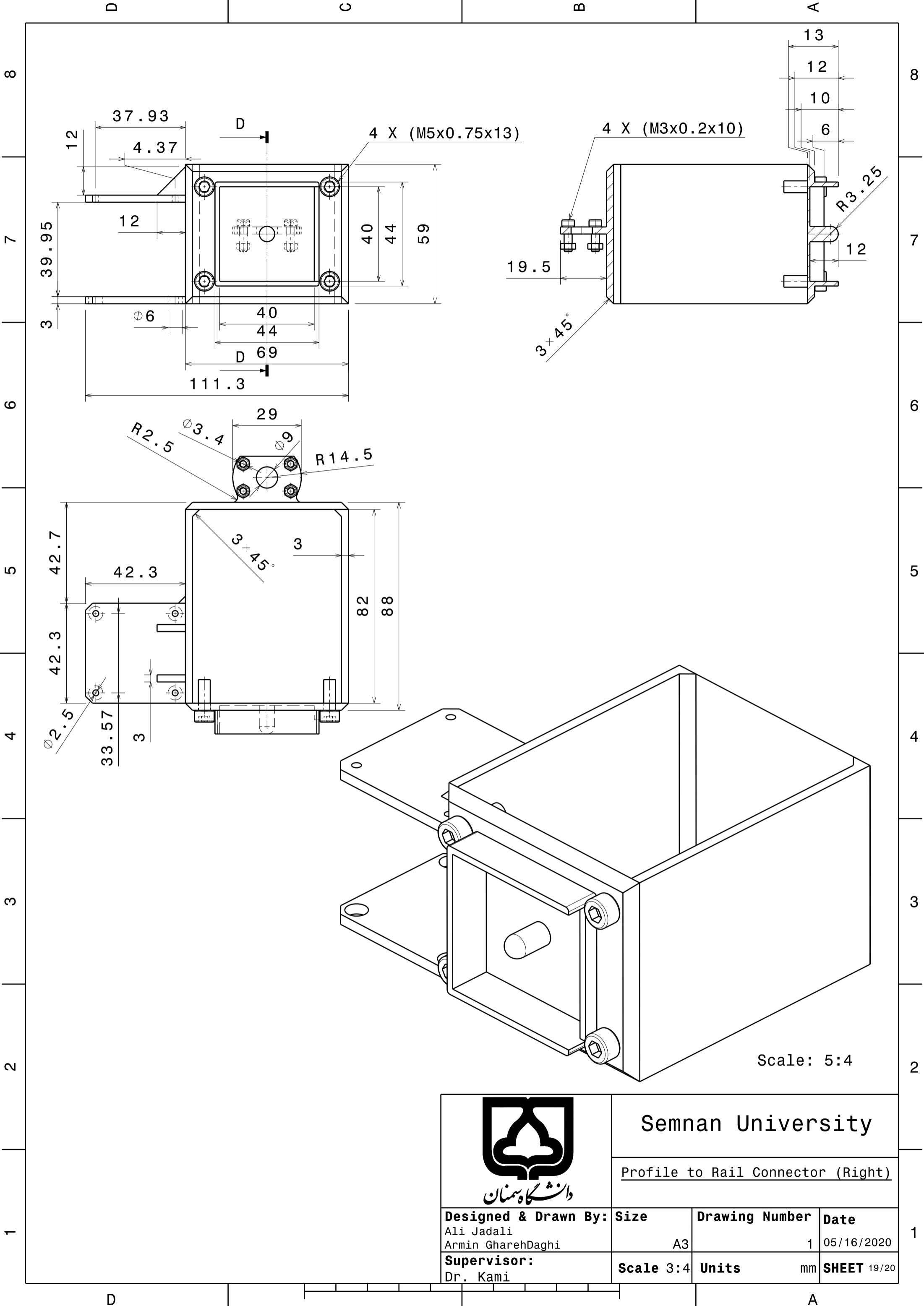


دانشگاه سمنان

Semnan University

Profile, Profile & Slot Cover

<b>Designed &amp; Drawn By:</b> Ali Jadali Armin GharehDaghi	<b>Size</b>	<b>Drawing Number</b>	<b>Date</b>
	A3	1	05/16/2020
<b>Supervisor:</b> Dr. Kami	<b>Scale 3:1</b>	<b>Units</b>	<b>SHEET 18/20</b>
		mm	




دانشگاه سمنان

**Designed & Drawn By:**  
 Ali Jadali  
 Armin GharehDaghi

**Supervisor:**  
 Dr. Kami

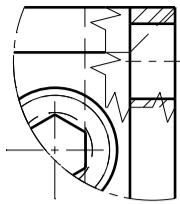
<b>Semnan University</b>			
Profile to Rail Connector (Right)			
<b>Size</b>	<b>Drawing Number</b>	<b>Date</b>	
A3	1	05/16/2020	
<b>Scale</b> 3:4	<b>Units</b>	mm	<b>SHEET</b> 19/20

D

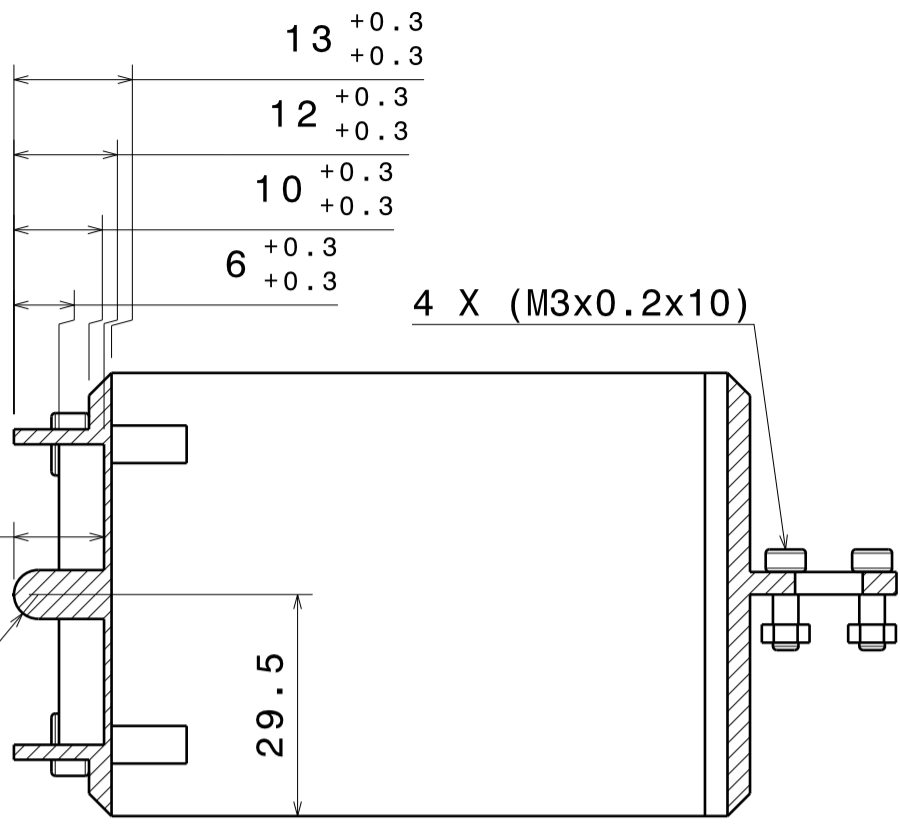
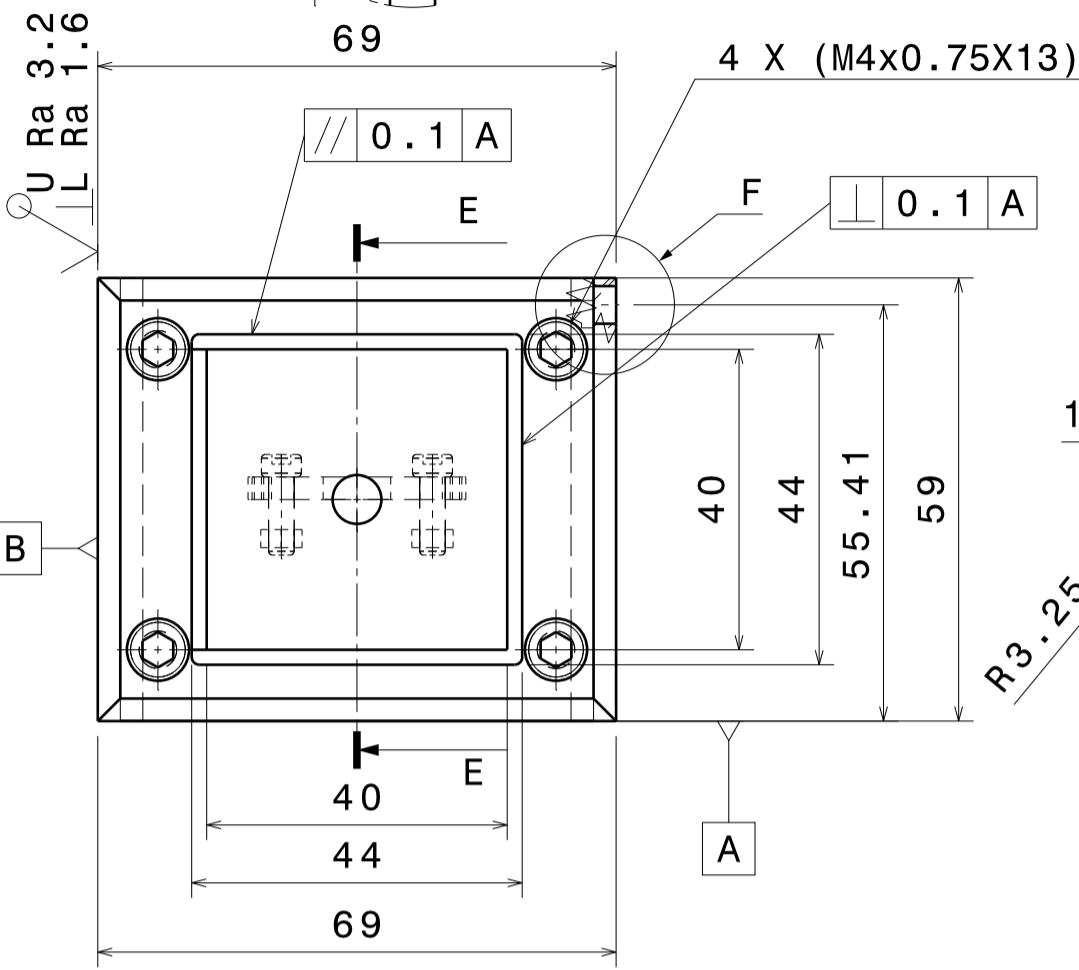
C

B

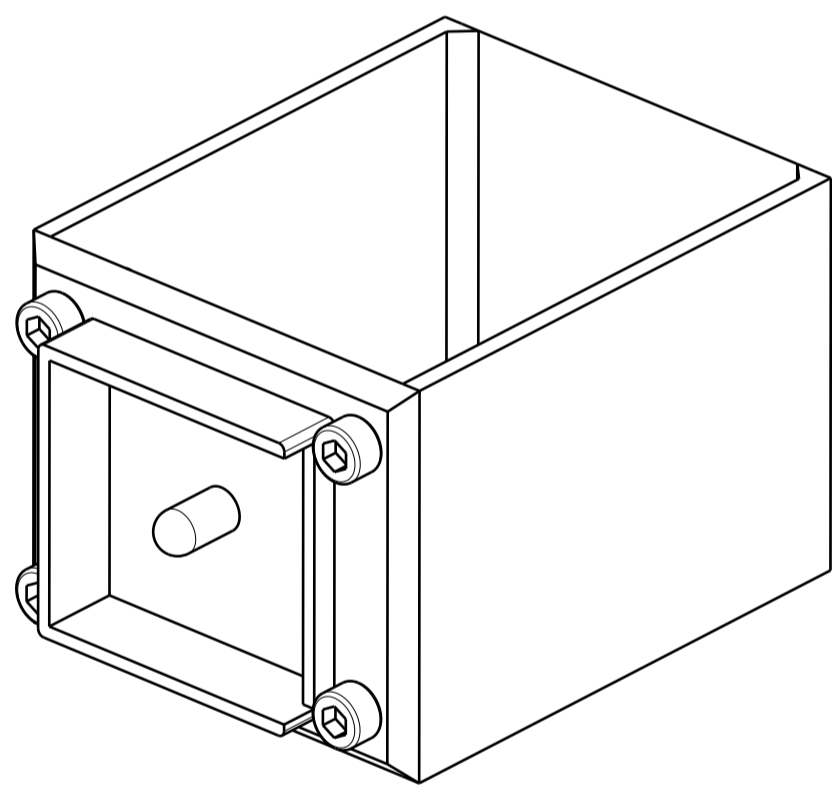
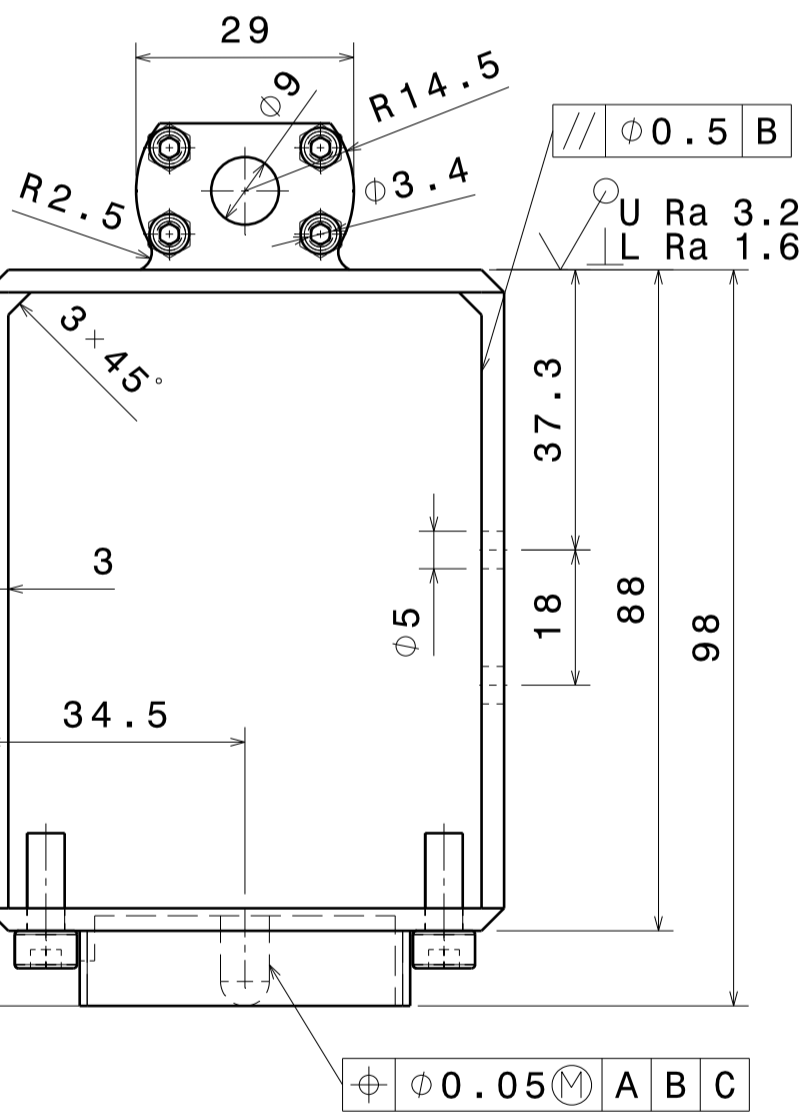
A




Detail F  
Scale: 2:1



Section view E-E



 دانشگاه سمنان	Semnan University		
	Profile to Rail Connector (Left)		
<b>Designed &amp; Drawn By:</b> Ali Jadali Armin GharehDaghi	<b>Size</b> A3	<b>Drawing Number</b> 1	<b>Date</b> 05/16/2020
<b>Supervisor:</b> Dr. Kami	<b>Scale</b> 1:1	<b>Units</b> mm	<b>SHEET</b> 20/20

D

A

Bill of Material: 3D Printer

Part Number	Name	Quantity	Type	Component Description
1	Profiles	9	Part	
2	L-Angle	6	Assembly	
3	Slot Covers	30	Part	
4	T-Slot	8	Part	
5	Rail & Wagon	5	Assembly	
6.1	Profile to Rail Connector(Left) - Z Axis	1	Part	
6.2	Profile to Rail Connector(Right) - Z Axis	1	Part	
7	E3D V6 Hot End	1	Assembly	
8	Profile to Rail Connector - X Axis	2	Part	
9	Z-Axis Motion System	2	Assembly	
10	Hidden L-Angle	4	Assembly	
11	Case	1	Part	
12	Heat Bed	1	Assembly	
13.1-13.2	X-Axis Motion System	R-L	Assembly	Right & Left
14	Filament Supply System	1	Assembly	
15	Y-Axis Motion System	1	Assembly	
16	Profile Cover	2	Part	
17	Display	1	Part	

Bill of Material: L-Angle

Part Number	Name	Quantity	Type	Component Description
2-1	L-Angle	1	Part	
2-2	Nut M5	2	Part	

Bill of Material: Rail & Wagon


Part Number	Name	Quantity	Type	Component Description
5-1	Rail	1	Part	
5-2	Wagon	1	Part	
18	Bolt M6	9	Part	

Bill of Material: E3D V6 Hot End

Part Number	Name	Quantity	Type	Component Description
7-1	E3D V6 Heater Block	1	Part	
7-2	E3D(Heat Sink)	1	Part	
7-3	Heat Break	1	Part	
7-4	Nozzle	1	Part	
7-5	Fan's Case	1	Part	
7-6	Fan	1	Assembly	
7-7	Bolt M4	4	Part	
7-8	Teflon Pipe & Pneumatic Connector	1	Part	

Bill of Material: Fan

Part Number	Name	Quantity	Type	Component Description
7-6-1	Fan Case	1	Part	
7-6-2	Fan Blade	1	Part	

 دانشگاه سمنان <b>Semnan University</b>	<u>3D Printer Bill of Material</u>	
	Sheet	1/2
	Size	A3
	<b>Designed and Drawn By:</b>	
Ali Jadali		
Armin GharehDaghi		
<b>Supervisor:</b>		
Dr. Kami		

Bill of Material: Z-Axis Motion System

Part Number	Name	Quantity	Type	Component Description
19.1	Stepper Motor	1	Part	
23	Coupling	1	Part	
9-1	Ball Screw	1	Part	
9-2	Ball Screw Support Unit EK8	1	Part	
9-3	Ball Screw Support Unit BF6	1	Part	
9-4	Nut	1	Part	

Bill of Material: Hidden L-Angle

Part Number	Name	Quantity	Type	Component Description
10-1.1	Hidden L-Angle	1	Part	
10-2.2	Bolt M6	2	Part	

Bill of Material: Heat Bed

Part Number	Name	Quantity	Type	Component Description
12-1	HeatBed to Wagon Connector	1	Part	
12-2	HeatBed	1	Part	
12-3	Bolt M2	4	Part	
12-4	Bolt & Nut-M5	4	Part	
18	Bolt M6	4	Part	
12-6	Spring	4	Part	
12-7	Glass	1	Part	

Bill of Material: X-Axis Motion System


Part Number	Name	Quantity	Type	Component Description
19.1	Stepper Motor	1	Part	
20.1	Pulley Support	1	Part	
21.2	Pulley	1	Part	
22.1	Belt	1	Part	

Bill of Material: Filament Supply System

Part Number	Name	Quantity	Type	Component Description
19.1	Stepper Motor	1	Part	
15-1	MK8 Extruder Bracket	1	Part	
15-2	Pneumatic Connector	2	Part	
15-3	Filament Supply System to Profile Connector	1	Part	
15-4	T-Slot & Bolts	1	Part	

Bill of Material: Y-Axis Motion System

Part Number	Name	Quantity	Type	Component Description
19.2	Stepper Motor	1	Part	
21.2	Pulley	1	Part	
22.2	Belt	1	Part	
20.2	Pulley Support	1	Part	

 دانشگاه سمنان <b>Semnan University</b>	<u>3D Printer Bill of Material</u>	
	Sheet	2/2
	Size	A3
	<b>Designed and Drawn By:</b>	
Ali Jadali		
Armin GharehDaghi		
<b>Supervisor:</b>		
Dr. Kami		