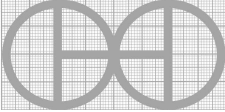
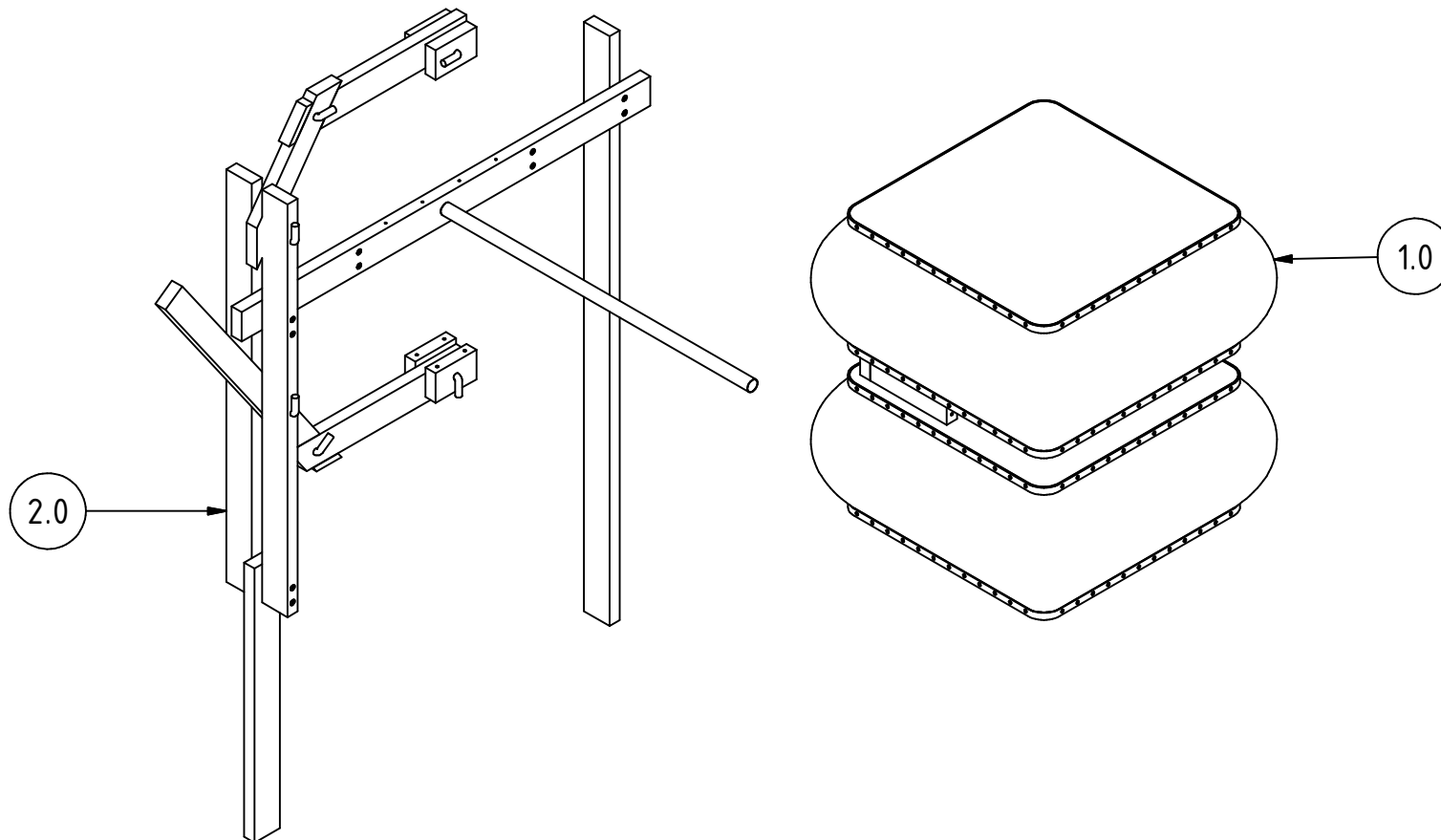
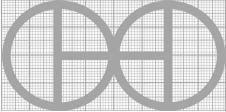


SJ: Swivel joint
 Note: All units in mm.

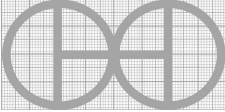
PROJECT	CREATED BY	APPROVED BY	DATE	VERSION
Blacksmiths Bellows	J. Zeron	A. Morillo	30/07/2021	1.0
PART NAME	FILE NAME			POS
3d views	ung_bb_blacksmiths-bellows.iam			A1
DEVELOPED BY	REDESIGNED BY	DOC. TYPE	MATERIAL	QUANTITY
University of Technology LAE Papua New Guinea	 OHO e.V.	Assembly		1
		LICENCE	SCALE	SHEET
		CC-BY-SA 4.0	1:13	1 /22

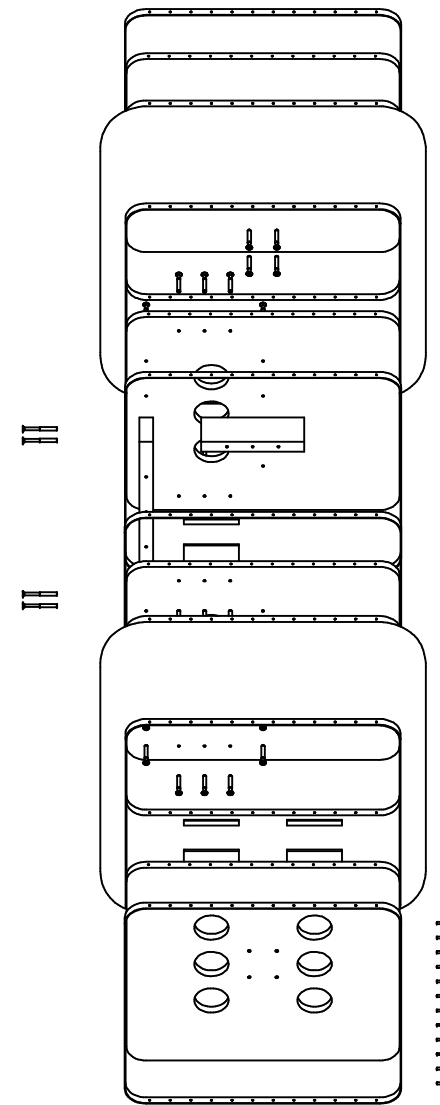
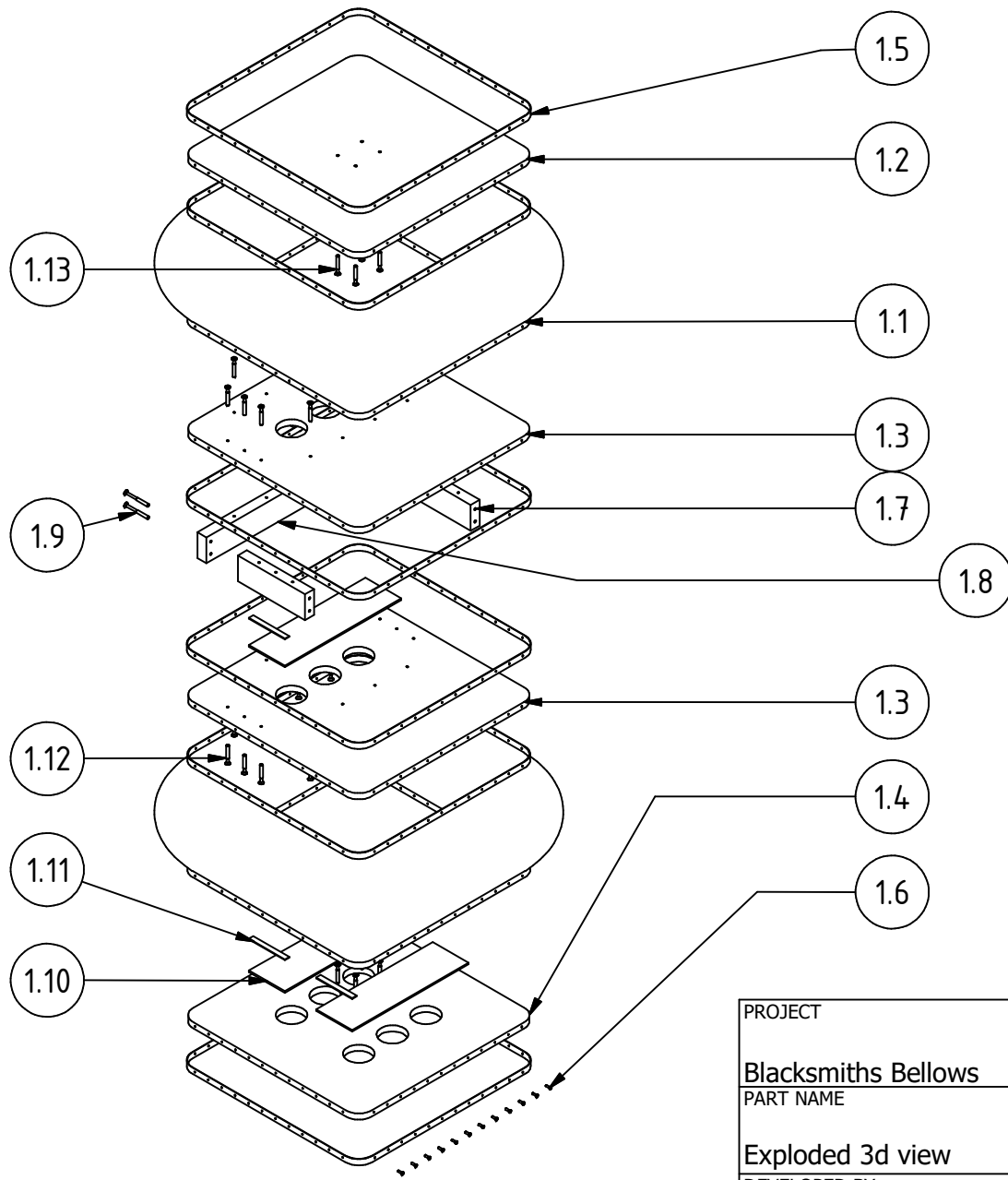


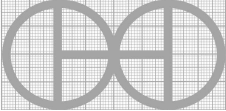
PROJECT	CREATED BY	APPROVED BY	DATE	VERSION
Blacksmiths Bellows	J. Zeron	A. Morillo	30/07/2021	1.0
PART NAME	FILE NAME			POS
Exploded 3d view	ung_bb_blacksmiths-bellows.ipn			A2
DEVELOPED BY	REDESIGNED BY	DOC. TYPE	MATERIAL	QUANTITY
University of Technology LAE Papua New Guinea	 OHO e.V.	Assembly		1
		LICENCE	SCALE	SHEET
		CC-BY-SA 4.0	1:10	2 /22

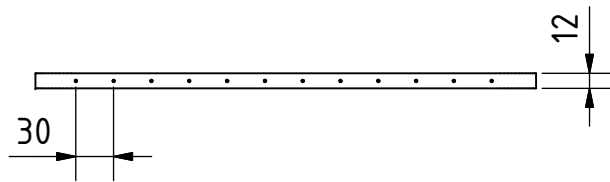
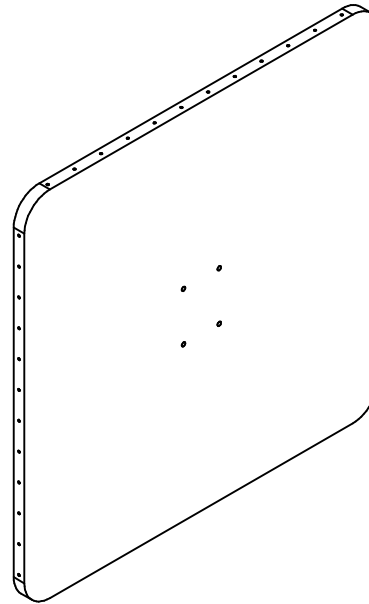
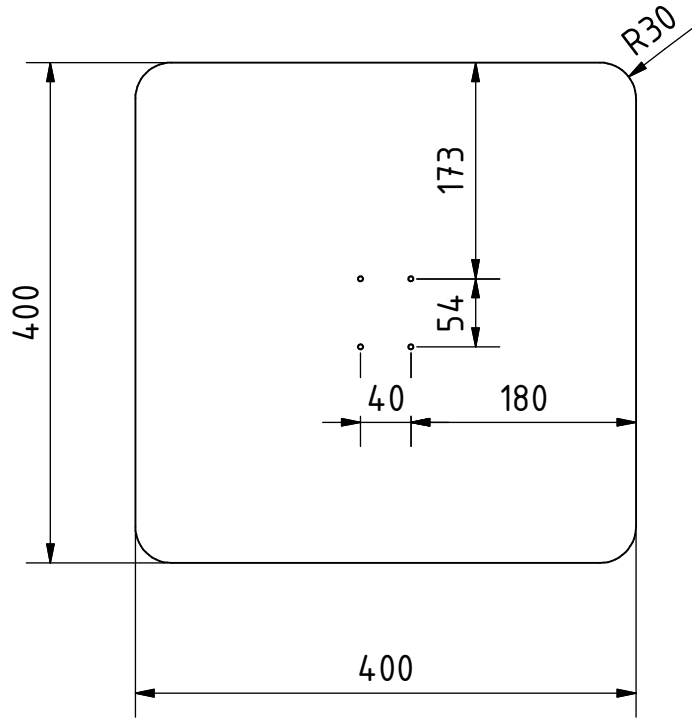
Parts list

POS	QTY	PART NAME	FILE NAME	PART TYPE	SPECIFICATIONS	SHEET
A1	-	3d views	ung_bb_blacksmiths-bellows.iam	-	-	1
A2	-	Exploded 3d view	ung_bb_blacksmiths-bellows.ipn	-	-	2
B1	-	Parts list	ung_bb_blacksmiths-bellows.csv	-	-	3
1.0	-	Bellows	Bellows.ipn	-	-	4
1.1	2	Elastic tube rubber	-	Production	Elastic rubber	-
1.2	1	Square board A	Square board A.ipt	Production	Plywood 12mm	5
1.3	2	Square board B	Square board B.ipt	Production	Plywood 12mm	6
1.4	1	Square board C	Square board C.ipt	Production	Plywood 12mm	7
1.5	4	Sheet metal	Sheet metal.ipt	Production	Sheet steel C45 gauge 25	8
1.6	192	Screw A	-	Standard	BS 4183 Screw M3x10mm	-
1.7	2	Box timber A	Box timber A.ipt	Production	Hardwood 50x20mm	9
1.8	1	Box timber B	Box timber B.ipt	Production	Hardwood 50x20mm	10
1.9	4	Screw B	-	Standard	BS 4183 Screw M5x30mm	-
1.10	3	Flap	-	Buy	Heavy rubber 260x80mm	-
1.11	3	Sheet metal	-	Production	Sheet steel C45 gauge 25, 10x80mm	-
1.12	28	Screw C	-	Standard	BS 4183 Screw M3x20mm	-
1.13	8	Screw D	-	Standard	BS 4183 Screw M5x30mm	-
2.0	-	Frame	Frame.ipn	-	-	11
2.1	1	Foot A	Foot A.ipt	Production	Hardwood 50x20mm	12
2.2	1	Foot B	Foot B.ipt	Production	Hardwood 50x20mm	13
2.3	2	Foot C	Foot C.ipt	Production	Hardwood 50x20mm	14
2.4	1	Box timber C	Box timber C.ipt	Production	Hardwood 50x20mm	15
2.5	4	Small timber	Small timber.ipt	Production	Hardwood 50x20mm	16
2.6	2	Arm A	Arm A.ipt	Production	Hardwood 50x20mm	17
2.7	1	Arm B	Arm B.ipt	Production	Hardwood 40x20mm	18
2.8	1	Arm C	Arm C.ipt	Production	Hardwood 40x20mm	19
2.9	8	Screw E	-	Standard	BS 4183 Screw M6x60m	-
2.10	8	Screw F	-	Standard	BS 4183 Screw M5x30mm	-
2.11	2	Pin A	Pin A.ipt	Production	Steel A36 10mm	20
2.12	2	Pin B	Pin B.ipt	Production	Steel A36 10mm	21
2.13	2	Pin C	Pin C.ipt	Production	Steel A36 10mm	22


PROJECT		CREATED BY		APPROVED BY		DATE		VERSION	
Blacksmiths Bellows		J. Zeron		A. Morillo		30/07/2021		1.0	
PART NAME		FILE NAME						POS	
Parts list		ung_bb_blacksmiths-bellows.csv						B1	
DEVELOPED BY		REDESIGNED BY		DOC. TYPE		MATERIAL		QUANTITY	
University of Technology LAE Papua New Guinea		 OHO e.V.		Parts list					
				LICENCE		SCALE		SHEET	
				CC-BY-SA 4.0				3 /22	

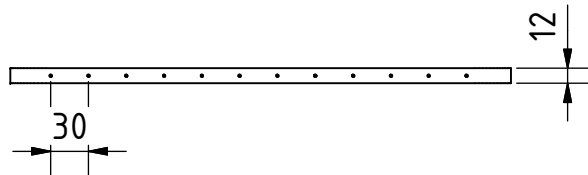
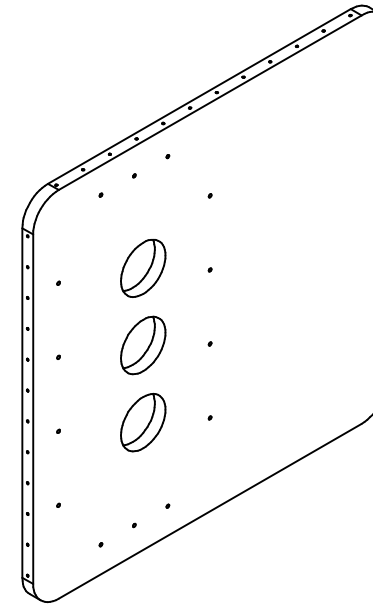
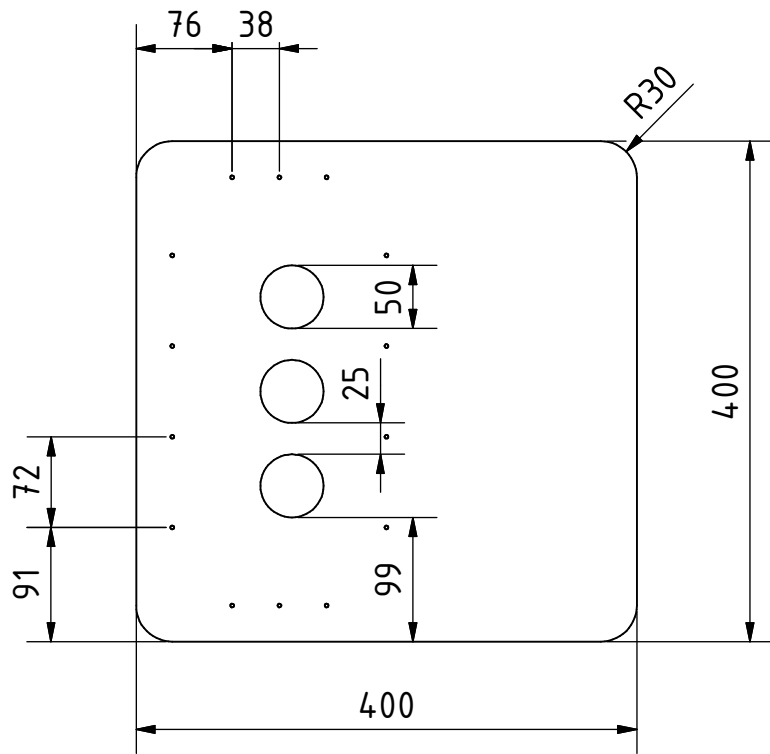


PROJECT	CREATED BY	APPROVED BY	DATE	VERSION
Blacksmiths Bellows	J. Zeron	A. Morillo	30/07/2021	1.0
PART NAME	FILE NAME			POS
Exploded 3d view	Bellows.ipn			1.0
DEVELOPED BY	REDESIGNED BY	DOC. TYPE	MATERIAL	QUANTITY
University of Technology LAE Papua New Guinea	 OHO e.V.	Assembly		1
		LICENCE	SCALE	SHEET
		CC-BY-SA 4.0	1:11	4 /22

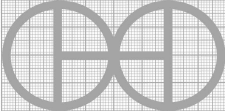


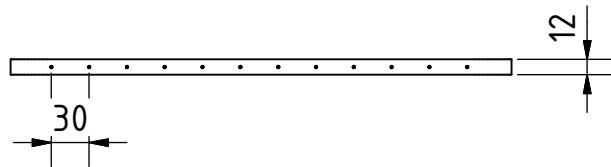
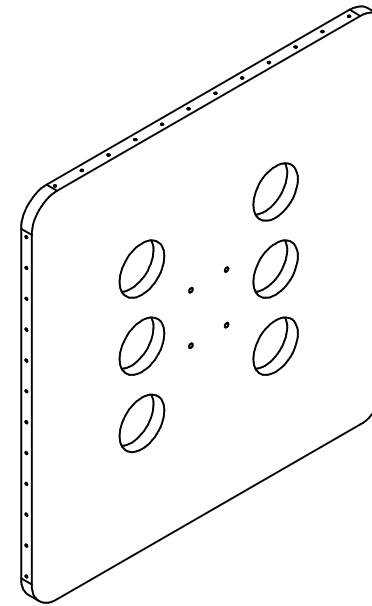
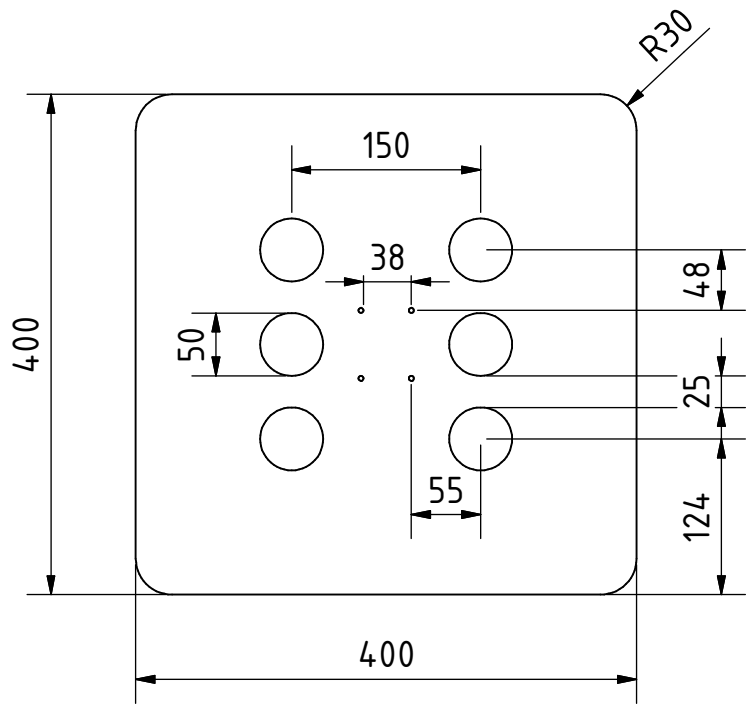
Note: All units in mm.

PROJECT	CREATED BY	APPROVED BY	DATE	VERSION
Blacksmiths Bellows	J. Zeron	A. Morillo	30/07/2021	1.0
PART NAME	FILE NAME			POS
Square board A	Square board A.ipt			1.2
DEVELOPED BY	REDESIGNED BY	DOC. TYPE	MATERIAL	QUANTITY
		Part	Plywood	1
University of Technology LAE Papua New Guinea	OHO e.V.	LICENCE	SCALE	SHEET
		CC-BY-SA 4.0	1:6	5 /22

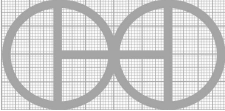


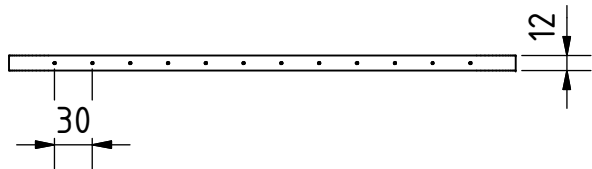
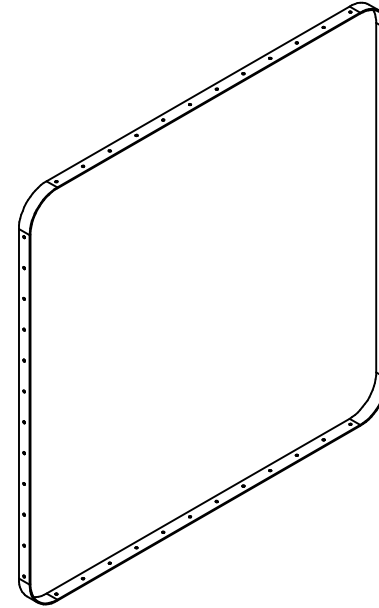
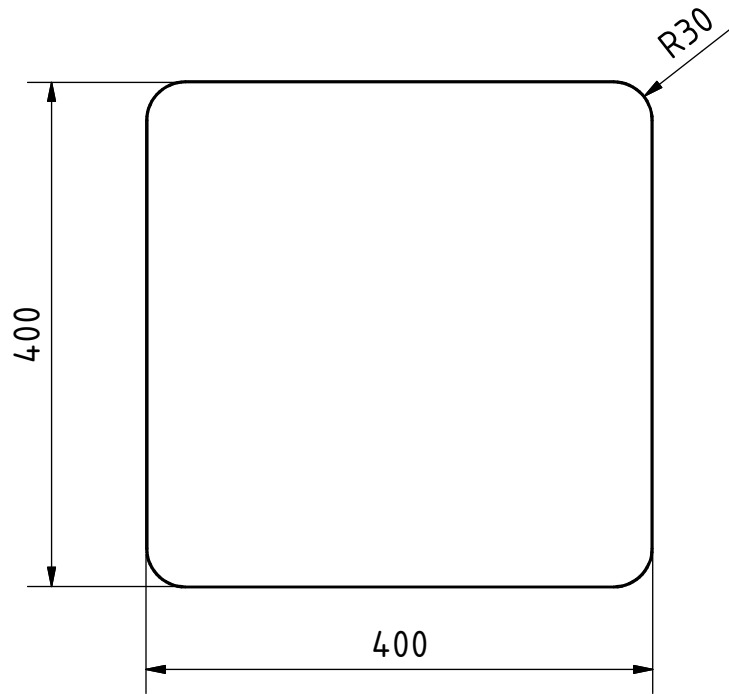
Note: All units in mm.

PROJECT	CREATED BY	APPROVED BY	DATE	VERSION
Blacksmiths Bellows	J. Zeron	A. Morillo	30/07/2021	1.0
PART NAME	FILE NAME			POS
Square board B	Square board B.ipt			1.3
DEVELOPED BY	REDESIGNED BY	DOC. TYPE	MATERIAL	QUANTITY
		Part	Plywood	2
University of Technology LAE Papua New Guinea	OHO e.V.	LICENCE	SCALE	SHEET
		CC-BY-SA 4.0	1:6	6 /22

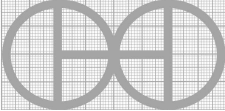


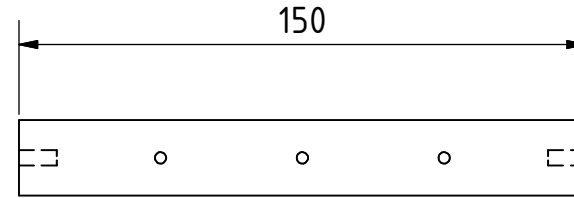
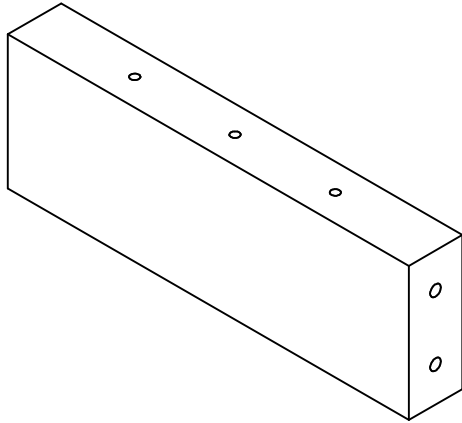
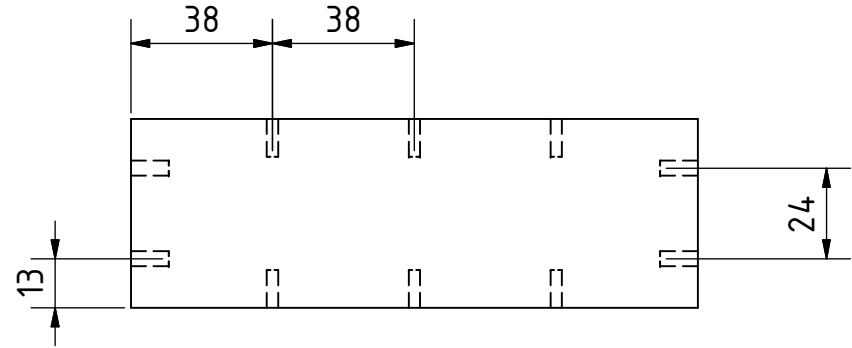
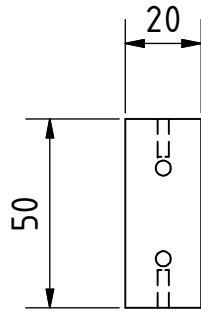
Note: All units in mm.

PROJECT	CREATED BY	APPROVED BY	DATE	VERSION
Blacksmiths Bellows	J. Zeron	A. Morillo	30/07/2021	1.0
PART NAME	FILE NAME			POS
Square board C	Square board C.ipt			1.4
DEVELOPED BY	REDESIGNED BY	DOC. TYPE	MATERIAL	QUANTITY
	 OHO e.V.	Part	Plywood	1
University of Technology LAE Papua New Guinea		LICENCE	SCALE	SHEET
		CC-BY-SA 4.0	1:6	7 /22

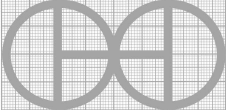


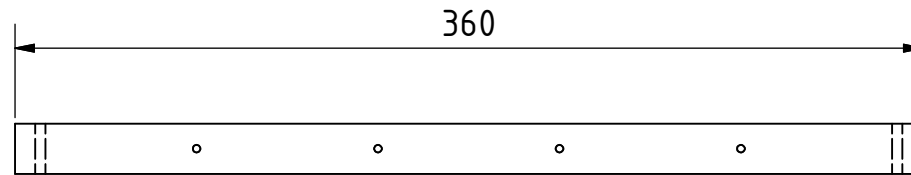
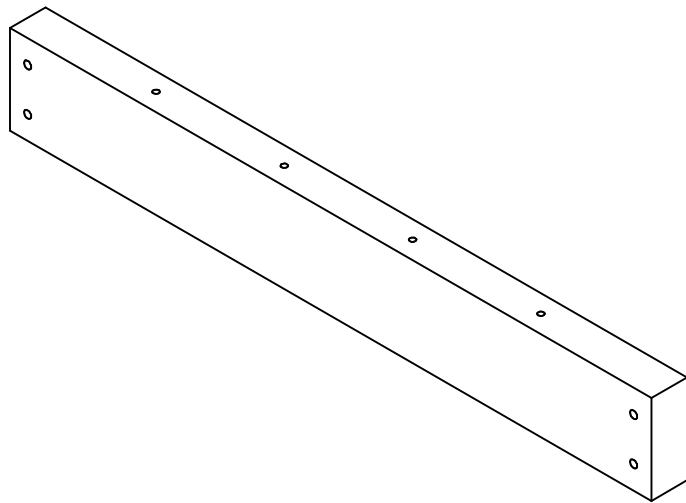
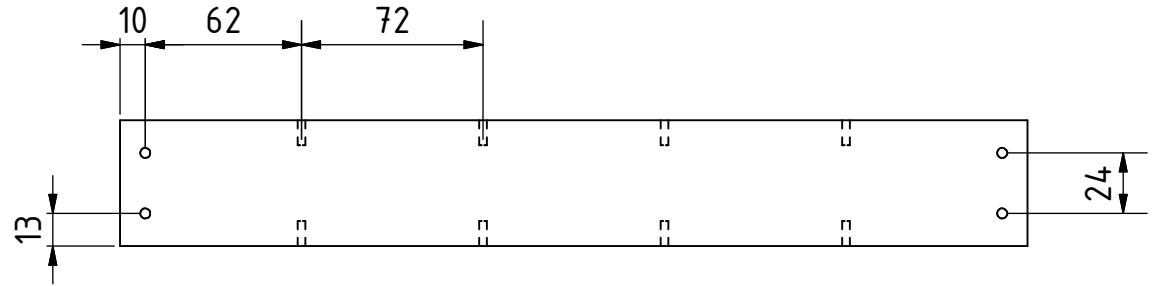
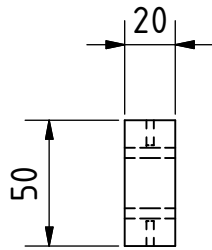
Note: All units in mm.

PROJECT	CREATED BY	APPROVED BY	DATE	VERSION
Blacksmiths Bellows	J. Zeron	A. Morillo	30/07/2021	1.0
PART NAME	FILE NAME			POS
Sheet metal	Sheet metal.ipt			1.5
DEVELOPED BY	REDESIGNED BY	DOC. TYPE	MATERIAL	QUANTITY
	 OHO e.V.	Part	Steel C45	4
University of Technology LAE Papua New Guinea		LICENCE	SCALE	SHEET
		CC-BY-SA 4.0	1:6	8 /22

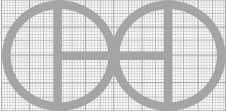


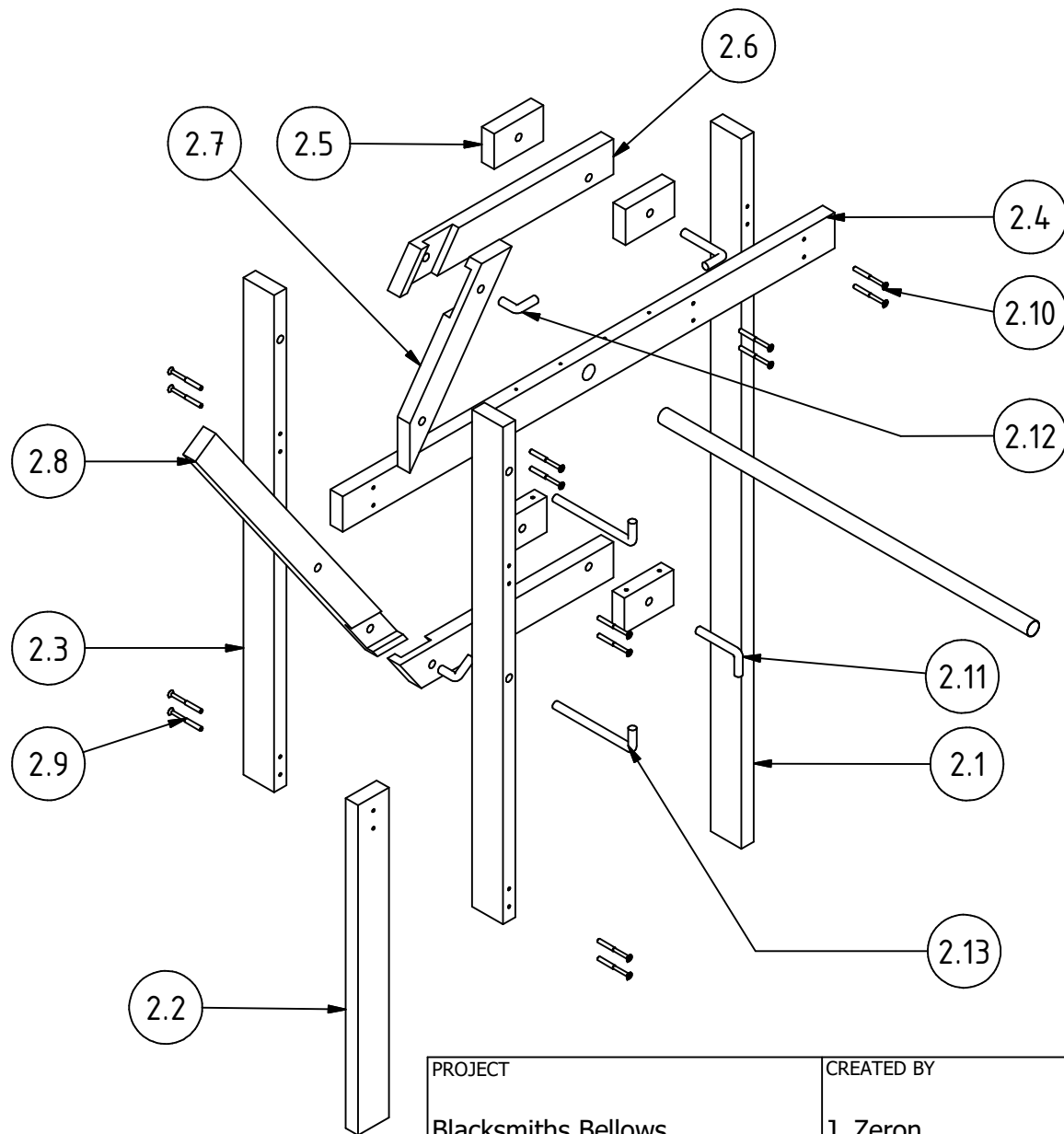
Note: All units in mm.

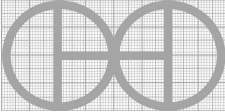
PROJECT	CREATED BY	APPROVED BY	DATE	VERSION
Blacksmiths Bellows	J. Zeron	A. Morillo	30/07/2021	1.0
PART NAME	FILE NAME			POS
Box timber A	Box timber A.ipt			1.7
DEVELOPED BY	REDESIGNED BY	DOC. TYPE	MATERIAL	QUANTITY
	 OHO e.V.	Part	Hardwood	2
University of Technology LAE Papua New Guinea		LICENCE	SCALE	SHEET
		CC-BY-SA 4.0	1:2	9 /22

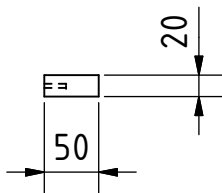
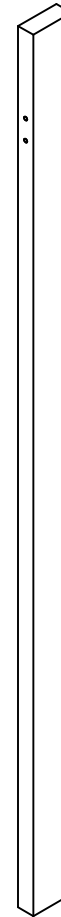
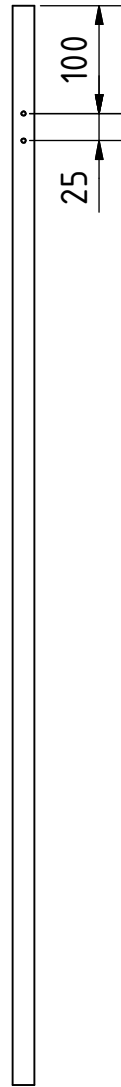
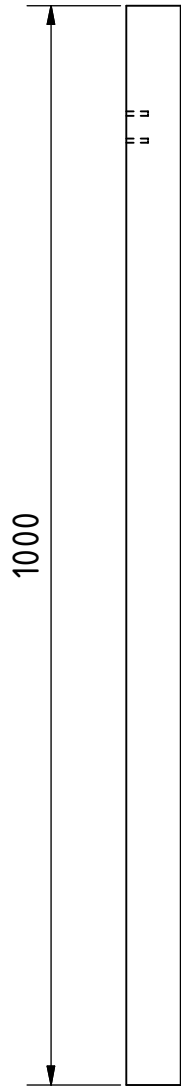


Note: All units in mm.

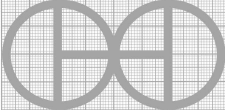
PROJECT	CREATED BY	APPROVED BY	DATE	VERSION
Blacksmiths Bellows	J. Zeron	A. Morillo	30/07/2021	1.0
PART NAME	FILE NAME			POS
Box timber B	Box timber B.ipt			1.8
DEVELOPED BY	REDESIGNED BY	DOC. TYPE	MATERIAL	QUANTITY
University of Technology LAE Papua New Guinea	 OHO e.V.	Part	Hardwood	1
		LICENCE	SCALE	SHEET
		CC-BY-SA 4.0	1:3	10 /22

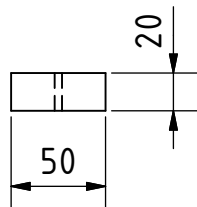
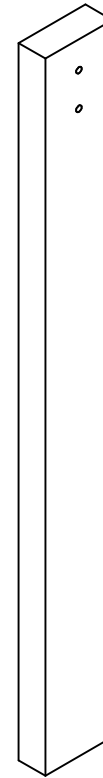
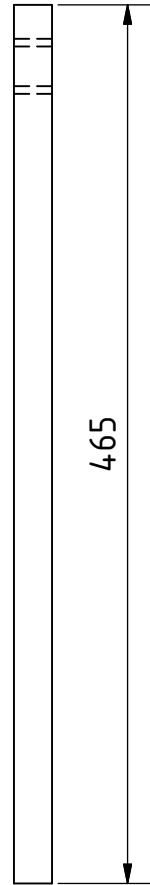
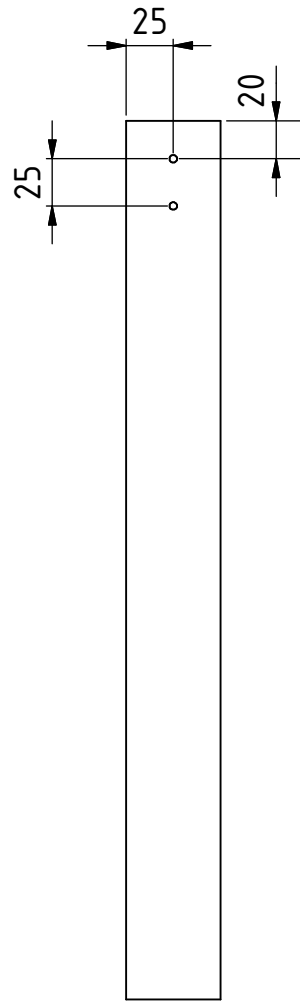


PROJECT	CREATED BY	APPROVED BY	DATE	VERSION
Blacksmiths Bellows	J. Zeron	A. Morillo	30/07/2021	1.0
PART NAME	FILE NAME	POS		
Exploded 3d view	Frame.ipn	2.0		
DEVELOPED BY	REDESIGNED BY	DOC. TYPE	MATERIAL	QUANTITY
University of Technology LAE Papua New Guinea	 OHO e.V.	Assembly		1
		LICENCE	SCALE	SHEET
		CC-BY-SA 4.0	1:8	11 /22

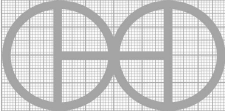


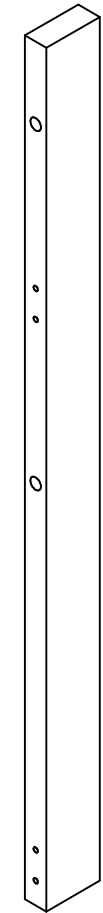
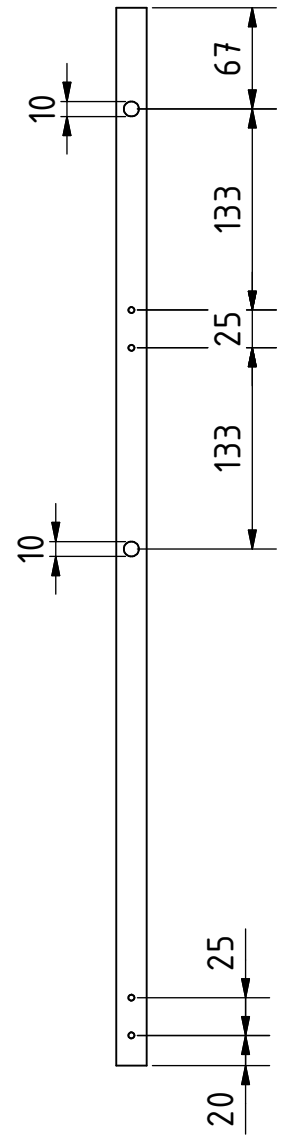
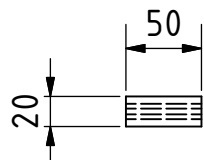
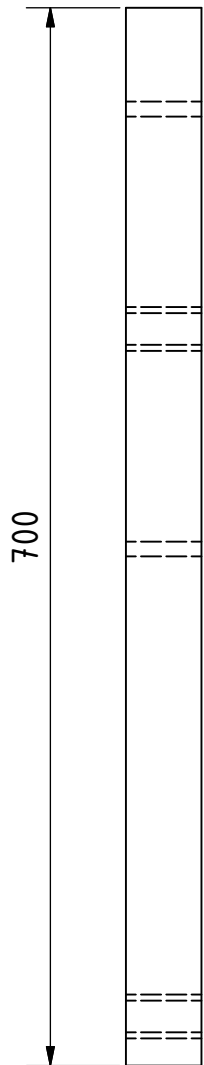
Note: All units in mm.

PROJECT	CREATED BY	APPROVED BY	DATE	VERSION
Blacksmiths Bellows	J. Zeron	A. Morillo	30/07/2021	1.0
PART NAME	FILE NAME			POS
Foot A	Foot A.ipt			2.1
DEVELOPED BY	REDESIGNED BY	DOC. TYPE	MATERIAL	QUANTITY
University of Technology LAE Papua New Guinea	 OHO e.V.	Part	Hardwood	1
		LICENCE	SCALE	SHEET
		CC-BY-SA 4.0	1:7	12 /22

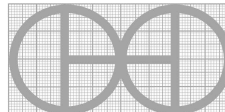


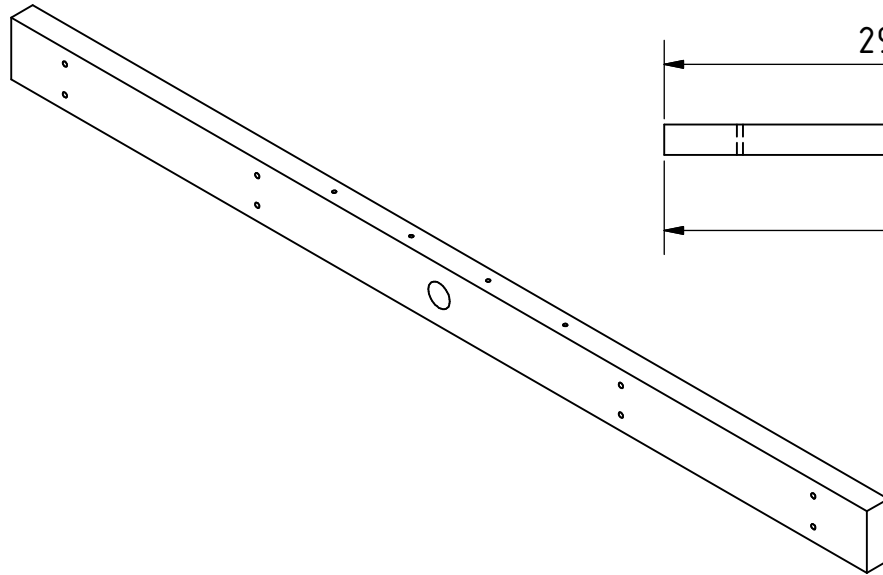
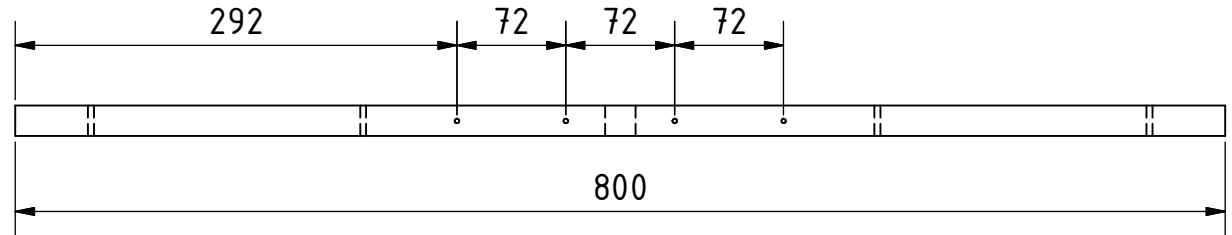
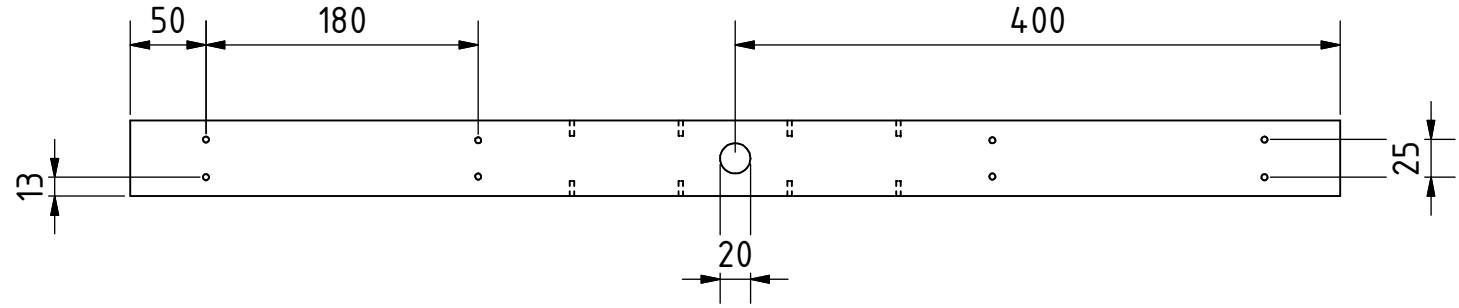
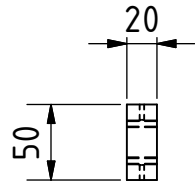
Note: All units in mm.

PROJECT	CREATED BY	APPROVED BY	DATE	VERSION
Blacksmiths Bellows	J. Zeron	A. Morillo	30/07/2021	1.0
PART NAME	FILE NAME			POS
Foot B	Foot B.ipt			2.2
DEVELOPED BY	REDESIGNED BY	DOC. TYPE	MATERIAL	QUANTITY
	 OHO e.V.	Part	Hardwood	1
University of Technology LAE Papua New Guinea		LICENCE	SCALE	SHEET
		CC-BY-SA 4.0	1:4	13 /22

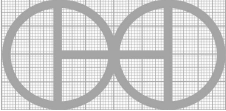


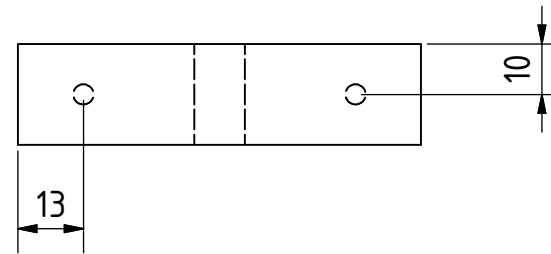
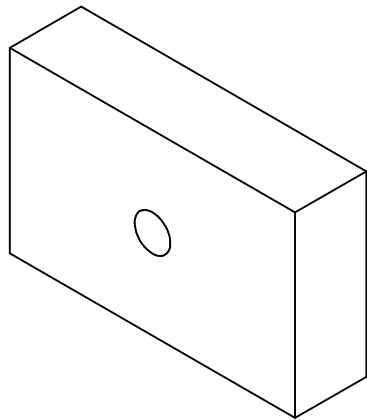
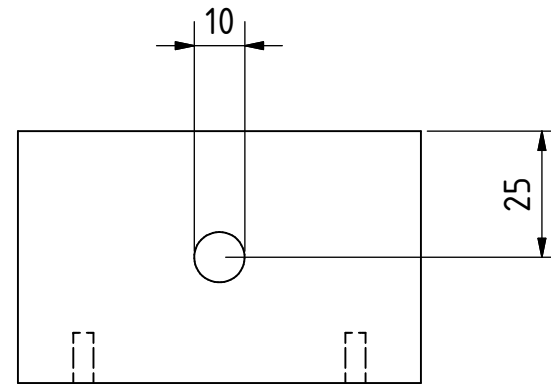
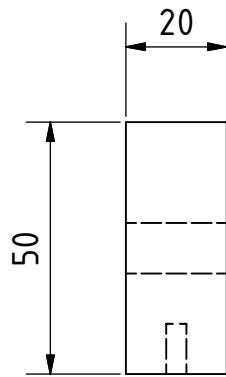
Note: All units in mm.

PROJECT	CREATED BY	APPROVED BY	DATE	VERSION
Blacksmiths Bellows	J. Zeron	A. Morillo	30/07/2021	1.0
PART NAME	FILE NAME			POS
Foot C	Foot C.ipt			2.3
DEVELOPED BY	REDESIGNED BY	DOC. TYPE	MATERIAL	QUANTITY
University of Technology LAE Papua New Guinea	 OHO e.V.	Part	Hardwood	2
		LICENCE	SCALE	SHEET
		CC-BY-SA 4.0	1:5	14 /22

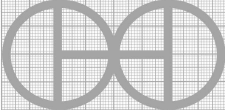


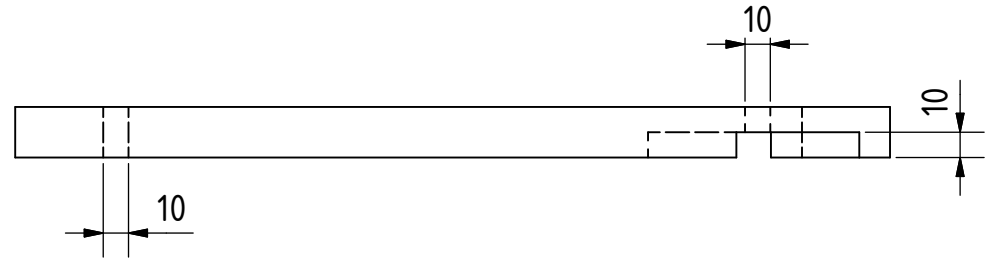
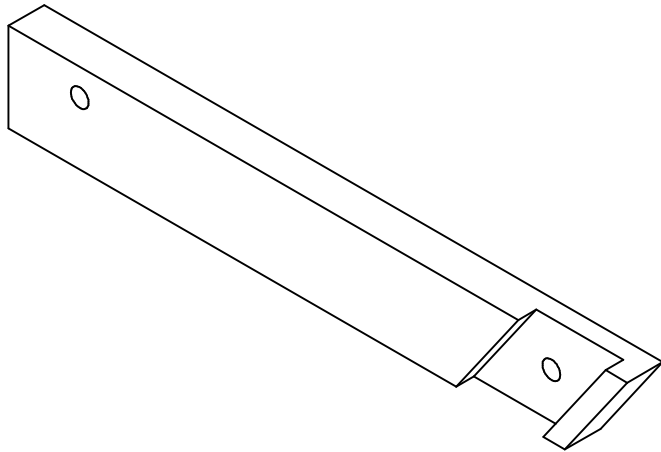
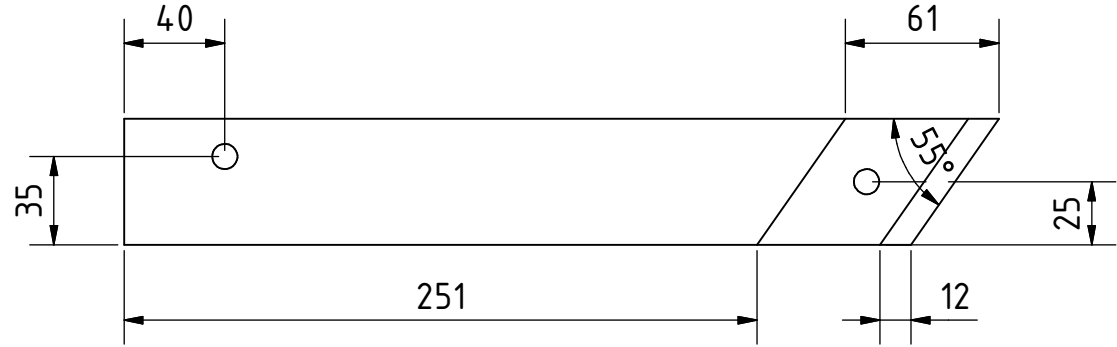
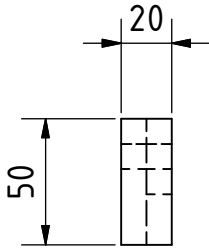
Note: All units in mm.

PROJECT	CREATED BY	APPROVED BY	DATE	VERSION
Blacksmiths Bellows	J. Zeron	A. Morillo	30/07/2021	1.0
PART NAME	FILE NAME			POS
Box timber C	Box timber C.ipt			2.4
DEVELOPED BY	REDESIGNED BY	DOC. TYPE	MATERIAL	QUANTITY
University of Technology LAE Papua New Guinea	 OHO e.V.	Part	Hardwood	1
		LICENCE	SCALE	SHEET
		CC-BY-SA 4.0	1:5	15 /22

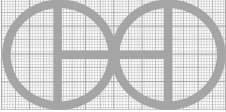


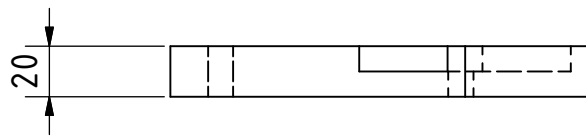
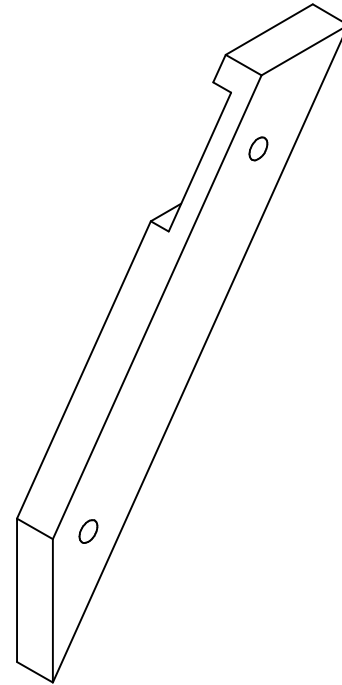
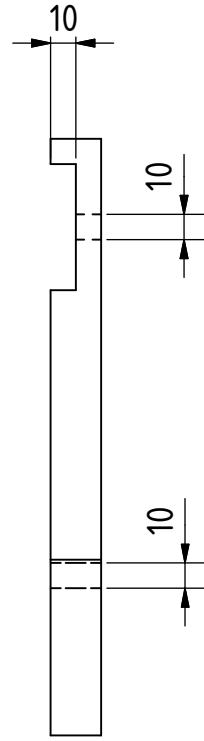
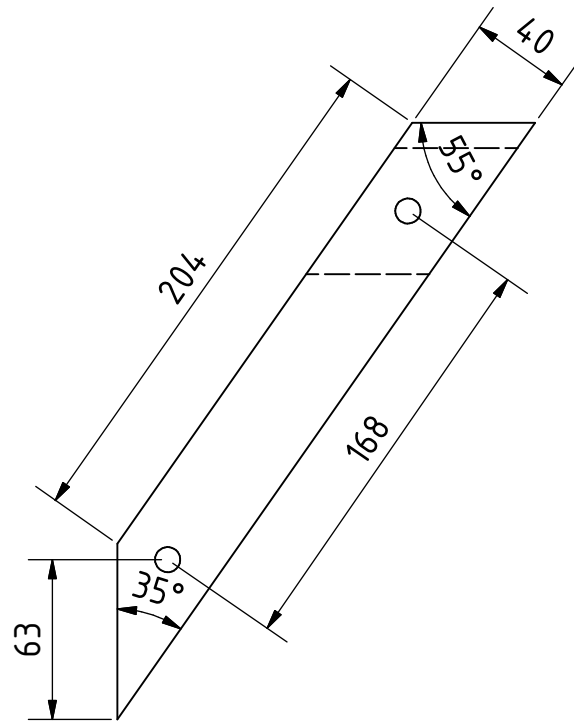
Note: All units in mm.

PROJECT	CREATED BY	APPROVED BY	DATE	VERSION
Blacksmiths Bellows	J. Zeron	A. Morillo	30/07/2021	1.0
PART NAME	FILE NAME			POS
Small timber	Small timber.ipt			2.5
DEVELOPED BY	REDESIGNED BY	DOC. TYPE	MATERIAL	QUANTITY
University of Technology LAE Papua New Guinea	 OHO e.V.	Part	Hardwood	4
		LICENCE	SCALE	SHEET
		CC-BY-SA 4.0	1:1.5	16 /22

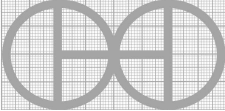


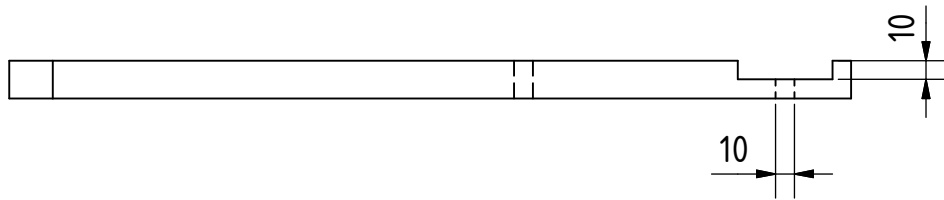
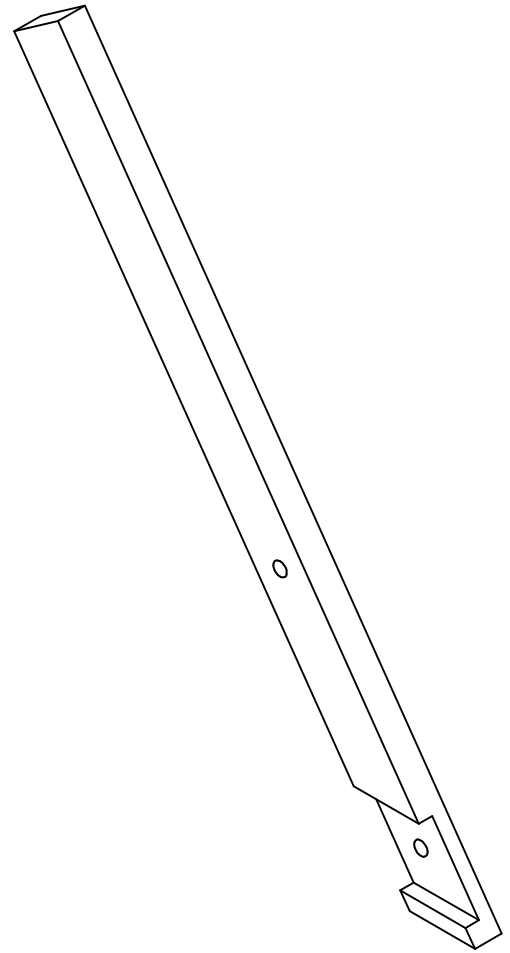
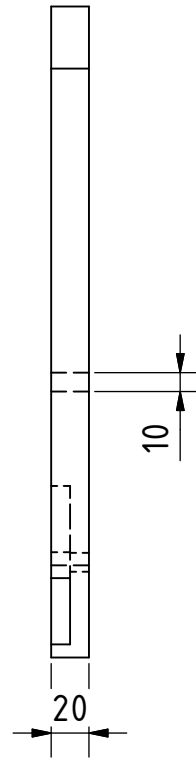
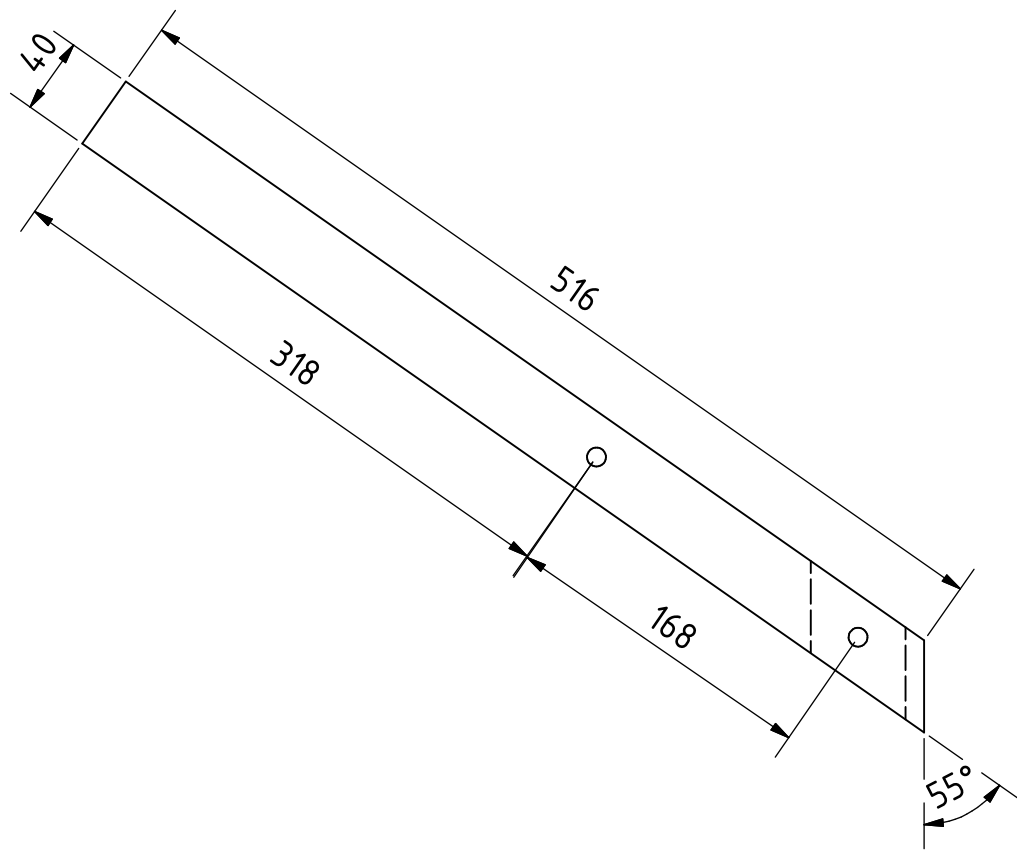
Note: All units in mm.

PROJECT	CREATED BY	APPROVED BY	DATE	VERSION
Blacksmiths Bellows	J. Zeron	A. Morillo	30/07/2021	1.0
PART NAME	FILE NAME			POS
Arm A	Arm A.ipt			2.6
DEVELOPED BY	REDESIGNED BY	DOC. TYPE	MATERIAL	QUANTITY
		Part	Hardwood	2
University of Technology LAE Papua New Guinea	OHO e.V.	LICENCE	SCALE	SHEET
		CC-BY-SA 4.0	1:3	17 /22

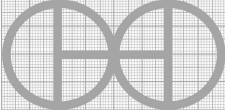


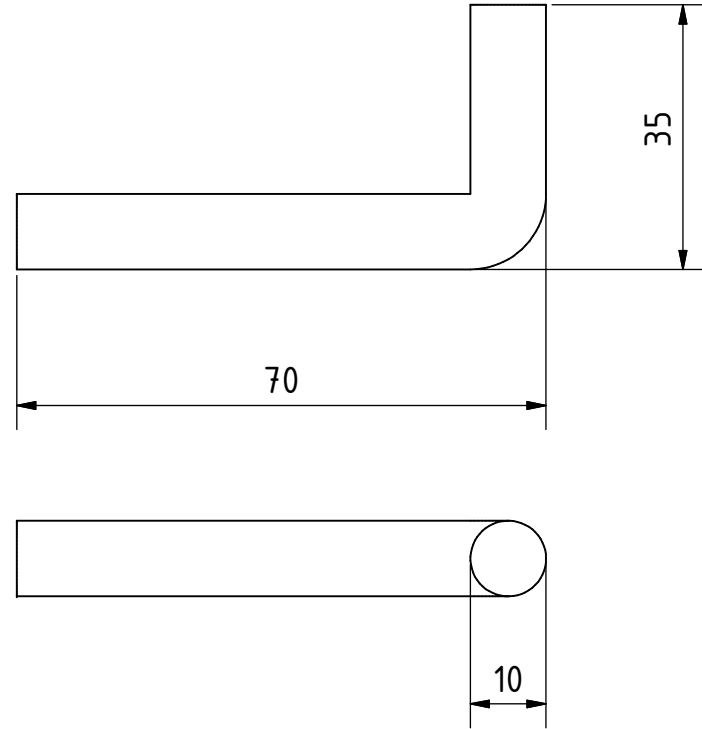
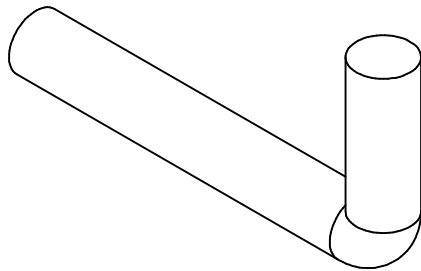
Note: All units in mm.

PROJECT	CREATED BY	APPROVED BY	DATE	VERSION
Blacksmiths Bellows	J. Zeron	A. Morillo	30/07/2021	1.0
PART NAME	FILE NAME			POS
Arm B	Arm B.ipt			2.7
DEVELOPED BY	REDESIGNED BY	DOC. TYPE	MATERIAL	QUANTITY
		Part	Hardwood	1
University of Technology LAE Papua New Guinea	OHO e.V.	LICENCE	SCALE	SHEET
		CC-BY-SA 4.0	1:3	18 /22

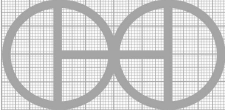


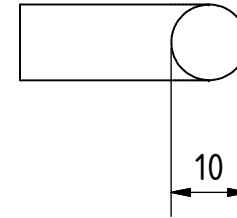
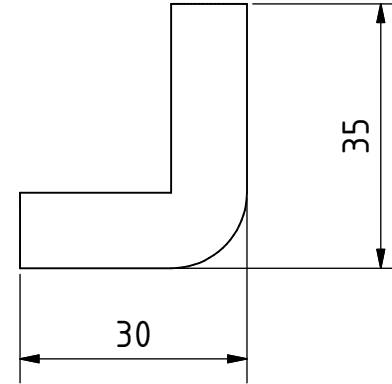
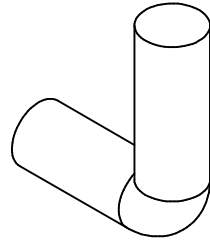
Note: All units in mm.

PROJECT	CREATED BY	APPROVED BY	DATE	VERSION
Blacksmiths Bellows	J. Zeron	A. Morillo	30/07/2021	1.0
PART NAME	FILE NAME	POS		
Arm C	Arm C.ipt	2.8		
DEVELOPED BY	REDESIGNED BY	DOC. TYPE	MATERIAL	QUANTITY
University of Technology LAE Papua New Guinea	 OHO e.V.	Part	Hardwood	1
		LICENCE	SCALE	SHEET
		CC-BY-SA 4.0	1:4	19 /22

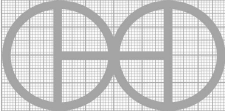


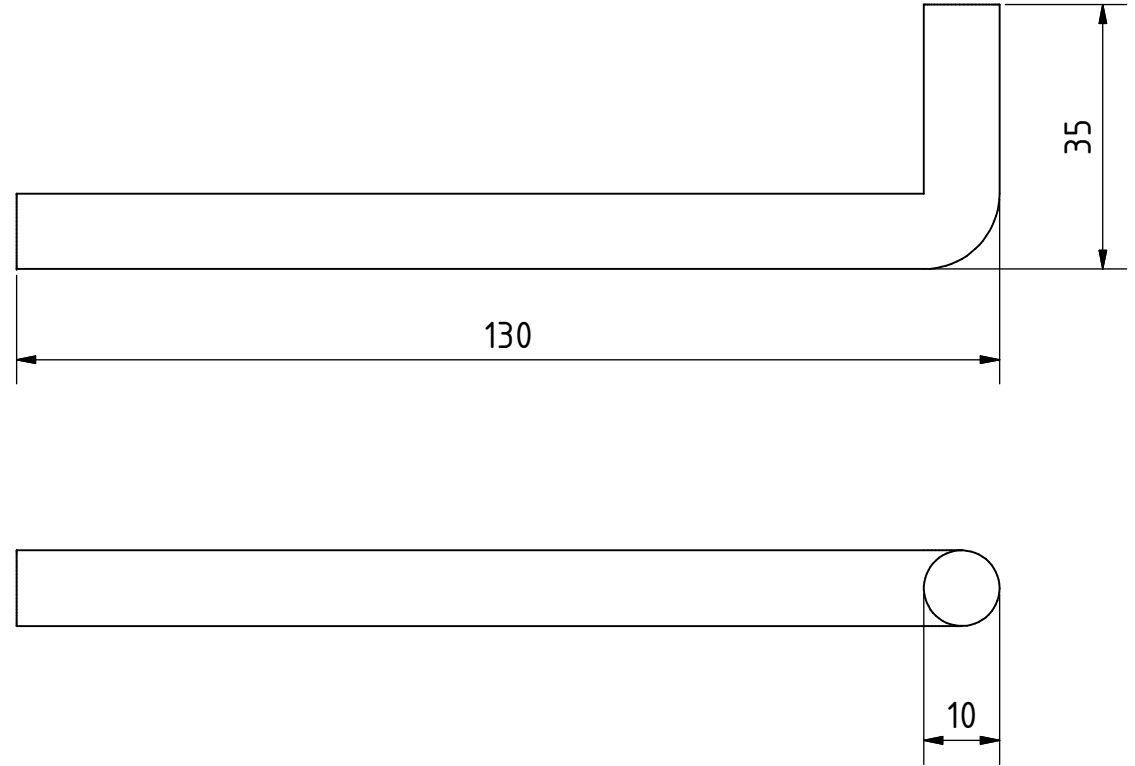
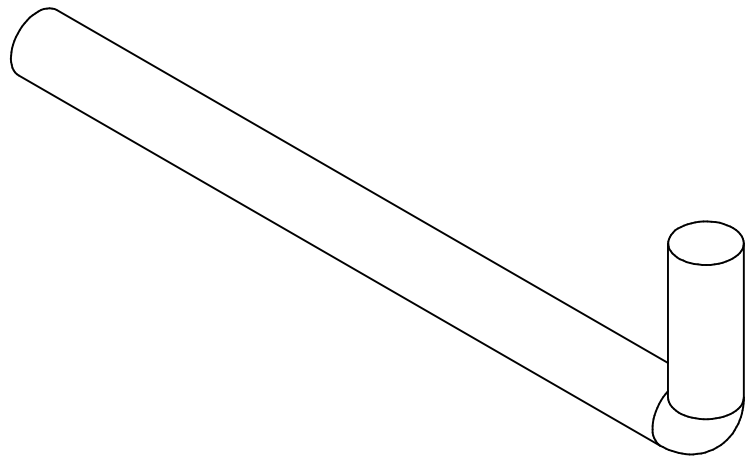
Note: All units in mm.

PROJECT	CREATED BY	APPROVED BY	DATE	VERSION
Blacksmiths Bellows	J. Zeron	A. Morillo	30/07/2021	1.0
PART NAME	FILE NAME			POS
Pin A	Pin A.ipt			2.11
DEVELOPED BY	REDESIGNED BY	DOC. TYPE	MATERIAL	QUANTITY
		Part	Steel A36	2
University of Technology LAE Papua New Guinea	OHO e.V.	LICENCE	SCALE	SHEET
		CC-BY-SA 4.0	1:1	20 /22

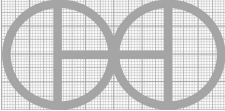


Note: All units in mm.

PROJECT	CREATED BY	APPROVED BY	DATE	VERSION
Blacksmiths Bellows	J. Zeron	A. Morillo	30/07/2021	1.0
PART NAME	FILE NAME			POS
Pin B	Pin B.ipt			2.12
DEVELOPED BY	REDESIGNED BY	DOC. TYPE	MATERIAL	QUANTITY
University of Technology LAE Papua New Guinea	 OHO e.V.	Part	Steel A36	2
		LICENCE	SCALE	SHEET
		CC-BY-SA 4.0	1:1	21 /22



Note: All units in mm.

PROJECT	CREATED BY	APPROVED BY	DATE	VERSION
Blacksmiths Bellows	J. Zeron	A. Morillo	30/07/2021	1.0
PART NAME	FILE NAME			POS
Pin C	Pin C.ipt			2.13
DEVELOPED BY	REDESIGNED BY	DOC. TYPE	MATERIAL	QUANTITY
		Part	Steel A36	2
University of Technology LAE Papua New Guinea	OHO e.V.	LICENCE	SCALE	SHEET
		CC-BY-SA 4.0	1:1	22 /22