

DIY and Instruction

This book is designed for those who want to build Impresso themselves, using their manual skills.

If you feel like getting involved, cutting wood and getting your 3D printer up and running, now is the time.

There are some components that need to be made. They are organised depending on the processes required to make them, dividing the raw material into wood, aluminium, stainless steel and PLA plastic. In addition, it is indicated the necessary screws and commercial components to be purchased.

If, instead, you have purchased our kit and want to proceed to assemble Impresso, go directly to page 42 where all the steps to assemble the printing press are explained!

LIST OF MATERIALS TO PURCHASE

CART WITH STAINLESS STEEL ROLLER				
Description	Unit	Unit cost	Total cost	Source
Stainless steel roller Ø50	1	27,99 €	27,99 €	Amazon
Radial ball Bearings	4	0,99 €	3,96 €	Amazon
lamellar beech wood board (L 300 x 1200 mm x Sp 18mm)*	1	/	23,99 €	Leroy Merlin
Threaded rod (M8x1000 mm)	1	1,10 €	1,10 €	Leroy Merlin
Pan head screw M8x40	4	0,96 €	3,85 €	Leroy Merlin
Washer_8x18x2	12	0,07 €	0,86 €	Leroy Merlin
Washer_8x15x1,5	4	0,10 €	0,40 €	Leroy Merlin
Washer_8x24x1,5	4	0,25 €	1,00 €	Leroy Merlin
Lock Washer Ø8	4	0,27 €	1,08 €	Tuttolegno
Hexagonal Nut M8	16	0,054 €	0,86 €	Leroy Merlin
3d printed handle (PLA filaments + printing processing)	1	2,30 €	2,30 €	Cost evaluated with Creativity Print
3D printer flange (PLA filaments + printing processing)	2	0,38 €	0,76 €	Cost evaluated with Creativity Print
PVC Pipe (Ø12x1 1m)	1	3,99 €	3,99 €	Leroy Merlin
Hex Tapping Screw_ø4,2x19	6	0,04 €	0,24 €	Tuttolegno
Wooden dowels	2	0,02 €	0,04 €	Leroy Merlin
TOTAL			72,42 €	

FRAME				
Description	Unit	Unit cost	Total cost	Source
Planed beech wood lath (2500x40x20 mm)	1	6,45 €	6,45 €	Tuttolegno
wood-cutting processing	4	1,10 €	4,40 €	Tuttolegno
3D printed joints (PLA filaments + printing processing)	4	2,34 €	9,36 €	Cost evaluated with Creativity Print
Aluminium square tube (16x16x1000 mm)	1	5,25 €	5,25 €	Leroy Merlin
HEXAGONAL HEAD SCREW M6x50	4	0,78 €	3,12 €	Leroy Merlin
WASHER 6x24x1,5	4	0,25 €	1,00 €	Leroy Merlin
WASHER 6x12x1	8	0,10 €	0,80 €	Leroy Merlin
WASHER 6x18x1,5	4	0,10 €	0,40 €	Leroy Merlin
HEXAGONAL BLIND NUT M6	4	0,07 €	0,29 €	Parkside
WASHER 4.3x8x0.75	6	0,09 €	0,53 €	Leroy Merlin
HEX TAPPING SCREW Ø3,5x13	6	0,04 €	0,24 €	Leroy Merlin
Self-adhesive felt pad Ø20	4	0,10 €	0,40 €	Amazon
Suction cups	4	0,69 €	2,76 €	Amazon
Clamp	1	5,44 €	5,44 €	Amazon
TOTAL			40,43 €	

CART WITH PVC ROLLER OPTION				
Description	Unit	Unit cost	Total cost	Source
PVC tube (500x50 mm)	1	1,40€	1,40€	Leroy Merlin
Sand (500g)	1	0,55€	0,55€	Leroy Merlin
Threaded rod M8	1	1,10€	1,10€	Leroy Merlin
3d printed cap (PLA filaments + printing processing)	2	0,22 €	0,44 €	Cost evaluated with Creativity Print
3D printer flange (PLA filaments + printing processing)	2	0,38 €	0,76 €	Cost evaluated with Creativity Print
Radial ball Bearings	6	0,99€	5,94€	Amazon
lamellar beech wood board (L 300 x 1200 mm x Sp 18mm)*	1	/	23,99 €	Leroy Merlin
Threaded rod (M8x1000 mm)	1	1,10 €	1,10 €	Leroy Merlin
Pan head screw M8x40	4	0,96 €	3,85 €	Leroy Merlin
Washer_8x18x2	12	0,07 €	0,86 €	Leroy Merlin
Washer_8x15x1,5	4	0,10 €	0,40 €	Leroy Merlin
Washer_8x24x1,5	4	0,25 €	1,00 €	Leroy Merlin
Lock Washer Ø8	4	0,27 €	1,08 €	Tuttolegno
Hexagonal Nut M8	16	0,054 €	0,86 €	Leroy Merlin
3d printed handle (PLA filaments + printing processing)	1	2,76 €	2,76 €	Cost evaluated with Creativity Print
Hex Tapping Screw_ø4,2x19	6	0,04 €	0,24 €	Leroy Merlin
PVC Pipe (Ø12x1 1m)	1	3,99 €	3,99 €	Leroy Merlin
Low Hexagonal Nut M8	2	0,054 €	0,10 €	Leroy Merlin
TOTAL			50,01€	

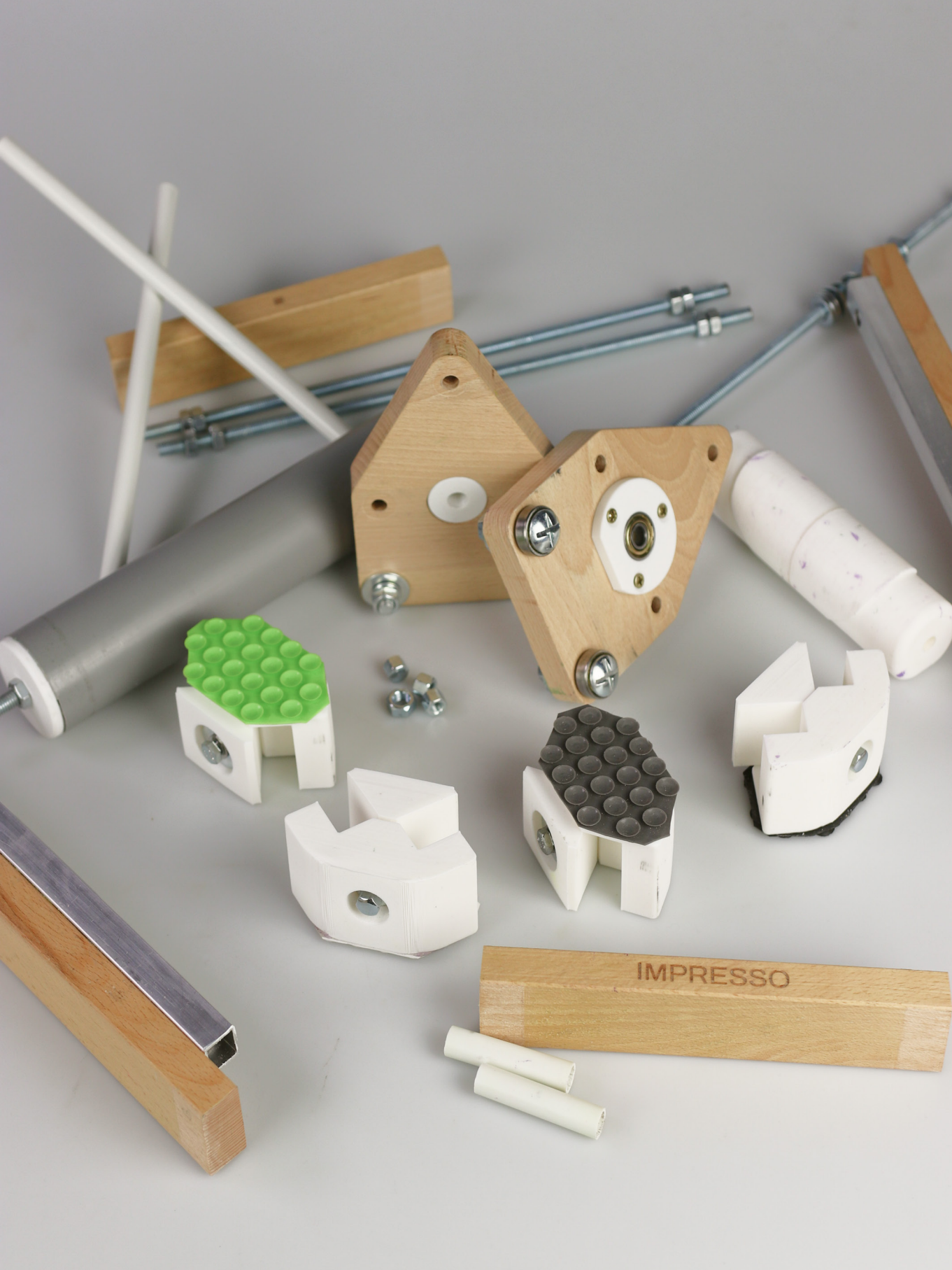
EXTRA				
Description	Unit	Unit cost	Total cost	Source
poplar plywood panel	1	5,00 €	5,00 €	Tuttolegno
Measuring tool laser cut	6	3,00 €	3,00 €	Fablab
Colorless water-based impregnating paint	1	2,23 €	2,23 €	Tuttolegno
Colorless beeswax	1	5,45 €	5,45 €	Tuttolegno
TOTAL			15,68€	

MATRIX HOLDER				
Description	Unit	Unit cost	Total cost	Source
GENERAL COMPONENTS				
lamellar beech wood board (L 300 x 1200 mm x Sp 18mm)	-	-	* reuse of the same wood of the sides	- -
Laser cut grid	1	2,00 €	2,00 €	Fablab
3D printed sliders (PLA filaments + printing processing)	4	0,05 €	0,20 €	Cost evaluated with Creativity Print
threaded insert M8	4	0,35 €	1,38 €	Leroy Merlin
Felt	1	1,10 €	1,10 €	Leroy Merlin
Felt pads Ø20mm	4	0,08 €	0,32 €	Leroy Merlin
Adjustable support	4	0,34 €	1,36 €	Amazon
Low Hexagonal Nut M8	2	0,054 €	0,10 €	Leroy Merlin
Low Hexagonal Nut M8	2	0,054 €	0,10 €	Leroy Merlin
Sliders and registration pins	7	0,02 €	0,14 €	Cost evaluated with Creativity Print
COMPONENTS TO ADD FOR PRINTING MOVABLE TYPES				
Adhesive magnetic sheet	1	4,31 €	4,31 €	Amazon
Movable type sliders	4	0,14 €	0,56 €	Cost evaluated with Creativity Print
Sliders for magnets	4	0,15 €	0,60 €	Cost evaluated with Creativity Print
Magnets	4	0,22 €	0,88 €	Amazon
Corner joints	4	0,57 €	2,28 €	Cost evaluated with Creativity Print
Felt pads Ø25 mm	4	0,08 €	0,32 €	Leroy Merlin
TOTAL			15,65 €	

COST FOR EACH SUBASSEMBLY	
Description	Cost
Cart - steel roller option	72,42 €
Cart - PVC roller option	50,01 €
Frame	40,43 €
Matrix holder	15,65 €
Extra	15,68€

PRINTING PRESS TOTAL COST (steel roller option)	€ 144,18
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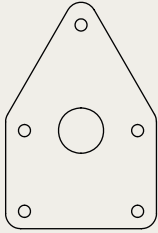
PRINTING PRESS TOTAL COST (PVC roller option)	€ 121,77
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COMPONENTS

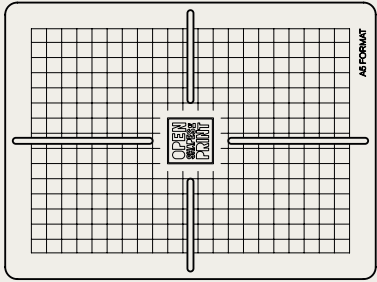
List of components to be realised

DIY COMPONENTS




IM-01-0-01
Sides

(2x)




IM-03-0-01
Plate

(1x)



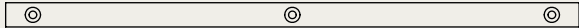
IM-02-0-02
Wooden tran. lath

(2x)




IM-02-0-01
Wooden long. lath

(2x)



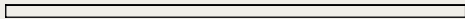
IM-02-0-03
Aluminium track

(2x)



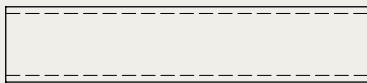
IM-01-0-03
Threaded rod M8

(3x)



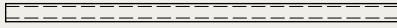
IM-01-B-03
Threaded rod M8

(1x)




IM-01-B-01
Diy roller

(1x)



IM-01-0-05
Pipe

(2x)



IM-01-0-06
Pipe

(2x)

scale 1:5

BILL OF MATERIALS

LAMINATED BEECH WOOD BOARD

L 300 x 800 x sp. 18 mm

PLANED BEECH WOOD LATH

(L 2500 x 40 x 20 mm)

ALUMINIUM SQUARE TUBE

(16 x 16 x 1000 mm)

THREADED ROD

(M8 x 1000 mm)

PVC TUBE

(Ø50 x 500 mm)


PVC PIPE

(Ø12 x sp1 x 1000 mm)

only for the printing press
with the PVC roller

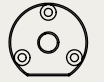
7

DIY COMPONENTS




IM-02-0-04
Joint ext

(4x)




IM-01-A-01
Flange

(2x)




IM-01-B-04
Flange

(2x)




IM-02-0-05
Joint int

(4x)



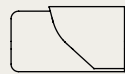
IM-01-B-02
Cap

(2x)




IM-03-0-02
Slider

(4x)




IM-01-0-02
Handle

(2x)




IM-03-0-05_A
Slider

(4x)




IM-03-0-08_A
Magnetic slider

(4x)




IM-03-0-06_A
Upper corner joint

(4x)




IM-03-0-07_A
Lower corner joint

(4x)



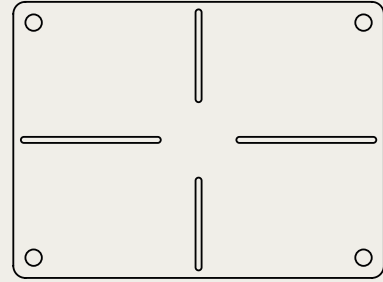
IM-03-0-03_A
Registration pin

(1x)



IM-03-0-09_A
Registration tab

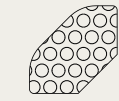
(2x)



IM-03-0-04
Ferrous sheet

(1x)

scale 1:5



IM-02-0-06
Suction cups

(4x)

scale 1:5

BILL OF MATERIALS

3D PRINTING PLA

(Creality Hyper PLA,
1,75 mm, +/-0,03 mm)

FERROUS SHEET

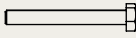
(A4 format)

SUCTION CUPS SHEET


(4 sheets of 80x55 mm)

only for the printing press
with the PVC roller


STANDARD COMPONENTS




Hexagonal head screw
M6x50




Hex tapping screw
Ø4,2x19




Hex tapping screw
Ø3,5x13




C.S. Lock washer-ø8



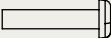
Steel roller
scale 1:10




Hexagonal blind nut M6




Washer_4.3x8x0.75




S.P. Head screw_m8x40




Hex nut M8




Washer_6x12x1




Washer_8x15x1,5




SB608ZZ
Radial Ball Bearing
Ø8xØ22x7




Threaded insert m8



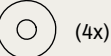
Adjustable support M8




Washer_6x24x1,5




Washer_8x18x2



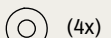
Washer_8x24x2




Low Hex nut M8




WOODEN DOWELS




Washer_6x18x1,5



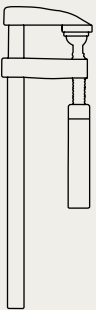
Felt pad Ø20




Felt pad Ø25




MAGNET 15x27x6




Clamp
scale 1:5




Spanner n°13




Hex head screwdriver




Cross screwdriver




Vinyl glue




Hex key



Spanner n°11




Ratchet wrench

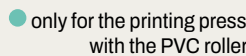


Hands

OTHER COMPONENTS



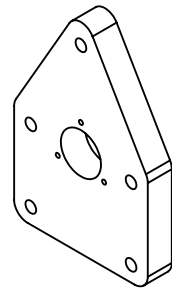
SAND
qty: 500 g



only for the printing press
with the PVC roller

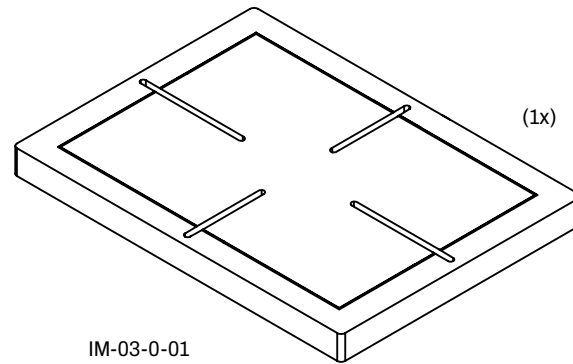
WOOD

Components



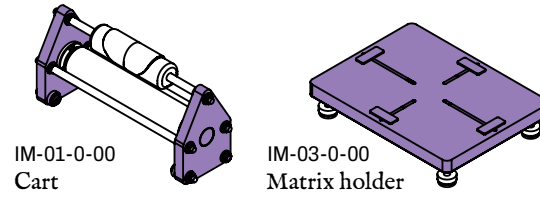
IM-01-0-01
Sides

(2x)



IM-03-0-01
Plate

(1x)



IM-01-0-00
Cart

IM-03-0-00
Matrix holder

RAW MATERIALS:

Laminated beech wood board
L₃₀₀ x 800 x sp. 18 mm

FILE:

3DM (if you want to modify), DXF (for laser cut), PDF,
Step (for CNC milling)

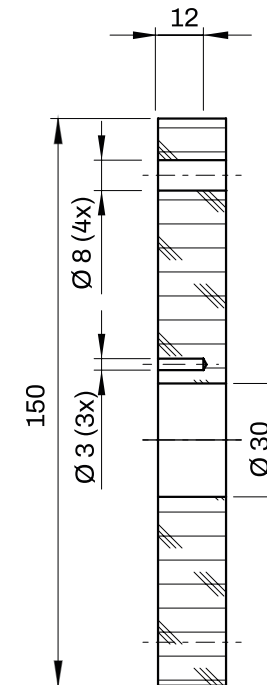
TOOLS:

- ✿ Cutting edges: small band saw
- ✿ Holes: column drill with wood drill bits of diameters Ø 8-10-12 mm; column drill with lance drill bit of diameters Ø20 mm
- ✿ Carvings: milling cutter of diameter Ø 4 and Ø 5 mm for column drill
- ✿ CNC milling option: for sides and plate, to outline cutting, carving and holes
- ✿ belt sander and glass paper
- ✿ laser cut CO₂
- ✿ measuring square, caliber, tape measure

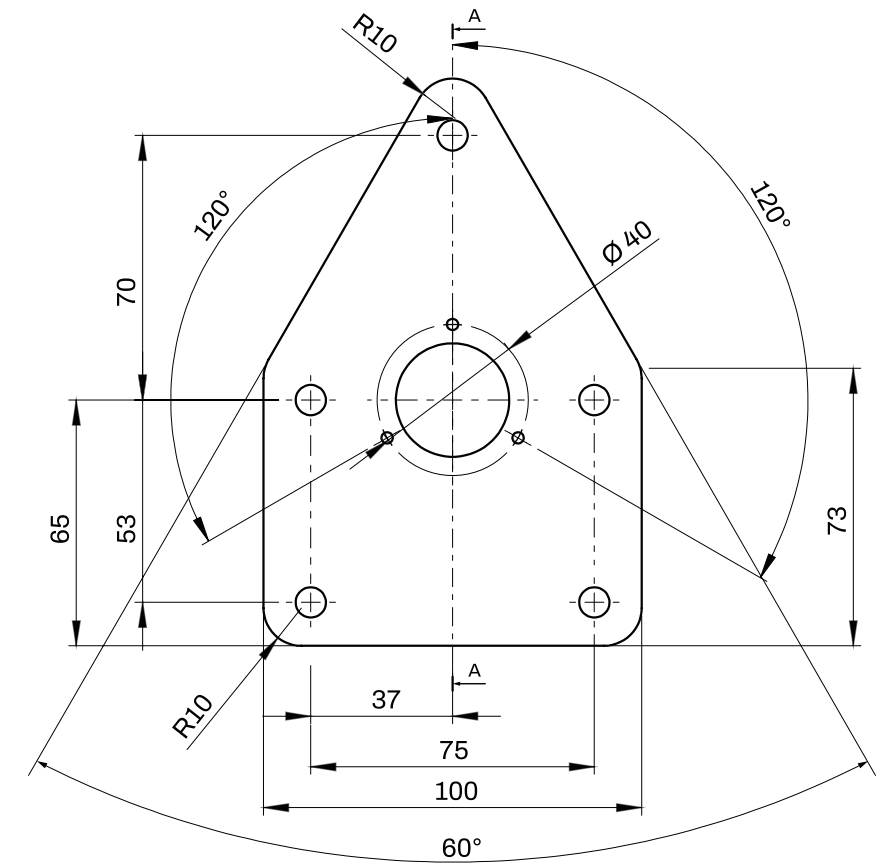
SIDES

Technical drawings

IM-01-0-01 Sides
Mat.: beech wood
qty: 2



SCALE 1:2
measures in mm

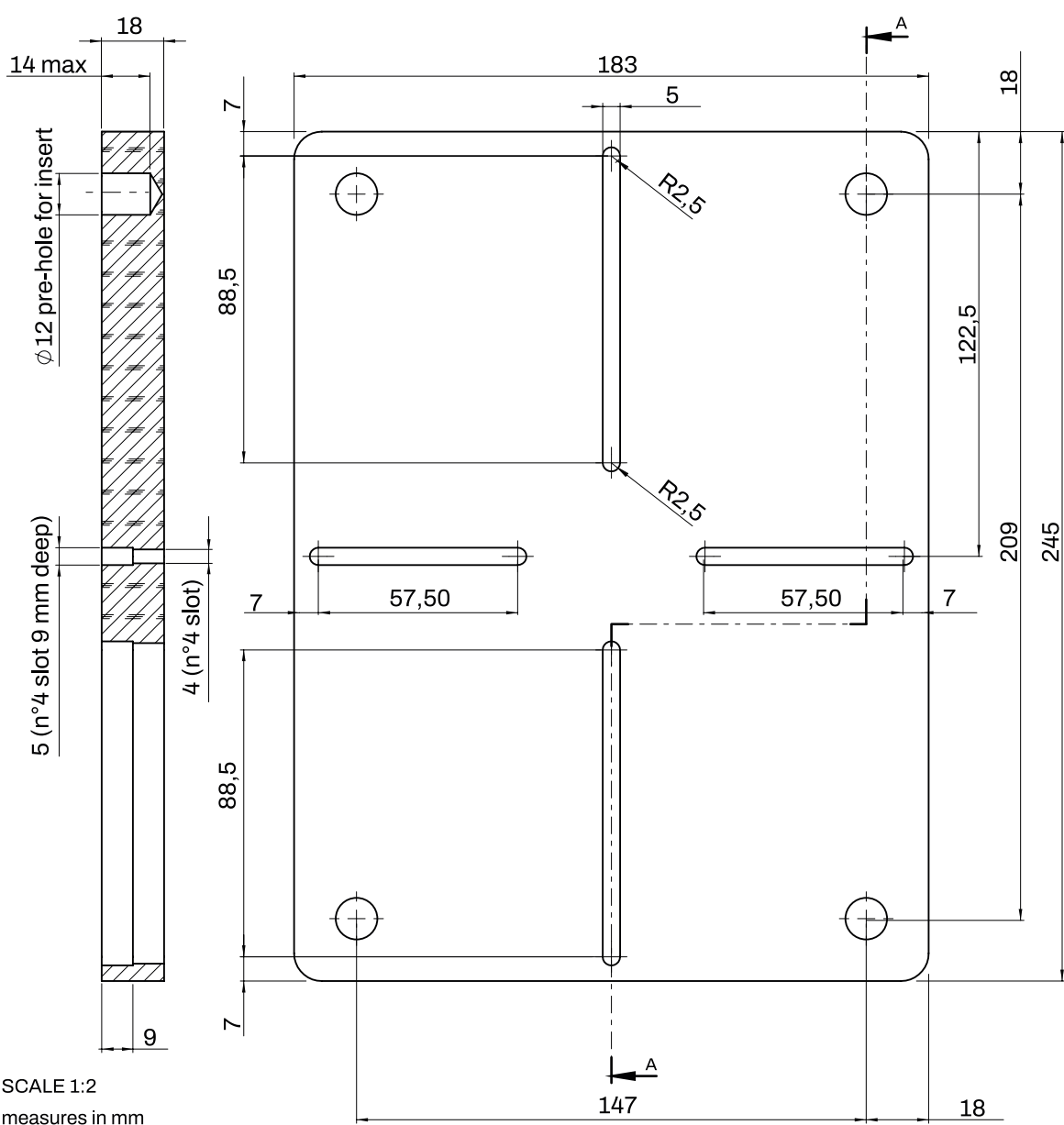


PLATE

Technical drawings

IM-03-0-01 Plate
Mat.: beech wood
qty: 1

SECTION A-A BOTTOM VIEW

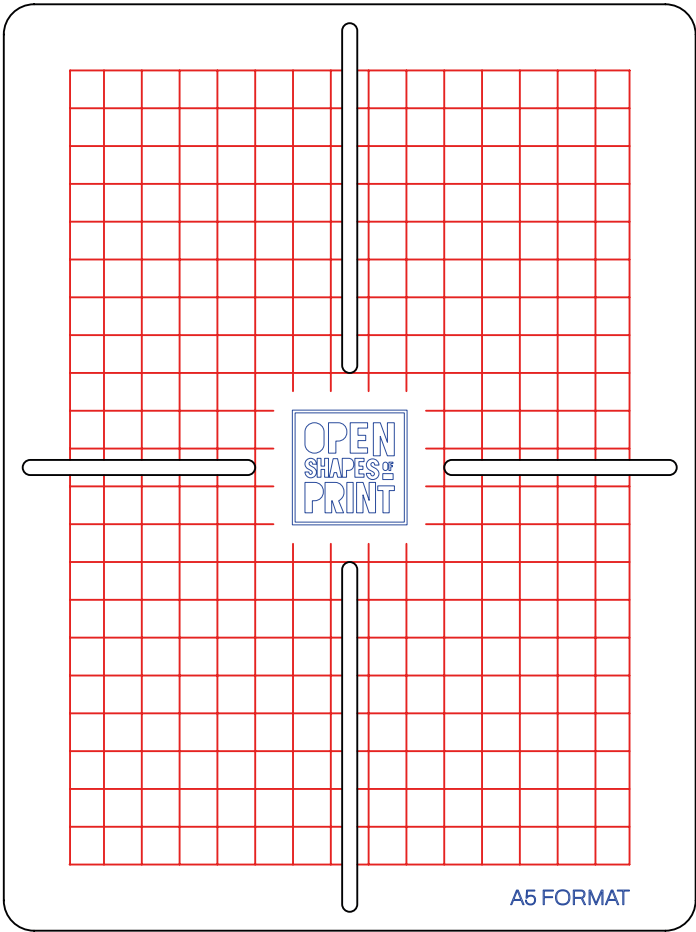


SCALE 1:2
measures in mm

PLATE

Laser cut Technical drawings

IM-03-0-01 Plate
Mat.: beech wood
qty: 1



- Plate outline (cut in previous step)
- Laser cut grid
- Engrave

SCALE 1:2
measures in mm

Laser cut Settings

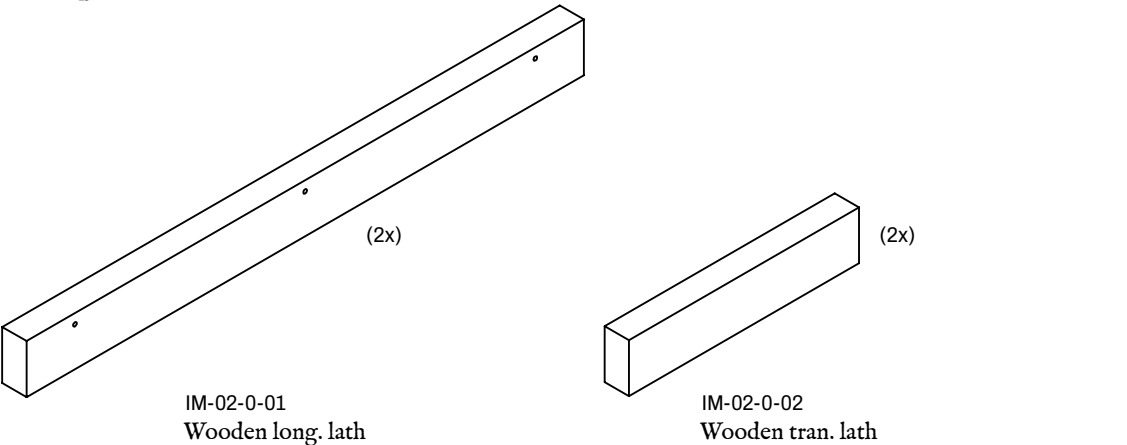
MACHINE: Laser cut CO₂

Layer	Speed (mm/s)	Power	Output	Priority
Plate outline	200	15%	No *	1
Laser cut grid	200	15%	Yes	2
Engrave	250	15%	Yes	3

*output yes to engrave the plate outline on a cardboard jig, used to centre the matrix holder in the laser cut machine

WOOD

Components



RAW MATERIALS:

Planed beech wood lath
(L 2500 X 40 X 20 mm)

FILE:

3DM and DXF (if you want to modify), PDF

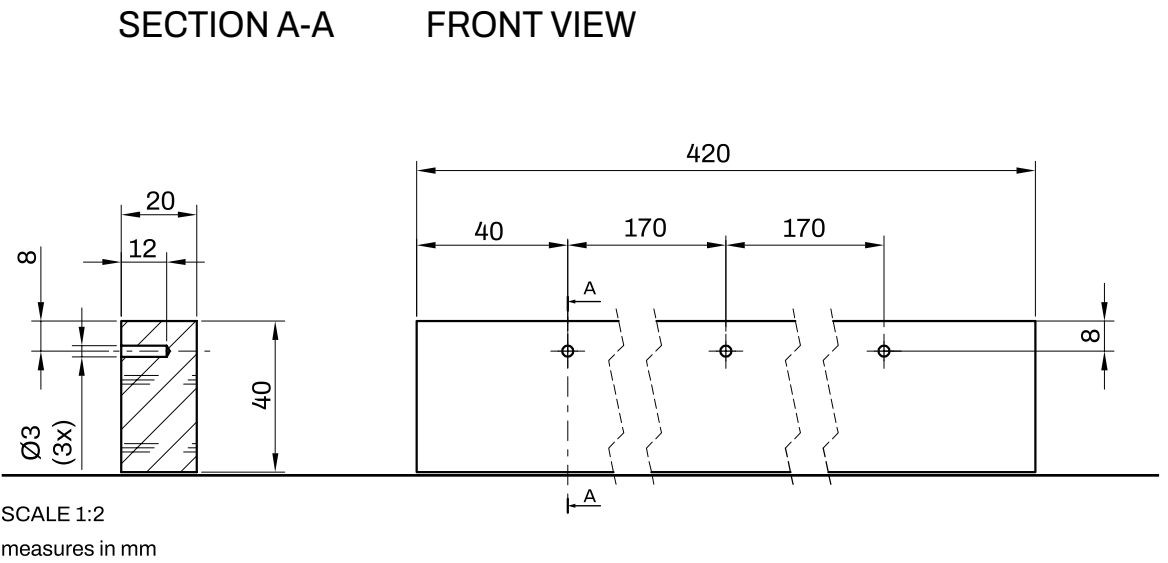
TOOLS:

- ⊕ Cutting edges: circular saw
- ⊕ Pre-drilling for screwing: drill press with 3 mm wood drill bits

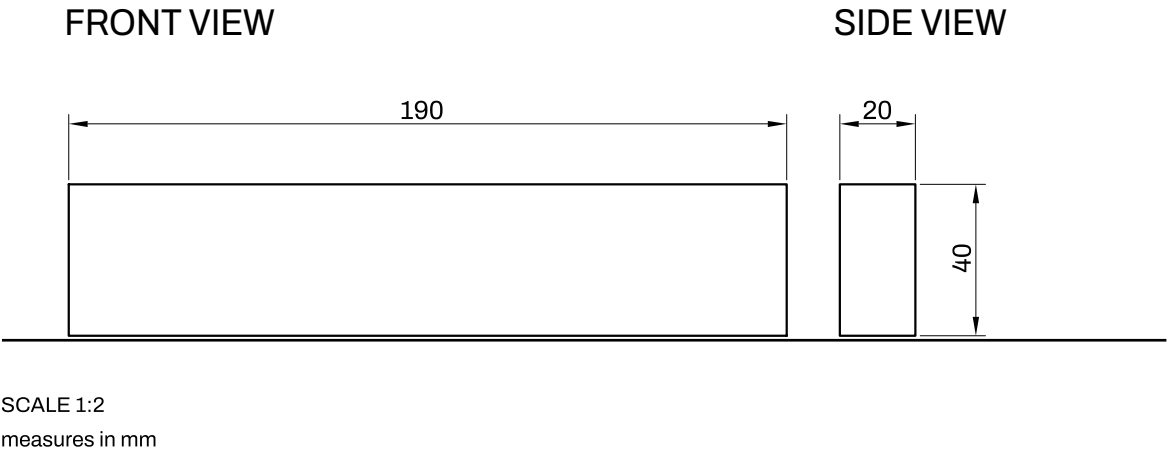
WOODEN LATHS

Technical drawings

IM-02-0-01 Wooden long. lath
Mat.: beech wood
qty: 2



IM-02-0-02 Wooden tran. lath
Mat.: beech wood
qty: 2



WOODEN LATHS

Laser cut Technical drawings

IM-02-0-02 Wooden tran. lath
Mat.: beech wood
qty: 1



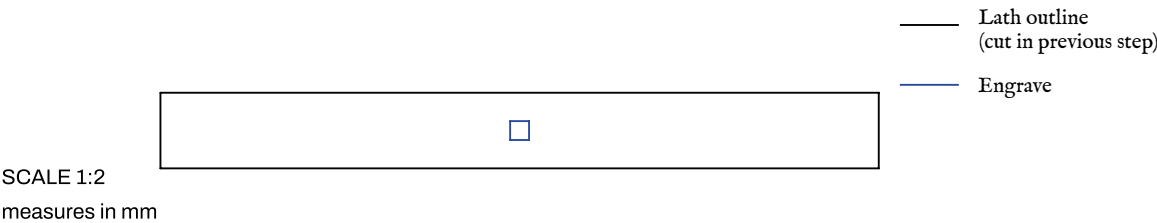
Laser cut Settings

MACHINE: Laser cut CO₂

Layer	Speed (mm/s)	Power	Output	Priority
Lath outline	200	15%	No *	1
Engrave	250	15%	Yes	3

**output yes* to engrave the lath outline on a card-board jig, used to centre the lath in the laser cut machine

IM-02-0-02 Wooden tran. lath
Mat.: beech wood
qty: 1



Laser cut Settings

MACHINE: Laser cut CO₂

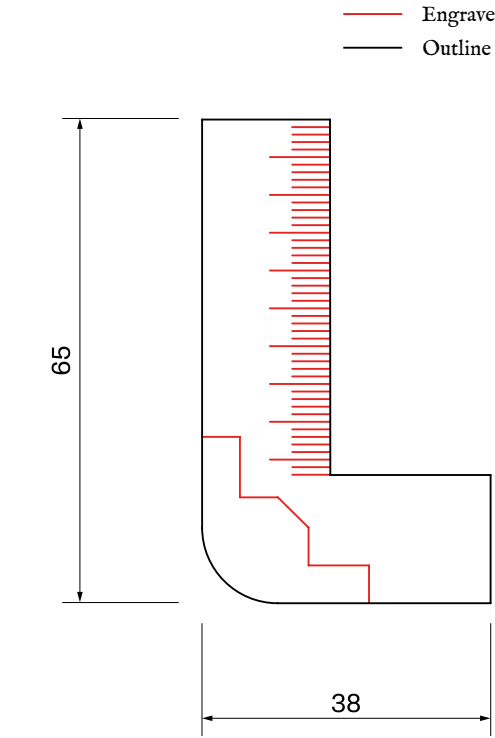
Layer	Speed (mm/s)	Power	Output	Priority
Lath outline	200	15%	No *	1
Engrave	250	15%	Yes	3

**output yes* to engrave the lath outline on a card-board jig, used to centre the lath in the laser cut machine

MEASURING TOOL

Laser cut Technical drawings

Measuring tool
Mat.: poplar plywood panel
qty: 1



SCALE 1:1
measures in mm

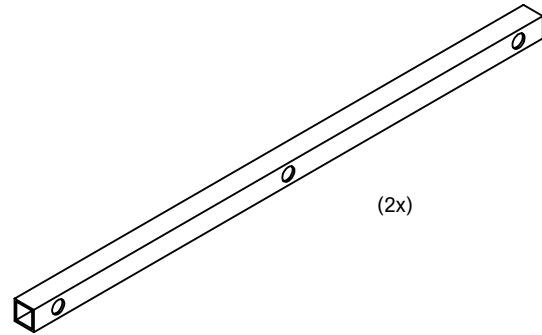
Laser cut Settings

MACHINE: Laser cut CO₂

Layer	Speed (mm/s)	Power	Output	Priority
Engrave	200	15%	Yes	1
Outline	40	70%	Yes	2

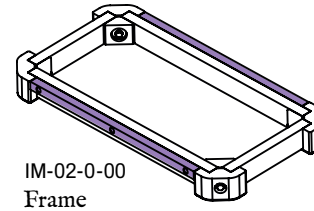
ALUMINUM

Components



(2x)

IM-02-0-03
Aluminium track



IM-02-0-00
Frame

RAW MATERIALS:

Aluminium square tube
(16x16x1000 mm)

FILE:

3DM and DXF (if you want to modify), PDF

TOOLS:

- ⊕ edge cutting: hacksaw and hacksaw holder; file the edges
- ⊕ holes: through-hole with drill press with 5 mm iron drill bits; non through-hole on 1 face with 10 mm iron drill bits

ALUMINUM TRACK

Technical drawings

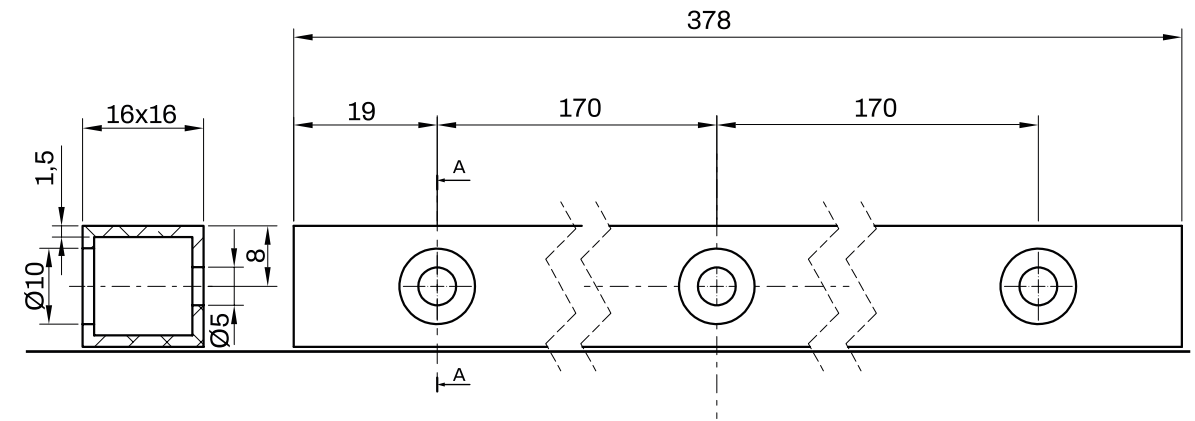
IM-02-0-03 Aluminum track

Mat.: anodized aluminium

qty: 2

SECTION A-A FRONT VIEW

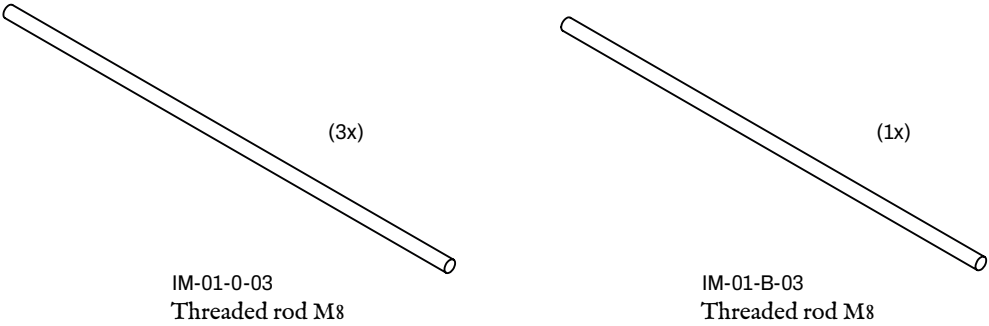
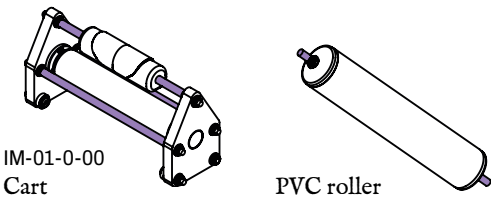
tip: you can use scotch tape and permanent marker to mark where to cut and where to drill



SCALE 1:1
measures in mm

STAINLESS STEEL

Components



RAW MATERIALS:

Threaded rod
(M8x1000 mm)

FILE:

3DM and DXF (if you want to modify), PDF

TOOLS:

⊕ edge cutting: hacksaw and hacksaw holder; file
the edges

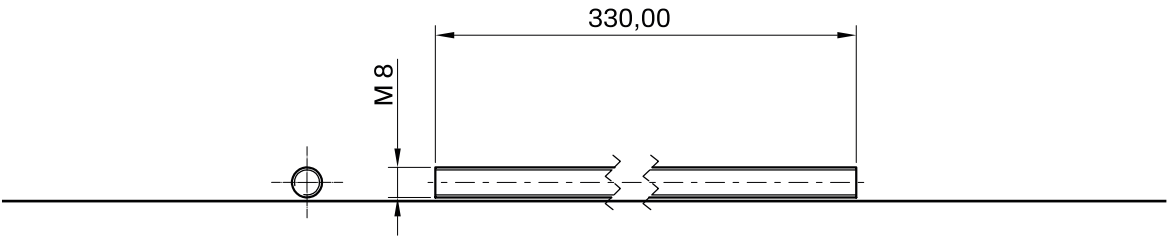
THREADED ROD

Technical drawings

IM-01-0-03 Threaded rod M8
Mat.: stainless steel
qty: 3

tip: you can use scotch tape
and permanent marker to mark
where to cut and where to drill

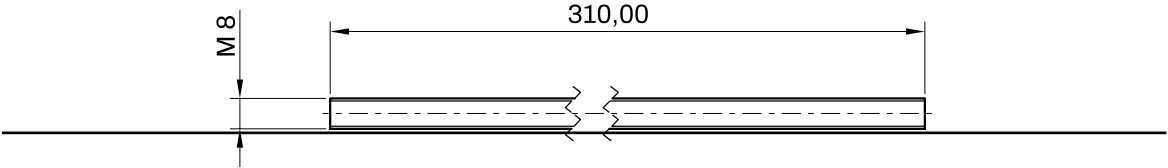
SIDE VIEW FRONT VIEW



SCALE 1:2
measures in mm

IM-01-B-03 Threaded rod M8
Mat.: stainless steel
qty: 1

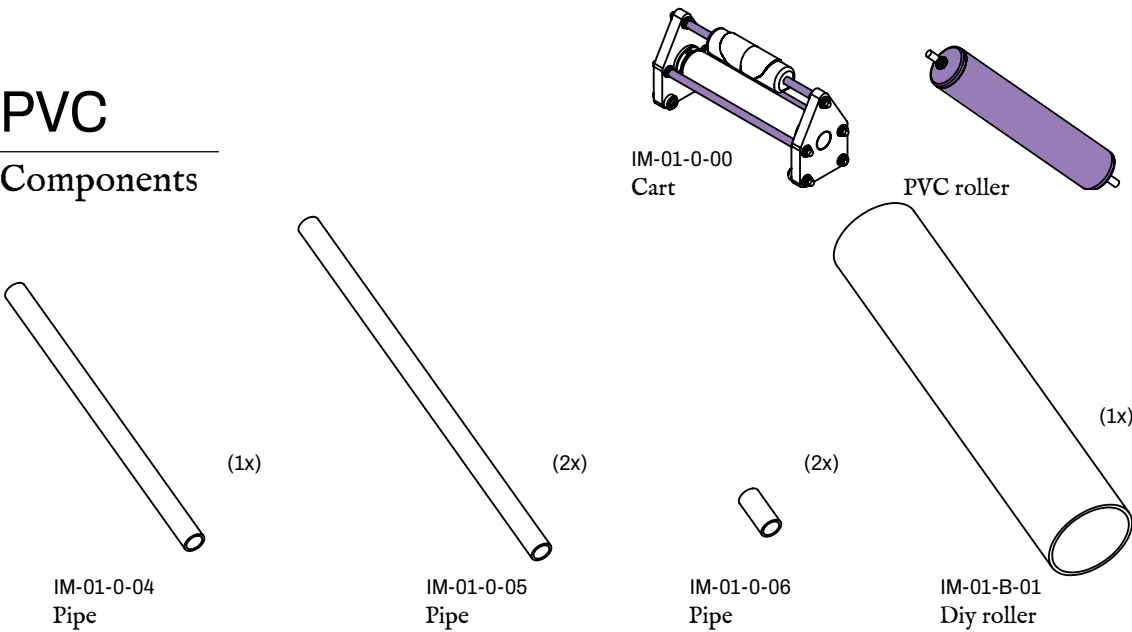
FRONT VIEW



SCALE 1:2
measures in mm


PVC

Components



RAW MATERIALS: PVC tube (Ø50x500 mm); PVC pipe (Ø12 x sp1 x1000 mm)

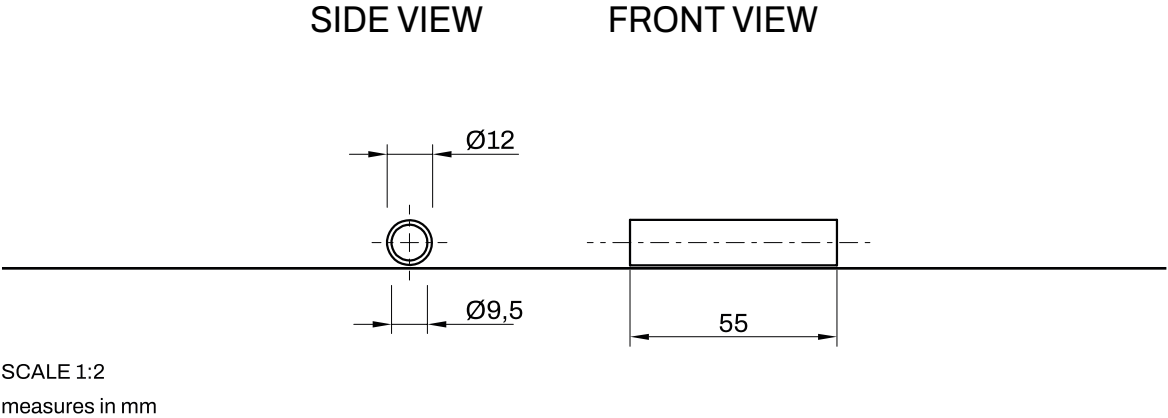
FILE: 3DM and DXF (if you want to modify), PDF

TOOLS:  edge cutting: hacksaw and hacksaw holder; file the edges

PVC PIPE

Technical drawings

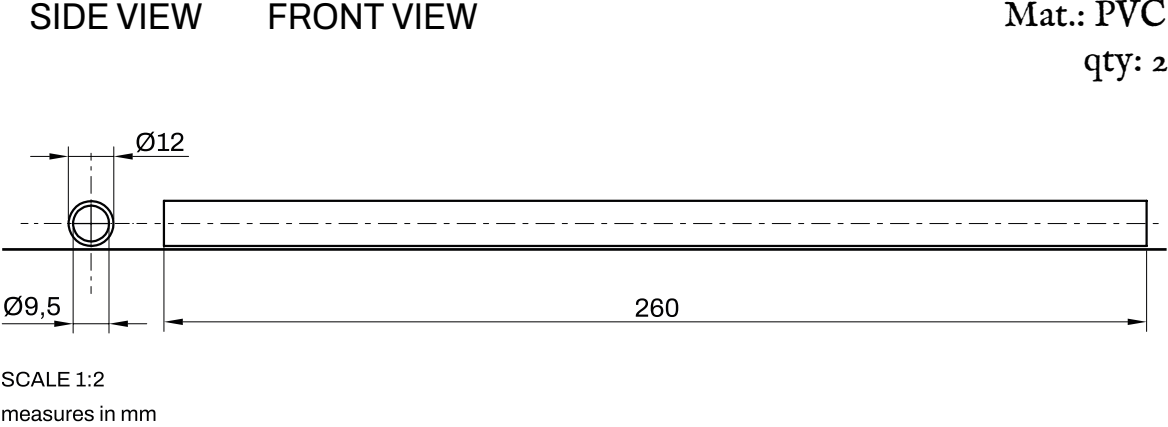
IM-01-0-06 Pipe
Mat.: PVC
qty: 2



IM-01-0-05 Pipe

Technical drawings

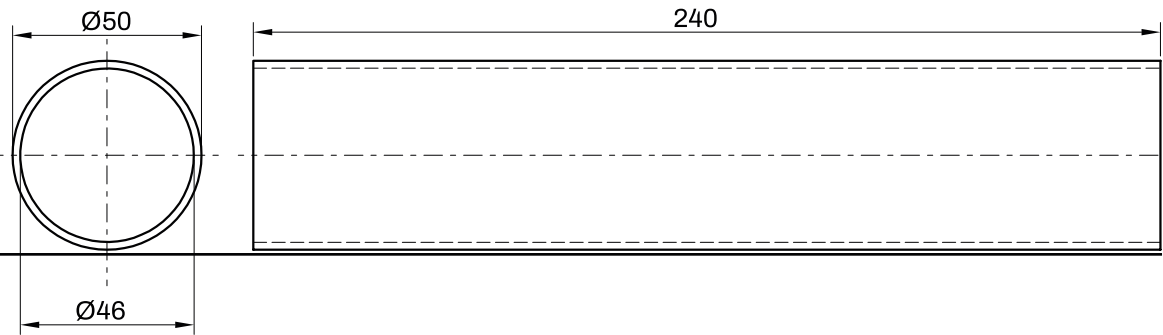
Mat.: PVC
qty: 2



IM-01-B-01 DIY roller
Mat.: PVC
qty: 1

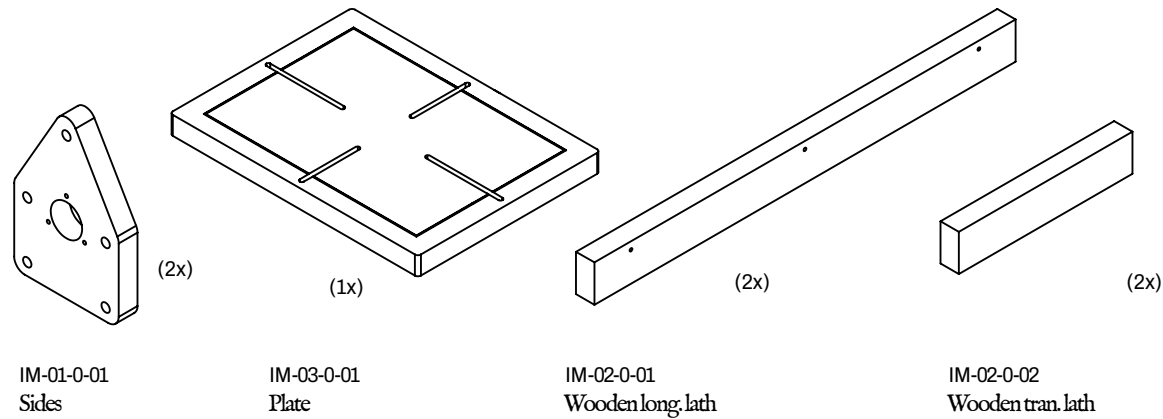
SIDE VIEW

FRONT VIEW



SCALE 1:2
measures in mm

COATING PHASE



MATERIALS:

Transparent water-based impregnating varnish and transparent beeswax

TOOLS:

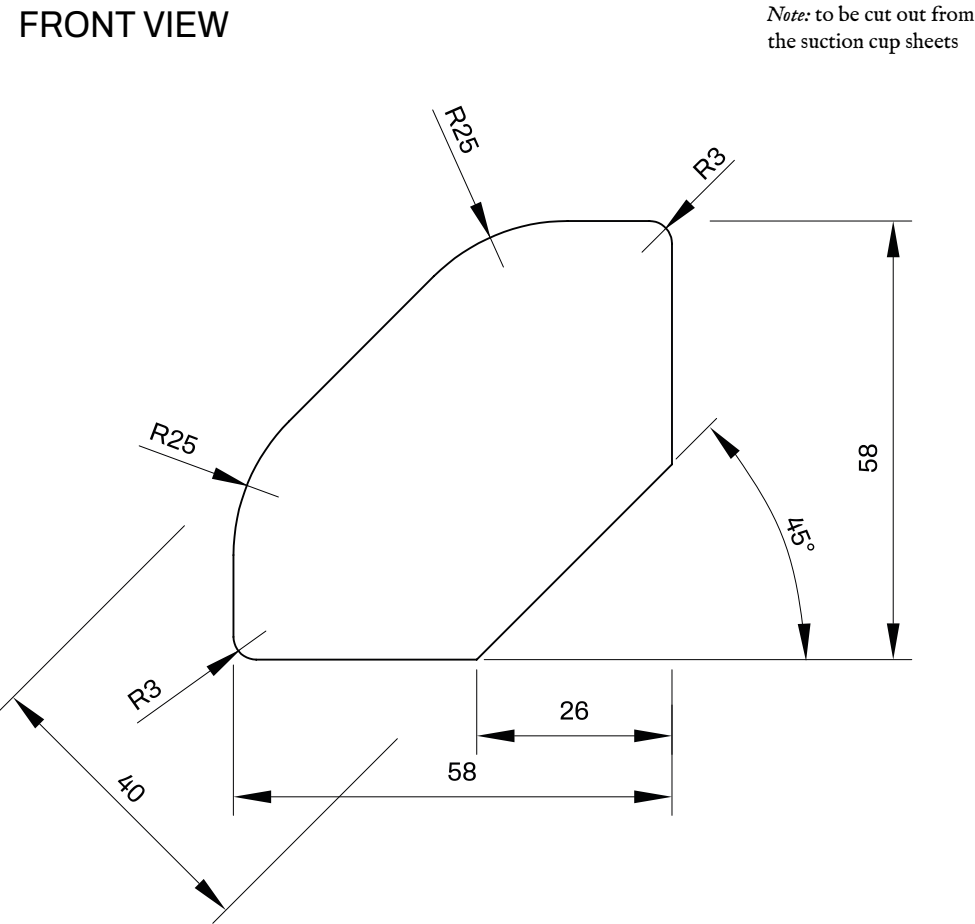
- ⊕ Apply two coats of transparent water-based impregnating varnish and two coats of transparent beeswax to all sides of each component. Let dry for two hours between coats.
- ⊕ Tools: brush, steel wool, soft cloth

SUCTION CUPS

Clipping outline

IM-02-0-06 Suction cup
Mat.: plastic
qty: 4

FRONT VIEW

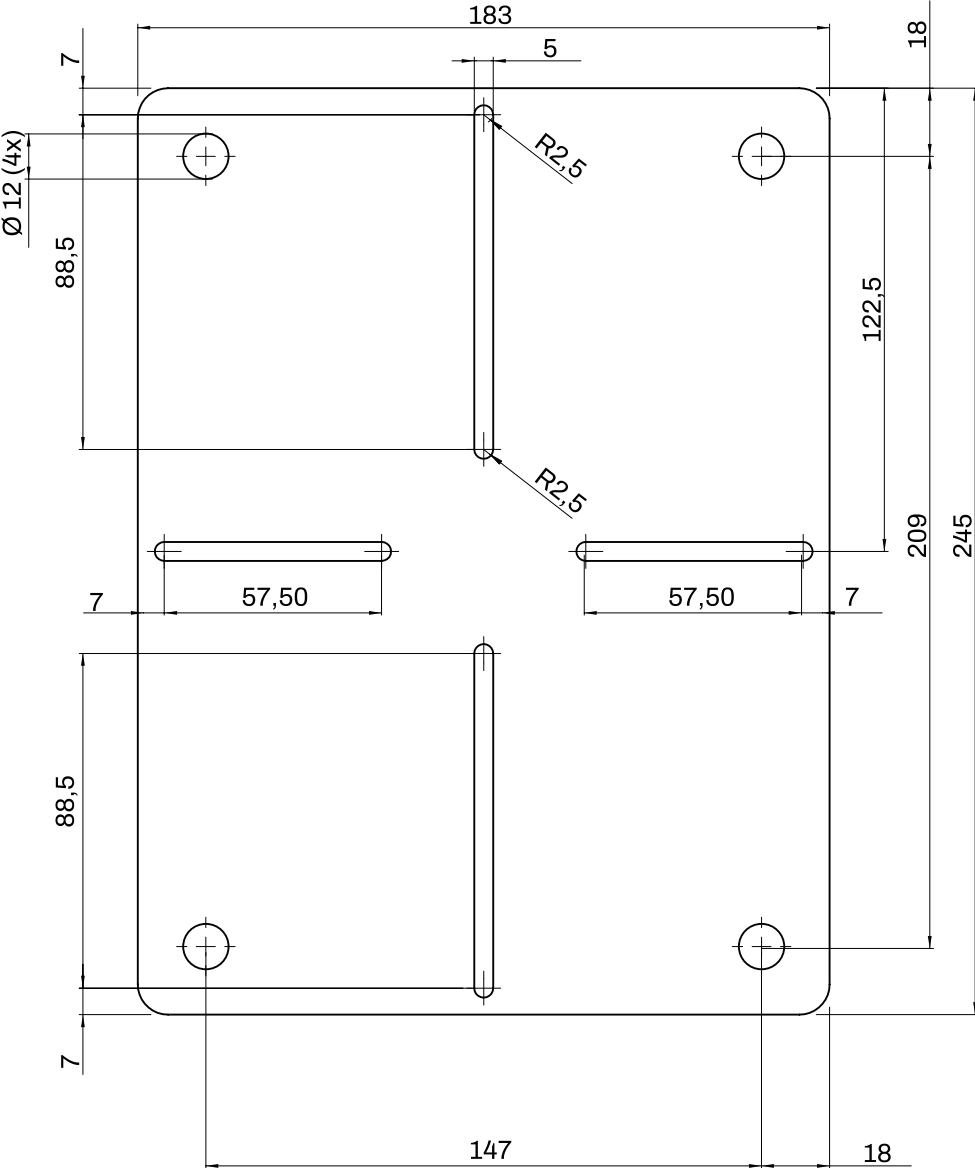


SCALE 1:1
measures in mm

FERROUS SHEET

Clipping outline

IM-03-0-04 Ferrous sheet
Mat.: ferrous sheet
qty: 1

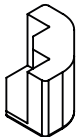


SCALE 1:2
measures in mm

Note: to be cut out from the A4 ferrous sheet


3D PRINTED PLA

Components




(4x)

IM-02-0-04
Joint ext




(4x)

IM-02-0-05
Joint int




(2x)

IM-01-B-02
Cap




(2x)

IM-01-A-01
Flange




(4x)

IM-03-0-06_A
Upper corner joint



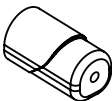
(4x)

IM-03-0-07_A
Lower corner joint




(2x)

IM-01-B-04
Flange




(2x)

IM-01-0-02
Handle




(4x)

IM-03-0-02
Slider




(4x)

IM-03-0-02_A
Slider



(4x)

IM-03-0-08_A
Magnetic slider



(1x)

IM-03-0-03_A
Registration pin

RAW MATERIALS:

PLA
(Creality Hyper PLA, Ø 1,75 mm, +/- 0,03 mm)

FILE:

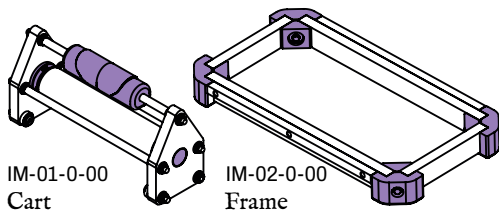
3DM (if you want to modify), STL (to print)

SOFTWARE:

Slicer of your printing machine
(es. Cura, Creality slicer)

TOOLS:

- FDM 3D printing machine
(Creality ender v3 ke)
- Pay attention: All printing settings refer to
quantity 1 of each component



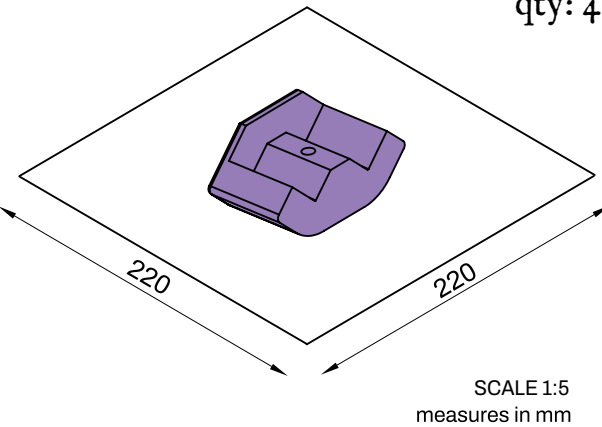
JOINT EXT

Printing settings

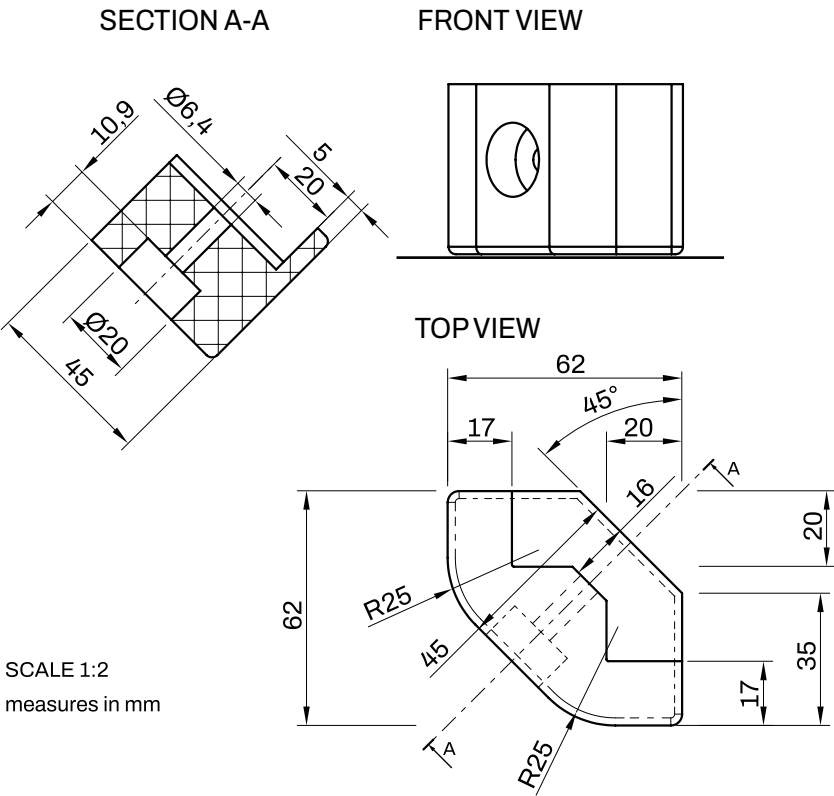
Material: PLA
Printing time: 2h 40 min
Nozzle temperature: 220°C
Plate temperature: 50°C
Layer height: 0.16 mm
Infill density: 30%

Pattern infill: Honeycomb
Outer wall: 250%
Inner wall: 250%
Top shell layers: 5
Bottom shell layers: 5
Bottom shell thickness: 0.8
Support type: tree (manual)

IM-02-0-04 Join ext
Mat.: PLA
qty: 4



Technical drawings



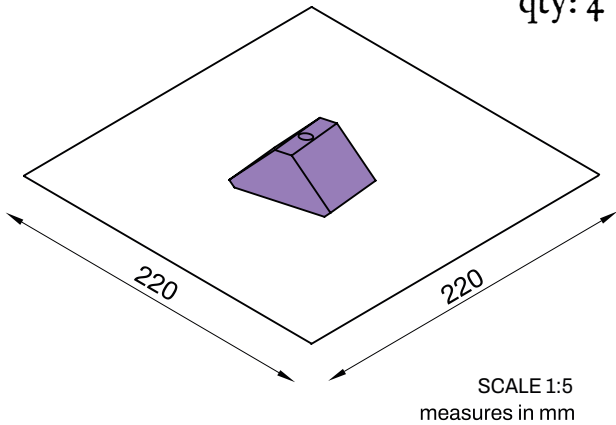
JOINT INT

Printing settings

Material: PLA
Printing time: 48 min
Nozzle temperature: 220°C
Plate temperature: 50°C
Layer height: 0.2 mm
Infill density: 30%

Pattern infill: Honeycomb
Outer wall: 250%
Inner wall: 250%
Top shell layers: 5
Bottom shell layers: 5
Bottom shell thickness: 0.8
Support type: tree manual

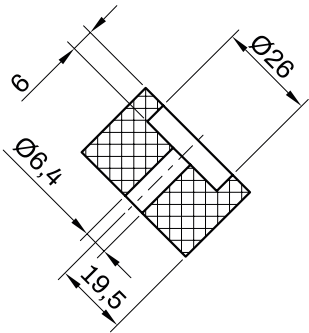
IM-02-0-05 Joint int
Mat.: PLA
qty: 4



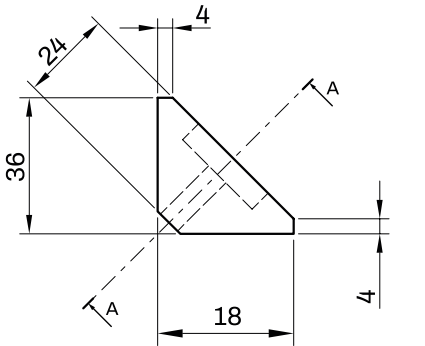
Technical drawings

SECTION A-A

FRONT VIEW



TOP VIEW



SCALE 1:2
measures in mm

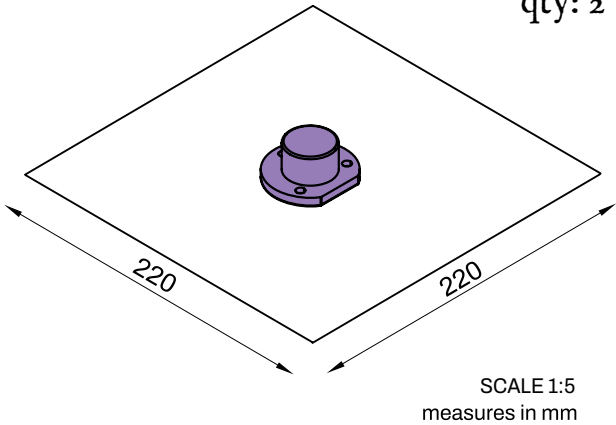
FLANGE

Printing settings

Material: PLA
Printing time: 33 min
Nozzle temperature: 220°C
Plate temperature: 50°C

Layer height: 0.2 mm
Infill density: 20%
Pattern infill: Gyroid
Enable support: no
Support type: /

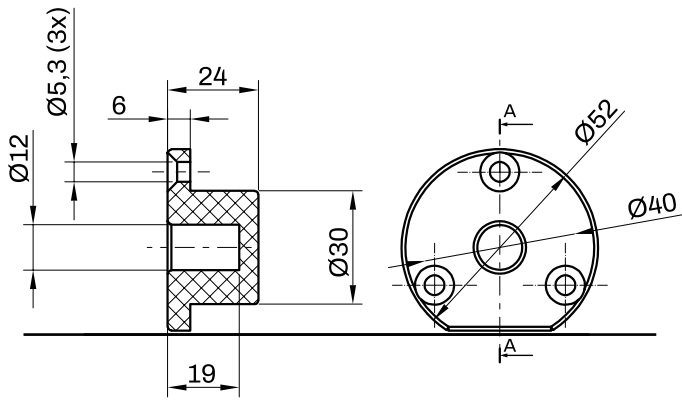
IM-01-A-01 Flange
Mat.: PLA
qty: 2



Technical drawings

SECTION A-A

FRONT VIEW



SCALE 1:2
measures in mm

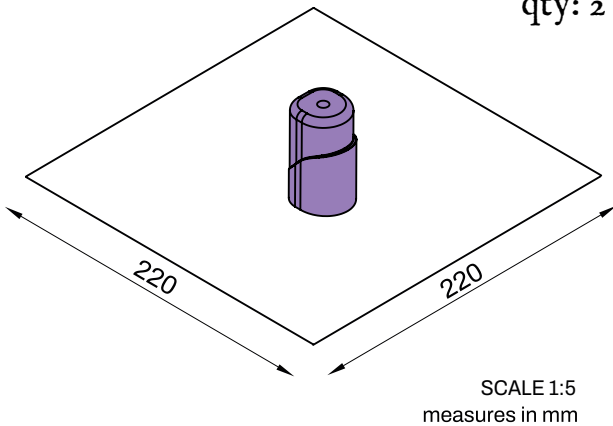
HANDLE

Printing settings

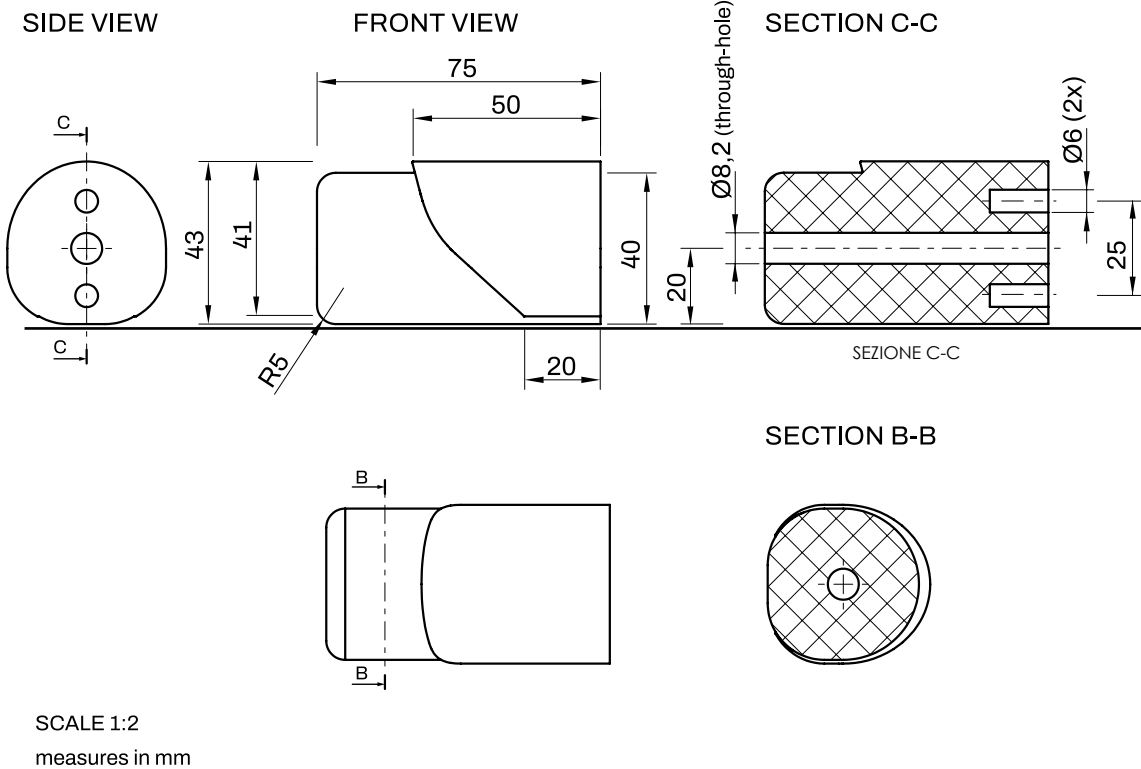
Material: PLA
Printing time: 1h 28 min
Nozzle temperature: 220°C
Plate temperature: 50°C
Layer height: 0.2 mm

Infill density: 15%
Pattern infill: Gyroid
Enable support: no
Support type: /
Seam: Back or Aligned

IM-01-0-02 Handle
Mat.: PLA
qty: 2



Technical drawings



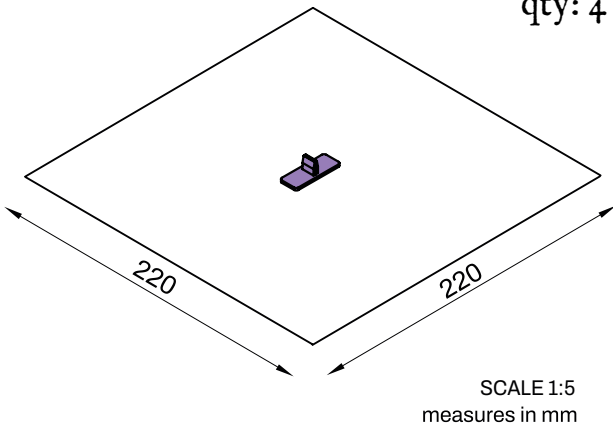
SLIDERS

Printing settings

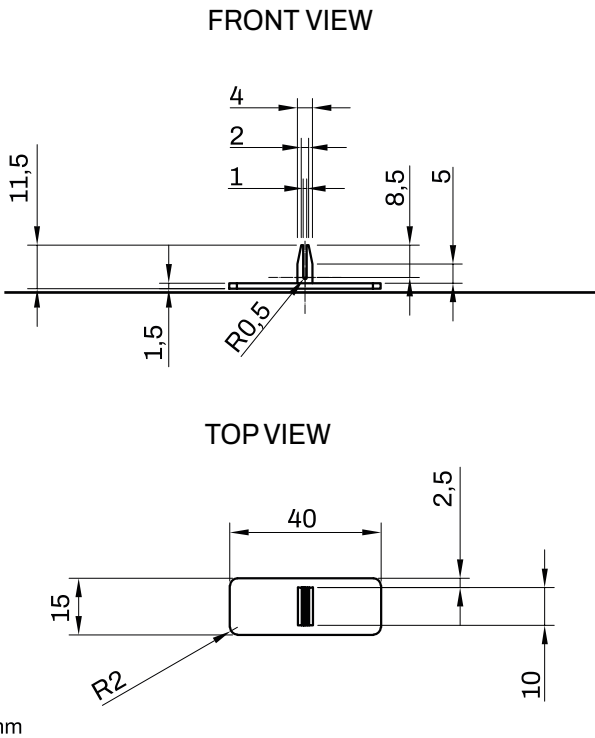
Material: PLA
Printing time: 6 min
Nozzle temperature: 220°C
Plate temperature: 50°C
Layer height: 0.2 mm

Infill density: 20%
Pattern infill: Gyroid
Enable support: no
Support type: /

IM-03-0-02 Sliders
Mat.: PLA
qty: 4



Technical drawings



SLIDERS

Printing settings

Material: PLA

Printing time: 12 min

Nozzle temperature: 220°C

Plate temperature: 50°C

Layer height: 0.2 mm

Infill density: 15%

Pattern infill: Gyroid

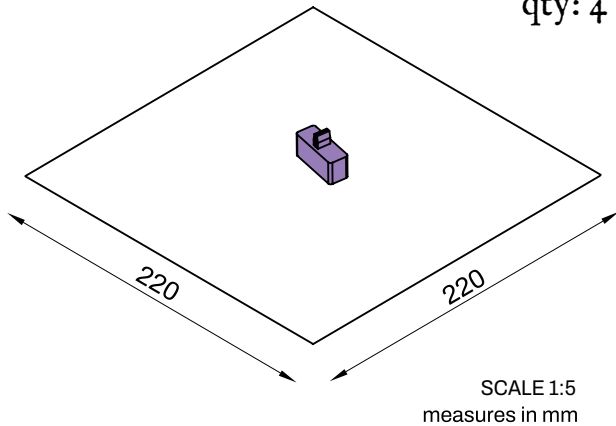
Enable support: no

Support type: /

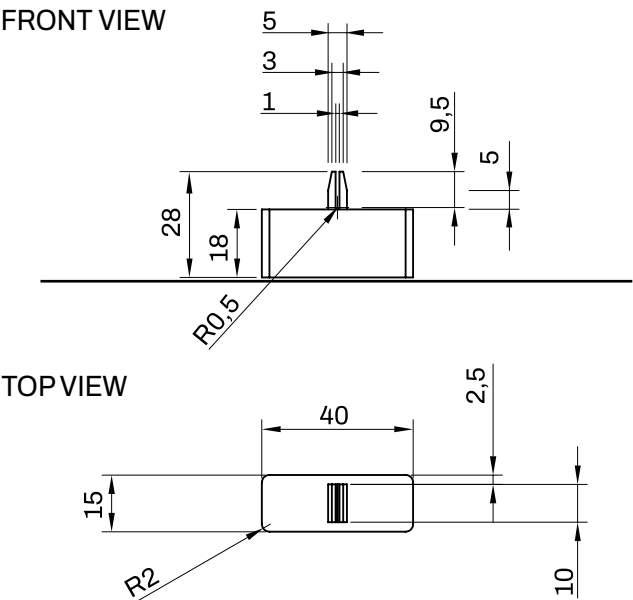
IM-03-0-05_A Sliders

Mat.: PLA

qty: 4



Technical drawings



SCALE 1:2
measures in mm

MAGNETIC SLIDERS

Printing settings

Material: PLA

Printing time: 12 min

Nozzle temperature: 220°C

Plate temperature: 50°C

Layer height: 0.2 mm

Infill density: 15%

Pattern infill: Gyroid

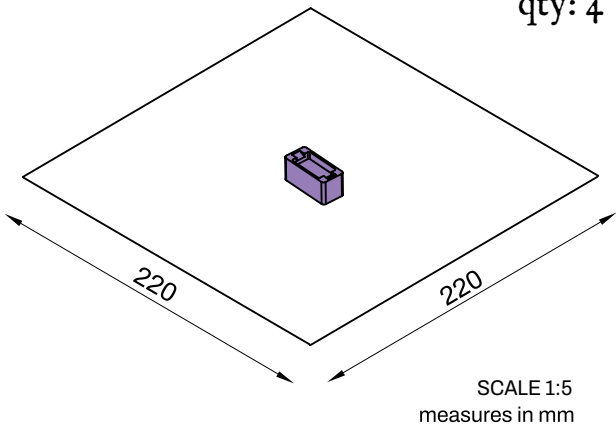
Enable support: no

Support type: /

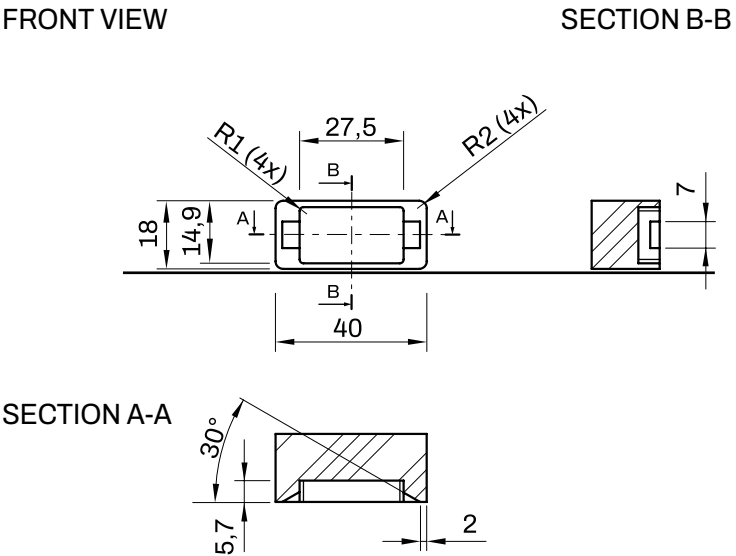
IM-03-0-08_A Magnetic Sliders

Mat.: PLA

qty: 4



Technical drawings



SCALE 1:2
measures in mm

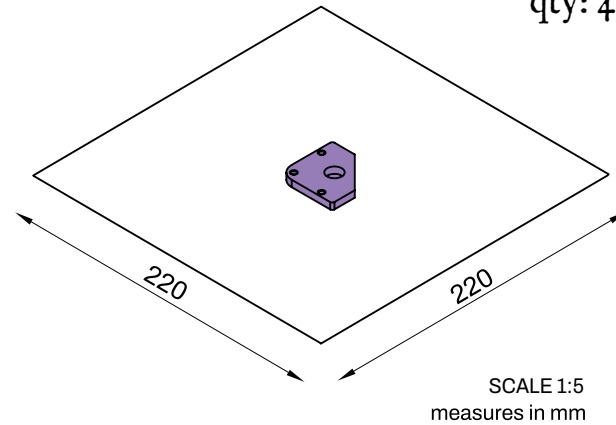
CORNER JOINTS

Printing settings

Material: PLA
 Printing time: 14 min
 Nozzle temperature: 220°C
 Plate temperature: 50°C
 Layer height: 0.2 mm

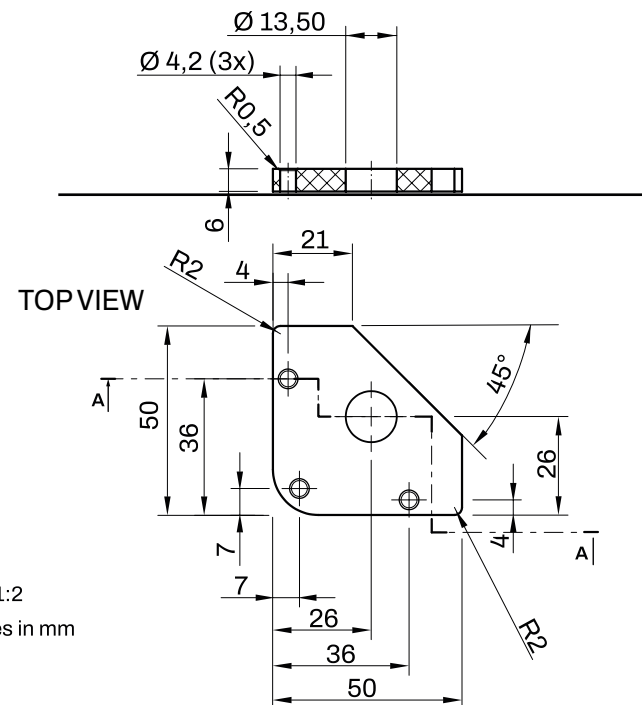
Infill density: 15%
 Pattern infill: Gyroid
 Enable support: no
 Support type: /

IM-03-0-06_A Upper Corners joint
 Mat.: PLA
 qty: 4



Technical drawings

SECTION A-A



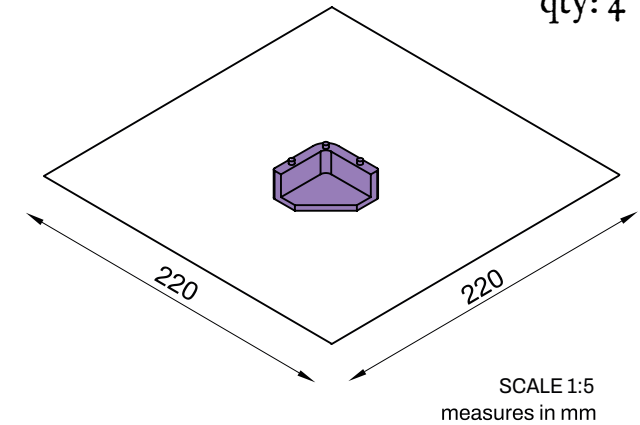
CORNER JOINTS

Printing settings

Material: PLA
 Printing time: 31 min
 Nozzle temperature: 220°C
 Plate temperature: 50°C
 Layer height: 0.2 mm

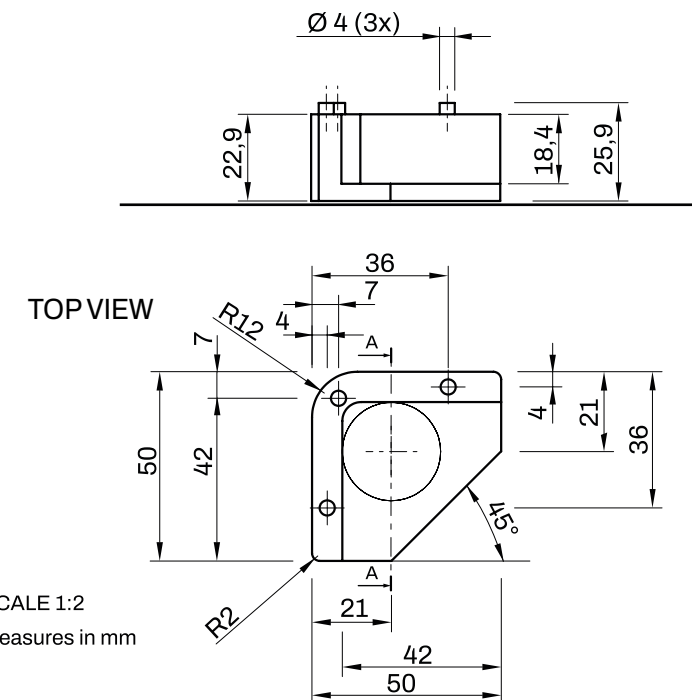
Infill density: 15%
 Pattern infill: Honeycomb
 Enable support: yes
 Support type: tree (auto)

IM-03-0-07_A Lower Corners joint
 Mat.: PLA
 qty: 4

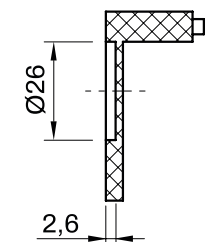


Technical drawings

FRONT VIEW



SECTION A-A



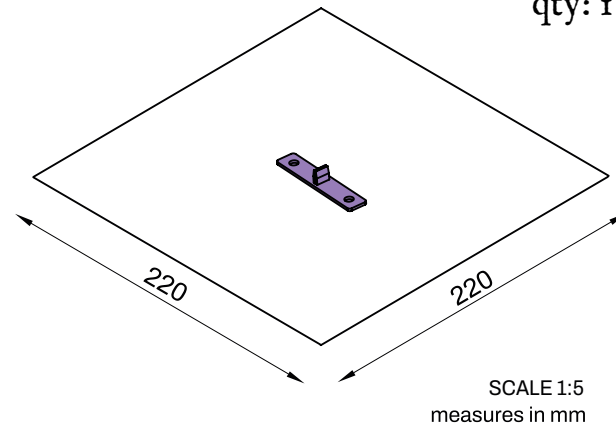
REGISTRATION PIN

Printing settings

Material: PLA
 Printing time: 6 min
 Nozzle temperature: 220°C
 Plate temperature: 50°C
 Layer height: 0.2 mm

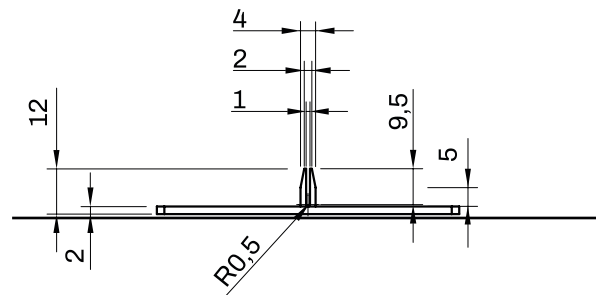
Infill density: 20%
 Pattern infill: Gyroid
 Enable support: no
 Support type: /

IM-03-0-03_A Registration pin
 Mat.: PLA
 qty: 1

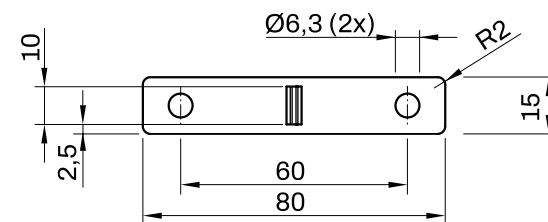


Technical drawings

FRONT VIEW



TOP VIEW



SCALE 1:2
measures in mm

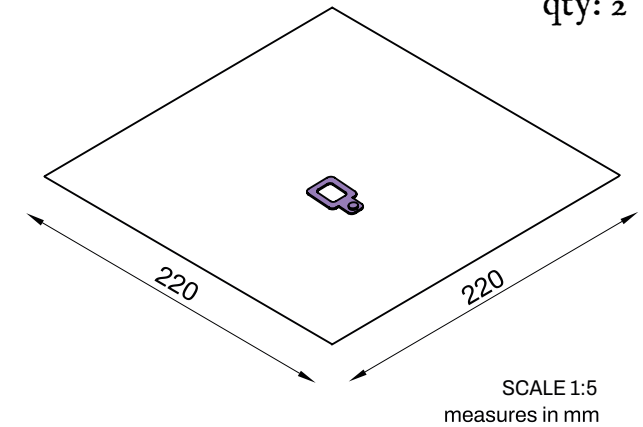
REGISTRATION TAB

Printing settings

Material: PLA
 Printing time: 4 min
 Nozzle temperature: 220°C
 Plate temperature: 50°C
 Layer height: 0.1 mm

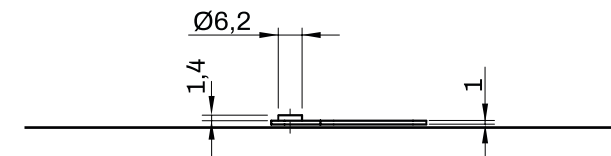
Infill density: 90%
 Pattern infill: Gyroid
 Enable support: no
 Support type: /

IM-03-0-09_A Registration tab
 Mat.: PLA
 qty: 2

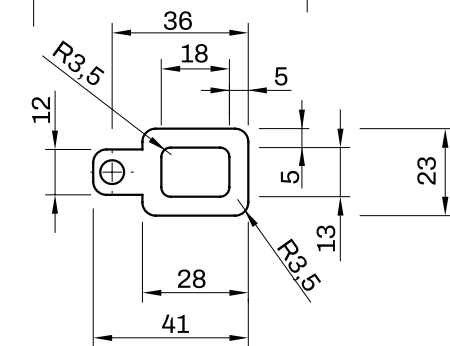


Technical drawings

FRONT VIEW



TOP VIEW



SCALE 1:2
measures in mm

● only for the printing press
with the PVC roller

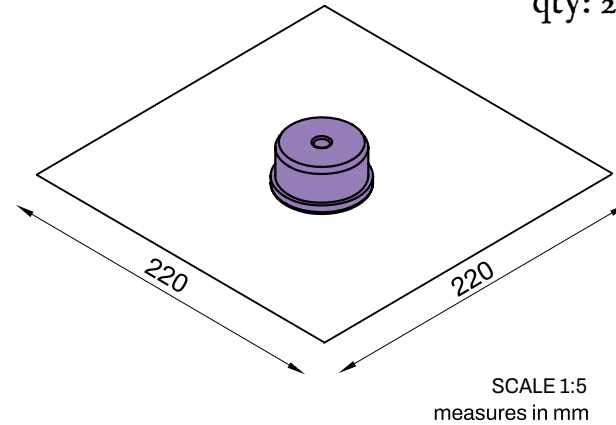
CAP

Printing settings

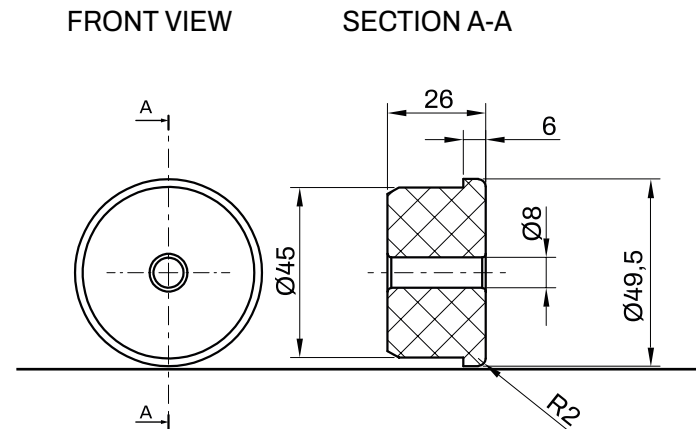
Material: PLA
Printing time: 30 min
Nozzle temperature: 220°C
Plate temperature: 50°C
Layer height: 0.2 mm

Infill density: 20%
Pattern infill: Gyroid
Enable support: no
Support type: /

IM-01-B-02 Cap
Mat.: PLA
qty: 2



Technical drawings



● only for the printing press
with the PVC roller

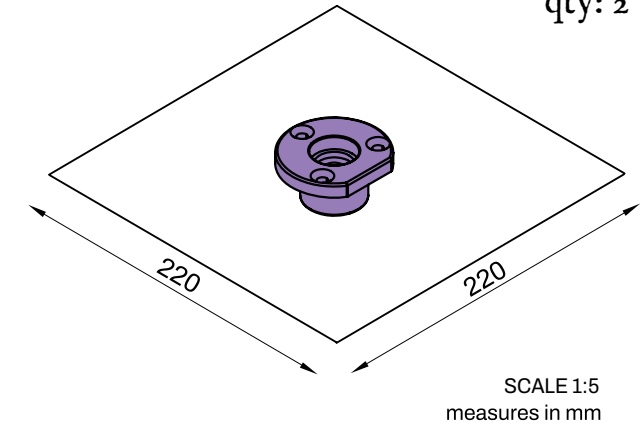
FLANGE

Printing settings

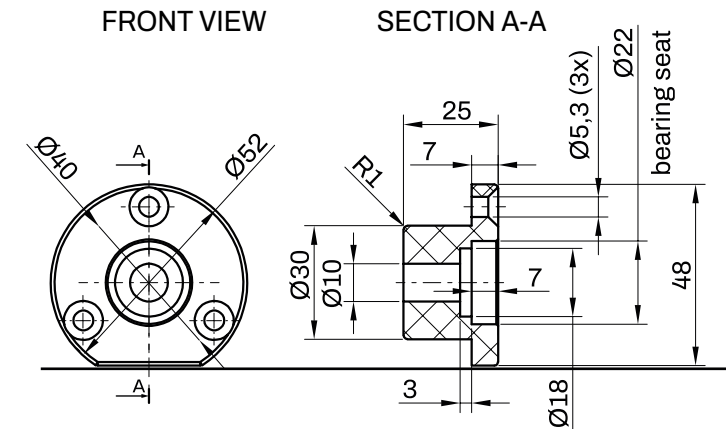
Material: PLA
Printing time: 1h 6min
Nozzle temperature: 220°C
Plate temperature: 50°C
Layer height: 0.2 mm

Infill density: 20%
Pattern infill: Gyroid
Enable support: yes
Support type: tree (auto)

IM-01-B-04 Flange
Mat.: PLA
qty: 2



Technical drawings



Instruction

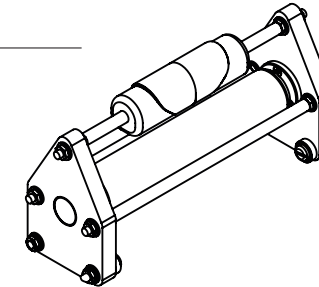
42

43

Regarding the assembly section, it too presents information in a schematic way, organising the assembly steps by dividing the press into the different sub-assemblies, cart, frame and matrix holder, identified by codes. We highlight that depending on your choice of roller, DIY PVC roller or commercial roller, you should follow the corresponding instructions. The components to be used for assembly and the tools for each sub-assembly are shown, then the construction steps are explained step by step, accompanied by line illustrations of axonometric exploded views, which show the components being assembled, always recalling their identification code in order to be able to check them at the beginning of the chapter.

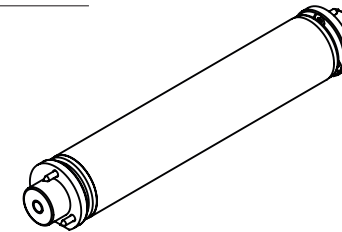
IM-01-0-00
Cart

Pg. 44



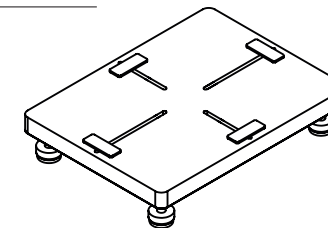
IM-01-B-00
PVC roller

Pg. 54



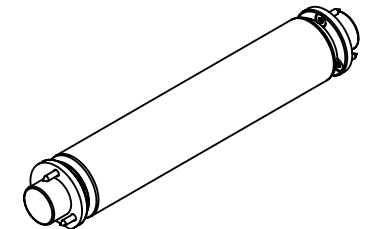
IM-03-0-00
Matrix holder

Pg. 68



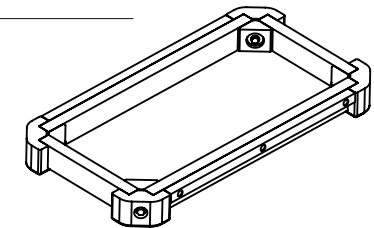
IM-01-A-01
Steel roller

Pg. 44



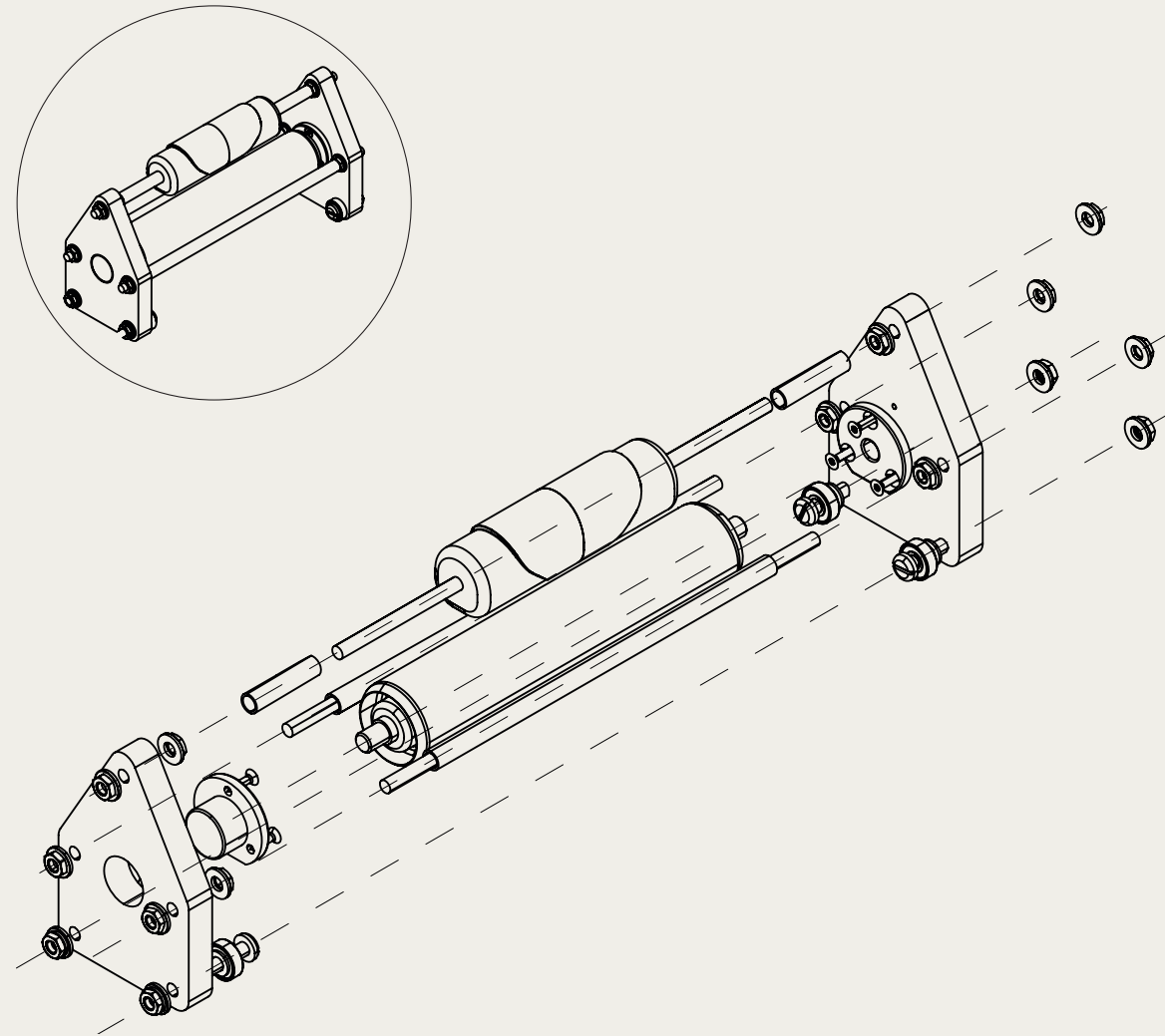
IM-02-0-00
Frame

Pg. 64



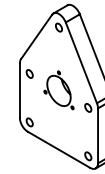
IM-01-0-00

Cart - Stainless steel roller

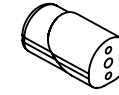


IM-01-0-00

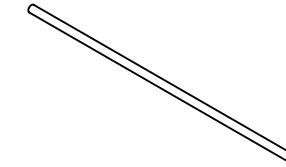
Cart - Stainless steel roller



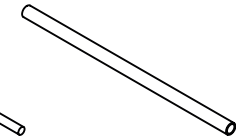
IM-01-0-01 SIDES
Mat.: beech wood
qty:2



IM-01-0-02 HANDLE
Mat.: PLA
qty:2



IM-01-0-03 THREADED
ROD M8
Mat.: stainless steel
qty:3



IM-01-0-05 PIPE
Mat.:PVC
qty:2



IM-01-0-06 PIPE
Mat.:PVC
qty:2



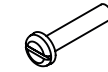
WASHER_8x18x2
qty:12



SB608ZZ
Radial Ball Bearing
Ø8xØ22x7
qty:4



HEX NUT-M8
qty:16



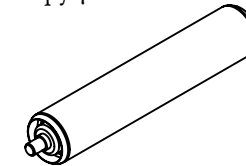
S.P. HEAD SCREW_
M8x40
qty:4



WASHER_8x15x1,5
qty:4



C.S. LOCK WASHER-Ø8
qty:4



IM-01-A-02 Steel Roller
Mat.: stainless steel
qty:1



IM-01-A-01 Flange
Mat.:PLA
qty:2



WASHER 8x24x2
qty: 4



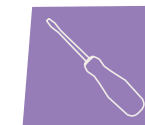
WOOD DOWELS
qty: 2



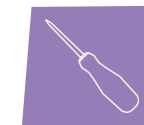
HEX TAPPING
SCREW_Ø4,2x19
qty:6



Spanner n°13



Hex head screw-
driver



Cross screw-
driver



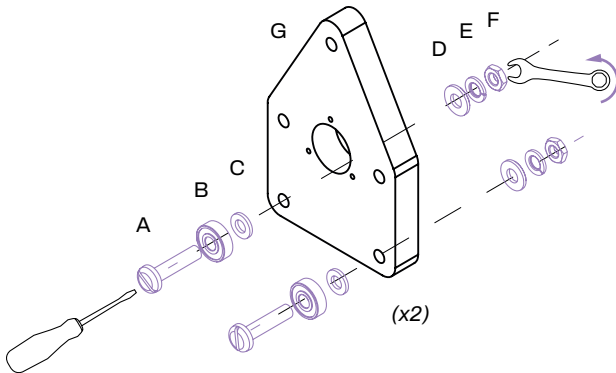
Vinyl glue



Hands

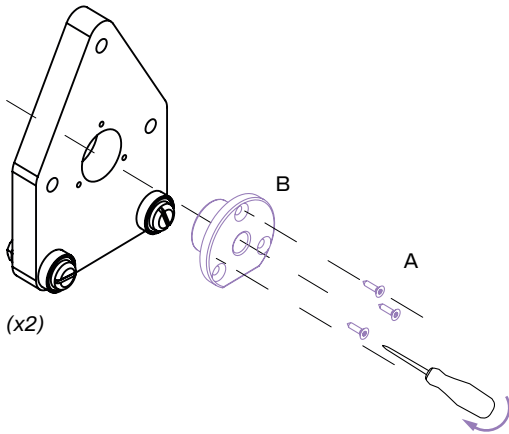
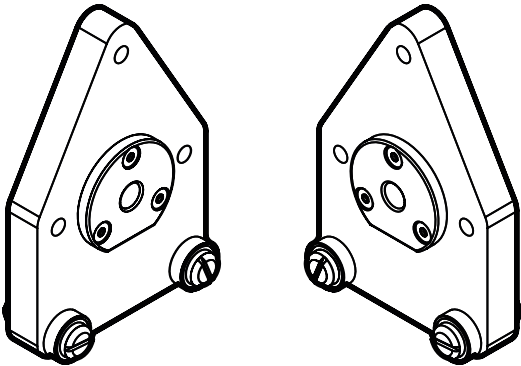
1 Assemble the two bearings on both left and right side, on the screws, then blocking with nut and lock washer (until it flattens)

- A - (x4) S.P. HEAD SCREW_M8x40
- B - (x4) SB608ZZ
- C - (x4) WASHER_8x15x1,5
- D - (x4) WASHER_8x24x2
- E - (x4) C.S. LOCK WASHER-Ø8
- F - (x4) HEX NUT-M8
- G- IM-01-0-01 SIDES



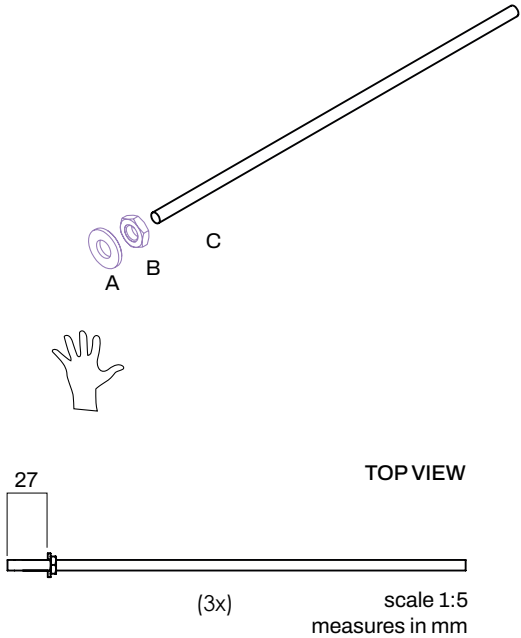
2 Mount the flange, for the steel roller, on both the left and right side.

- A - (x2) IM-01-A-01 Flange
- B - (x6)HEX TAPPING SCREW_Ø4,2x19



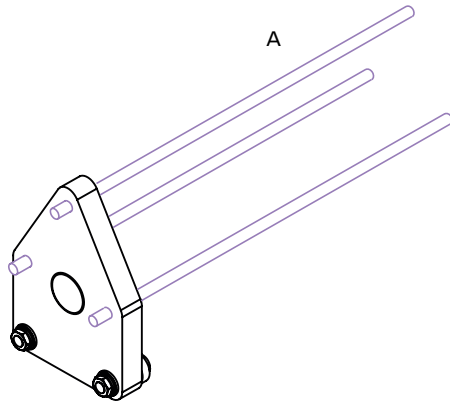
3 Pre-mount 1 nut and 1 washer on each of the 3 threaded rods, to the indicated dimension.

- A - (x1) WASHER_8x18x2
- B - (x1) HEX NUT-M8
- C - (x1) IM-01-0-03 THREADED ROD M8



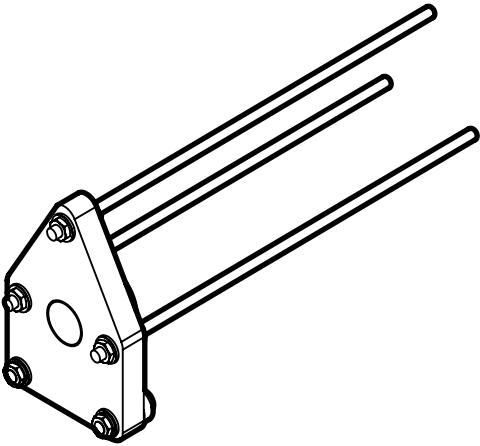
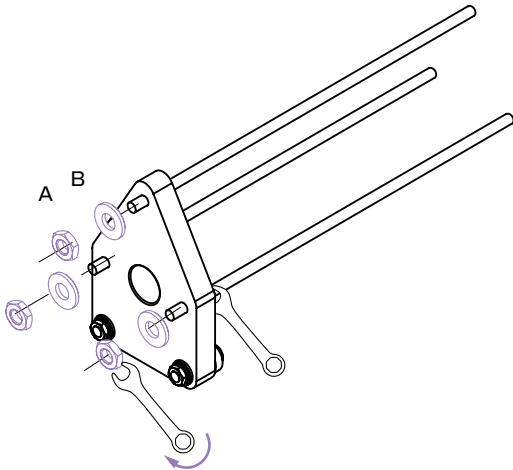
4 Insert the 3 threaded bars into the left side.

- A - (x3) IM-01-0-03 THREADED ROD M8



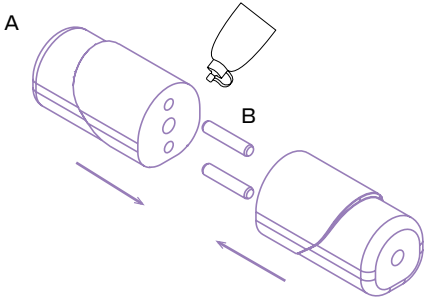
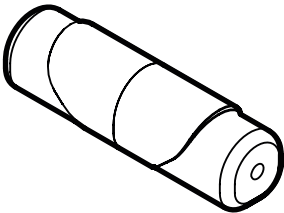
5 Fixing the 3 threaded bars to the left side with nuts and washers.

- A - (x3) HEX NUT-M8
B - (x3) WASHER_8x18x2



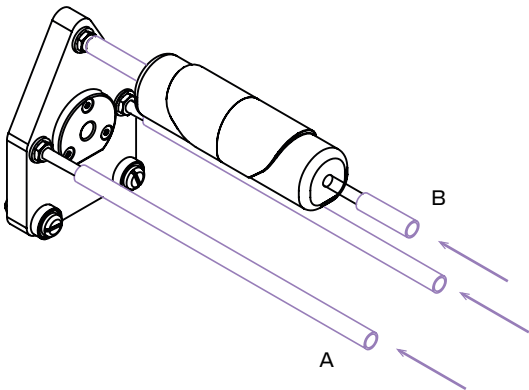
6 Assemble the two parts of the handle, applying glue and centring them with the four dowels.

- A - (x2) IM-01-0-02 HANDLE
B - (x2) WOOD DOWELS



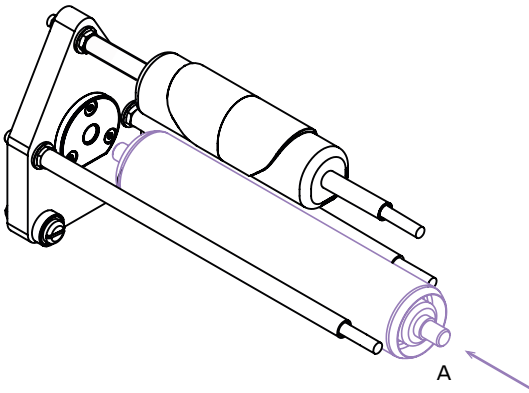
7 Insert the 260 mm PVC pipes onto 2 of the threaded bars. On the upper threaded bar, insert in order the 55 mm PVC pipe, the handle, and the second 55 mm PVC pipe.

- A - (x2) IM-01-0-06 PIPE
- B - (x2) IM-01-0-05 PIPE



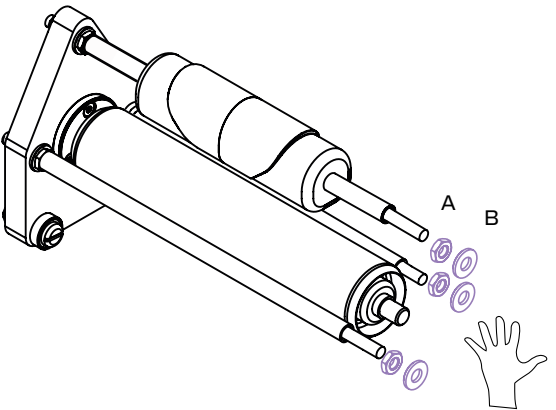
8 Insert the stainless steel roller.

- A - IM-01-A-02 Commercial Roller

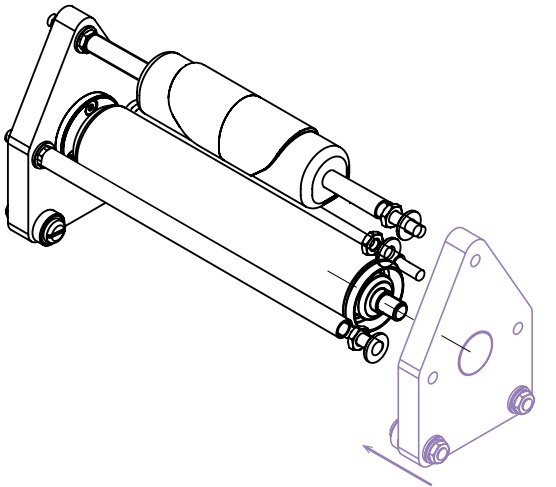


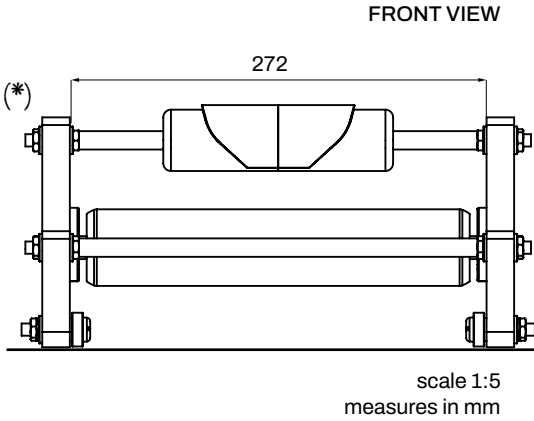
9 Screw the nuts and washers onto each threaded rod.

- A - (x3) HEX NUT-M8
- B - (x3) WASHER_8x18x2



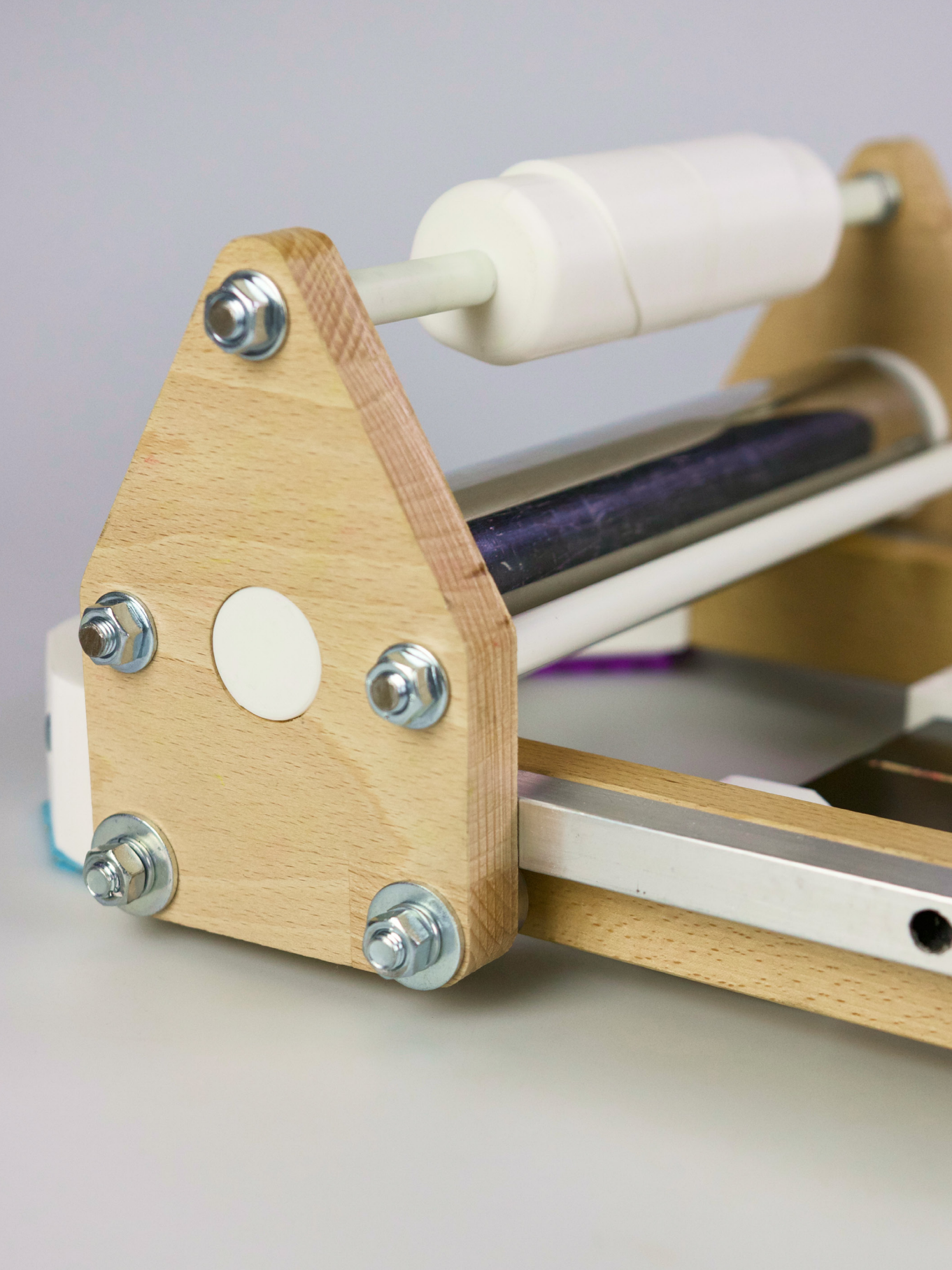
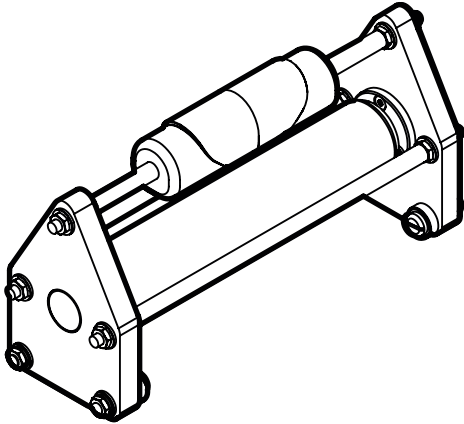
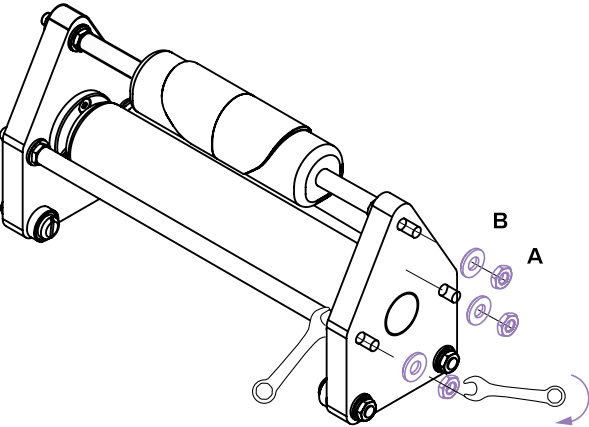
10 Insert the side on the threaded rods, matching the axis of the roller to the two flanges. Check that the distance between the two sides corresponds to the indicated dimension. Go to the following page (*)





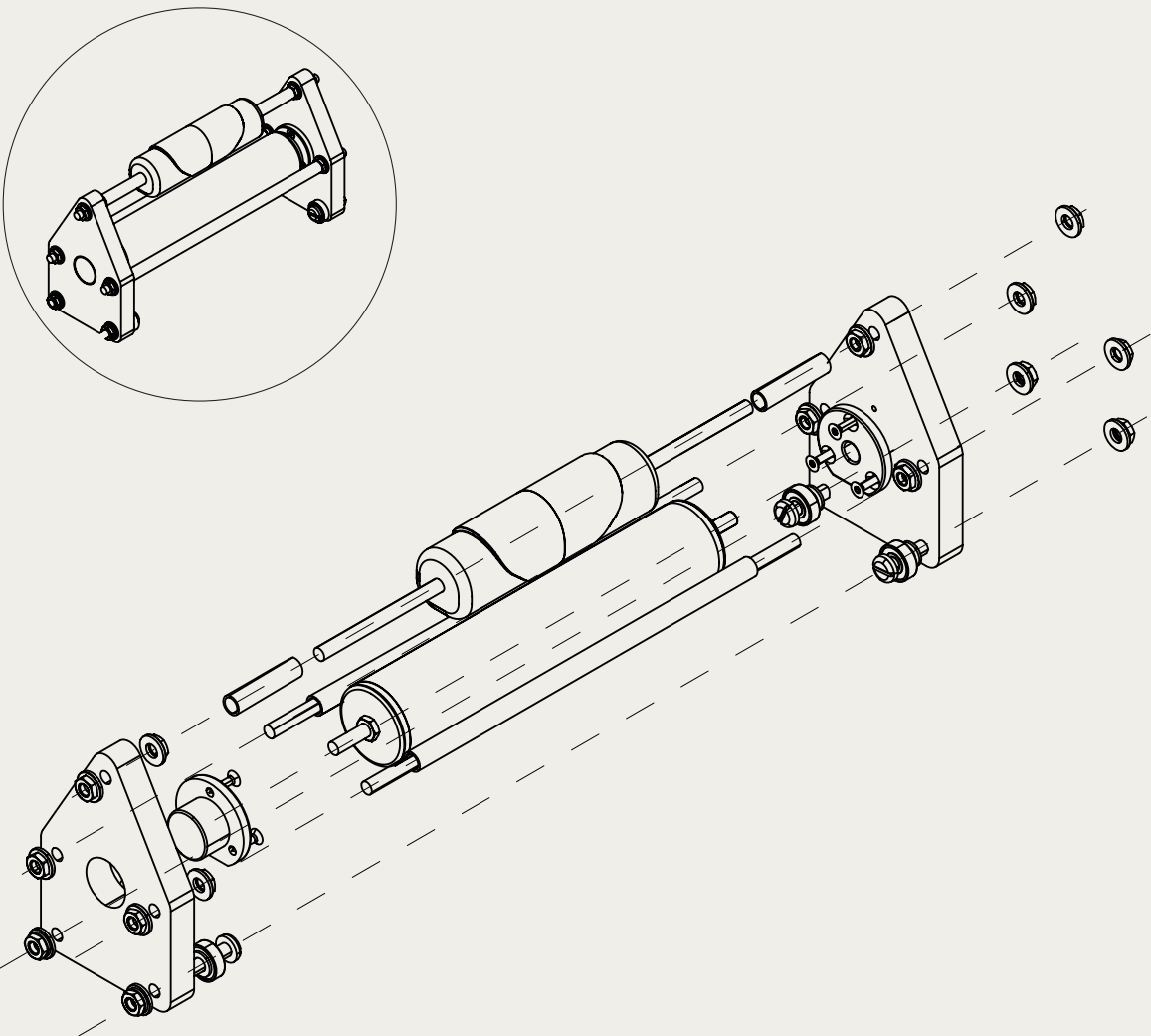
11 Secure the side with
nuts and washers

- A - (x3) HEX NUT-M8
B - (x3) WASHER_8x18x2



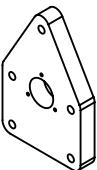
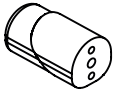
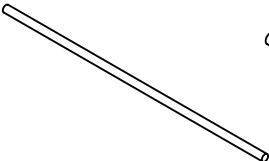
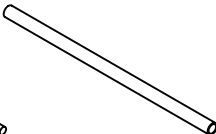







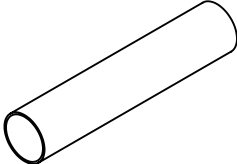

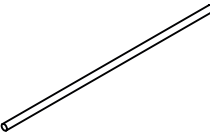






IM-01-0-00

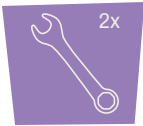
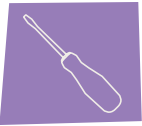
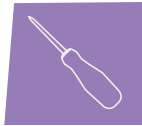


Cart - PVC roller



IM-01-0-00

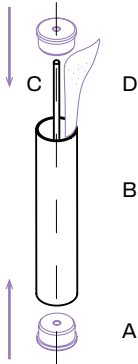
Cart - PVC roller

				
IM-01-0-01 SIDES Mat.: beech wood qty:2	IM-01-0-02 HANDLE Mat.: PLA qty:2	IM-01-0-03 THREADED ROD M8 Mat.: stainless steel qty:3	IM-01-0-05 PIPE Mat.:PVC qty:2	IM-01-0-06 PIPE Mat.:PVC qty:2
				
WASHER_8x18x2 qty:12	SB608ZZ Radial Ball Bearing Ø8xØ22x7 qty:6	HEX NUT-M8 qty:16	S.P. HEAD SCREW_ M8x40 qty:4	WASHER_8x15x1,5 qty:4
				
C.S. LOCK WA- SHER-Ø8 qty:4	IM-01-B-01 DIY ROLLER Mat.: PVC qty:1	IM-01-B-02 CAP Mat.:PLA qty:2	IM-01-B-03 THREA- DED ROD Mat.: stainless steel qty:1	HEX TB-01-B-03 THREADED ROD Mat.: PLA qty:2
				
HEX TAPPING SCREW_Ø4,2x19 qty:6	SAND qty: 500 g	WASHER 8x24x2 qty: 4	WOOD DOWELS qty: 2	LOW HEX NUT-M8 qty:2

				
Spanner n°13	Hex head screwdriver	Cross screwdriver	Vinyl glue	Hands

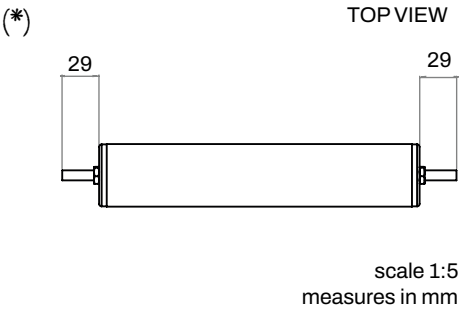
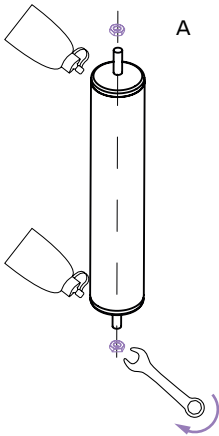
1 Build the PVC roller: insert the threaded rod into a PVC pipe, close with 1 cap (at the right dimension*), fill with sand until it is full, and close with the other cap.

- A - (x2) IM-01-B-02 CAP
- B - (x1) IM-01-B-01 DIY ROLLER
- C - (x1) IM-01-B-03 THREADED ROD
- D - (500 g) SAND



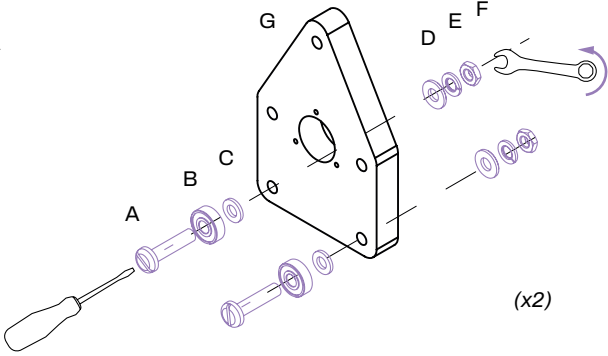
2 Secure the assembled parts with two bolts. Check that the threaded rod is centred in relation to the tube (*). To prevent sand from leaking out, apply a light layer of vinyl glue at the point of contact between the cap and the PVC pipe

- A - (x2) HEX NUT-M8



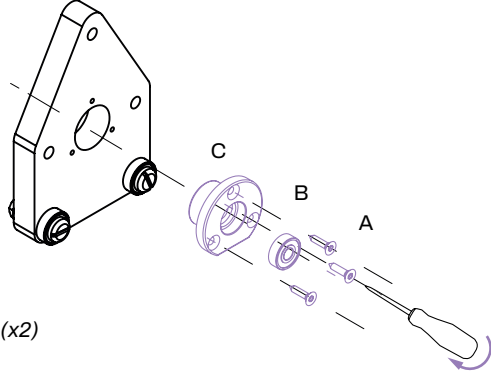
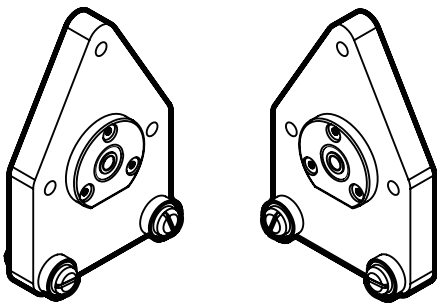
3 Assemble the two bearings on both left and right side on the screws, then blocking with nut and lock washer (until it flattens)

- A - (x4) S.P. HEAD SCREW_M8x40
- B - (x4) SB608ZZ
- C - (x4) WASHER_8x15x1,5
- D - (x4) WASHER_8x24x2
- E - (x4) C.S. LOCK WASHER-Ø8
- F - (x4) HEX NUT-M8
- G- IM-01-0-01 SIDES



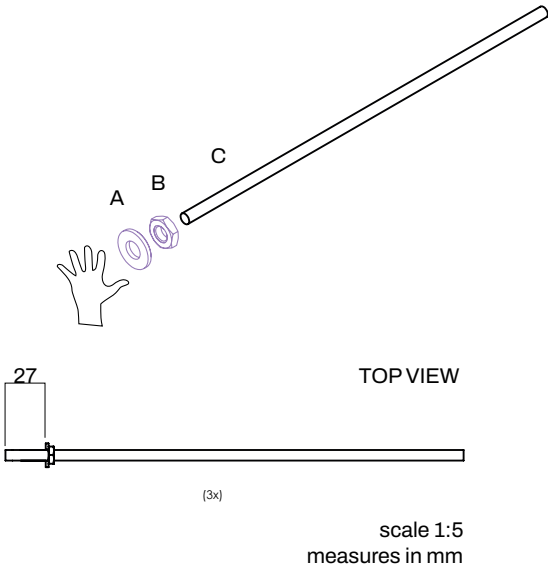
4 Mount the flange, for the PVC roller, on both the left and right side.

- A - (x6) HEX TAPPING SCREW_Ø4,2x19
- B - (x2) SB608ZZ
- C - (x2) IM-01-B-04 Flange

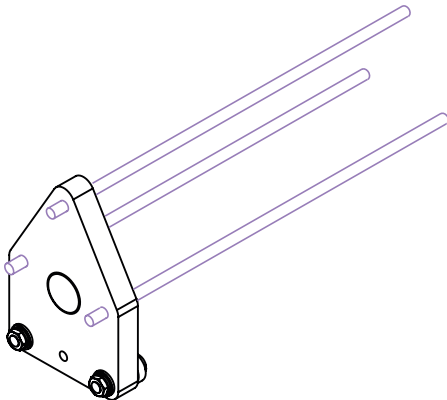


5 Pre-mount 1 nut and 1 washer on each of the 3 threaded rods, to the indicated dimension.

- A - (x1) WASHER_8x18x2
- B - (x1) HEX NUT-M8
- C - (x1) IM-01-0-03 THREADED ROD M8

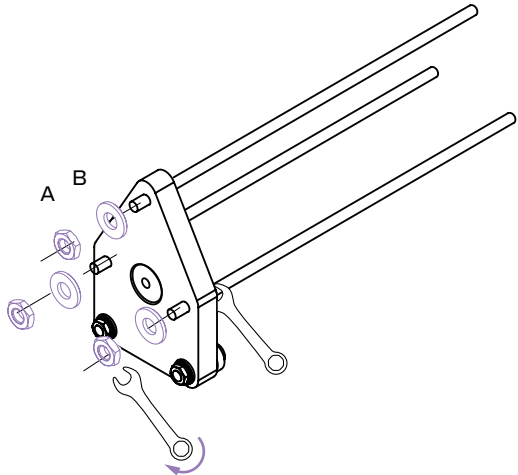
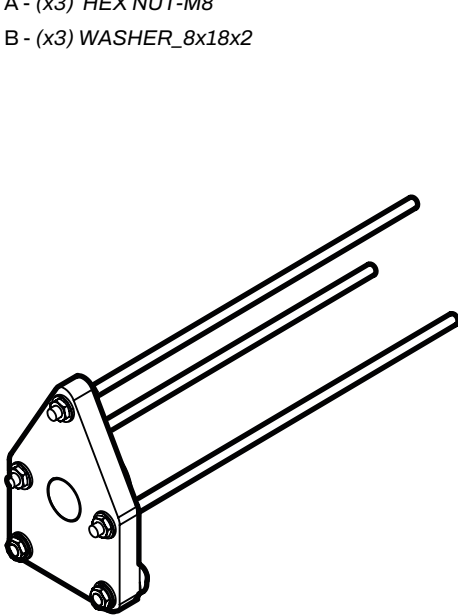


6 Insert the 3 threaded bars into the left side.



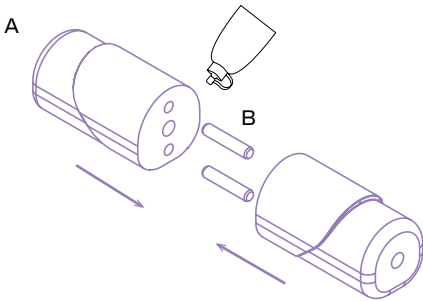
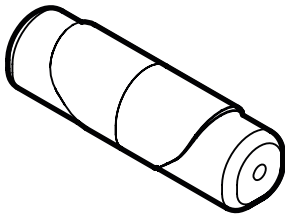
7 Fixing the 3 threaded bars to the left side with nuts and washers.

- A - (x3) HEX NUT-M8
- B - (x3) WASHER_8x18x2



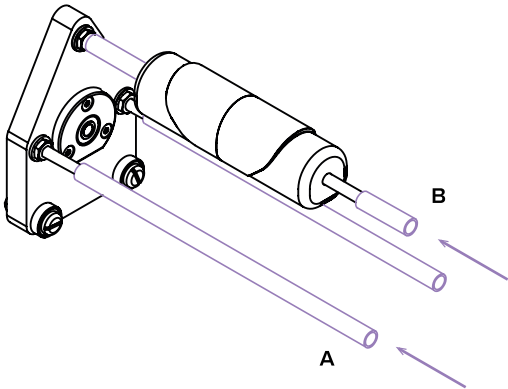
8 Assemble the two parts of the handle, applying glue and centring them with the four dowels.

- A - (x2) IM-01-0-02 HANDLE
- B - (x2) WOOD DOWELS

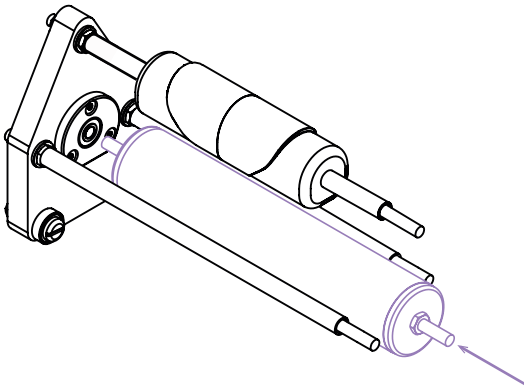


9 Insert the 260 mm PVC pipes onto 2 of the threaded bars. On the upper threaded bar, insert in order the 55 mm PVC pipe, the handle, and the second 55 mm PVC pipe.

- A - (x2) IM-01-0-06 PIPE
B - (x2) IM-01-0-05 PIPE

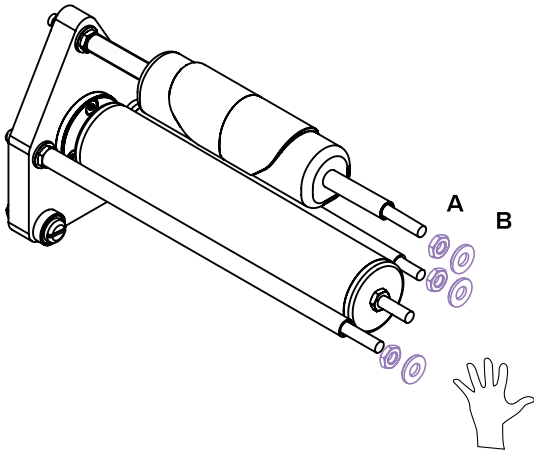


10 Insert the PVC tube.

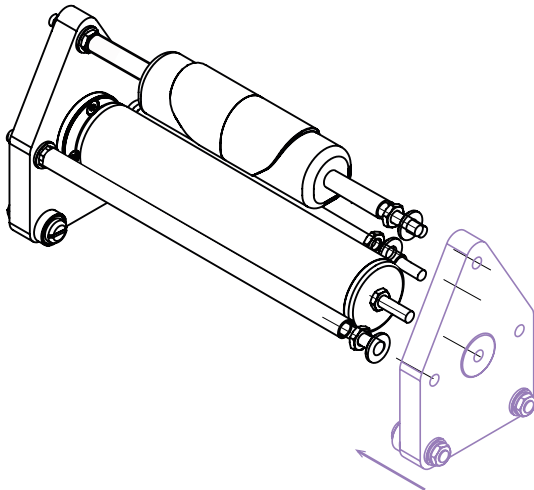


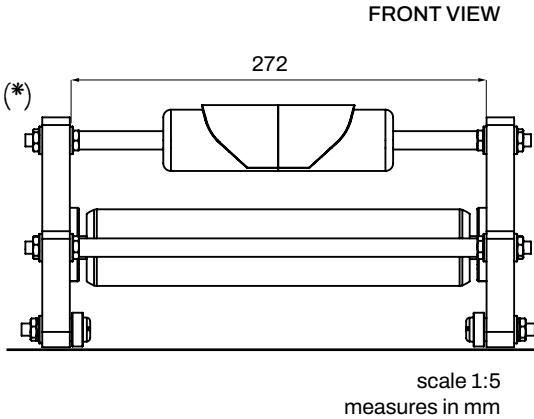
11 Screw the nuts and washers onto each threaded rod.

- A - (x3) HEX NUT-M8
B - (x3) WASHER_8x18x2



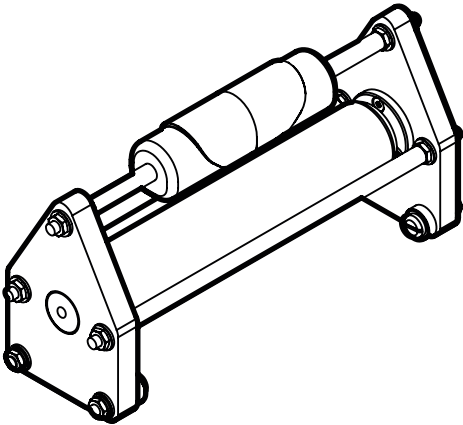
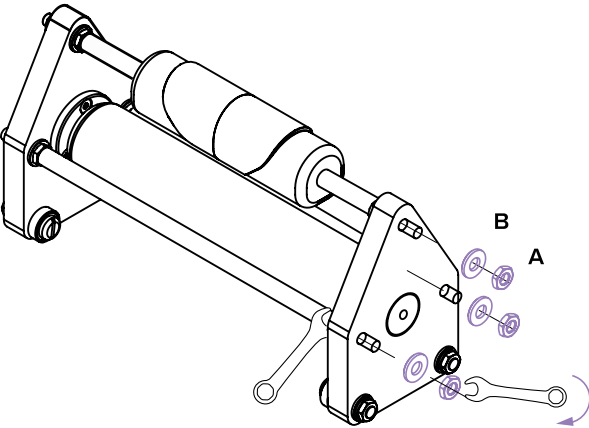
12 Insert the side on the threaded rods, matching the axis of the roller to the two flanges. Check that the distance between the two sides corresponds to the indicated dimension. See the following page(*)





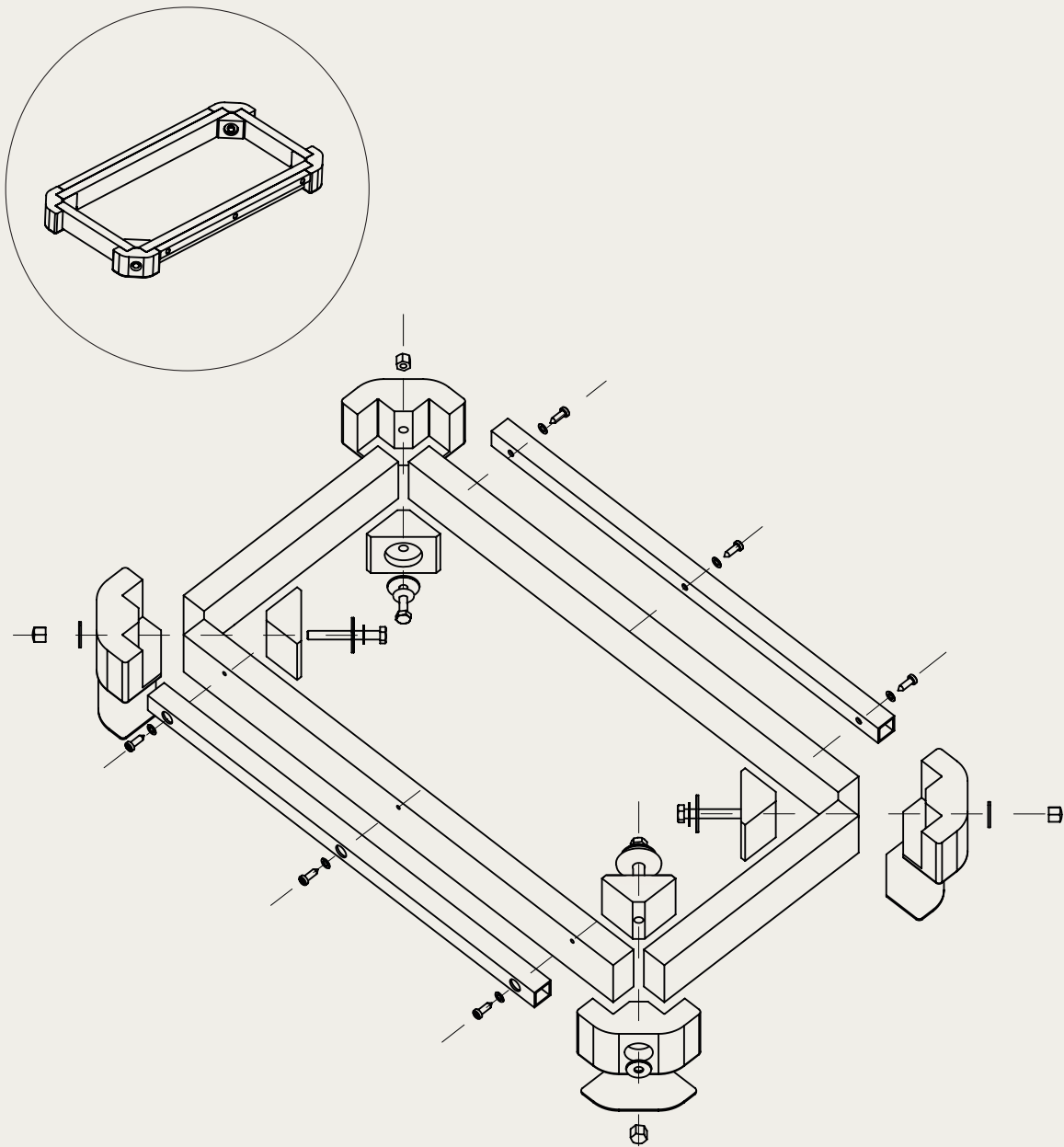
13 Secure the side with
nuts and washers.

- A - (x3) HEX NUT-M8
B - (x3) WASHER_8x18x2



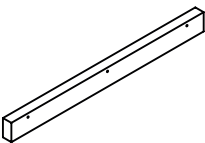
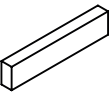
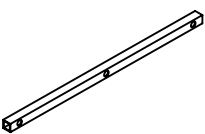











IM-02-0-00

Frame



IM-02-0-00

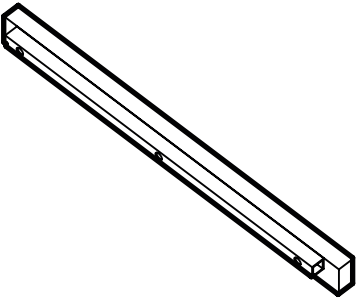
Frame

				
IM-02-0-01 WOODEN LONG. LATH Mat.: beech wood qty:2	IM-02-0-02 WOODEN TRAN. LATH Mat.: beech wood qty:2	IM-02-0-03 ALUMINIUM TRACK Mat.: Anodized aluminum qty:2	IM-02-0-04 JOINT EXT Mat.: PLA qty:4	IM-02-0-05 JOINT INT Mat.: PLA qty:4
				
HEXAGONAL HEAD SCREW-M6x50 qty:4	HEXAGONAL BLIND NUT M6 qty:4	WASHER_4.3x8x0.75 qty:6	WASHER_6x12x1 qty:4	WASHER_6x18x1,5 qty:4
				
WASHER_6x24x1,5 qty:4	Ø20-FELT PAD qty:4	HEX TAPPING SCREW Ø3,5x13 qty:6	IM-02-0-06 SUCTION CUPS qty:4	



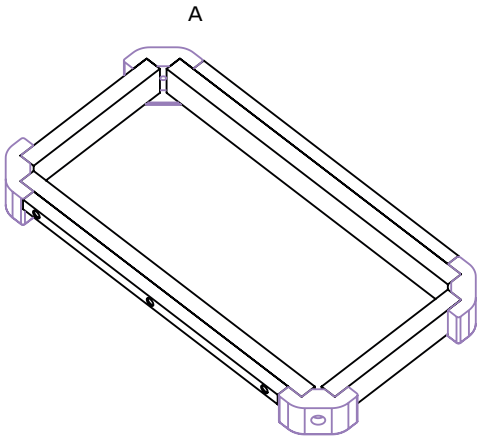
1 Assemble the aluminium square tube on the longitudinal lath. Repeat for both left and right. Check that the square tube is parallel to the lath.

- A - (x2) IM-02-0-01 WOODEN LONG. LATH
- B - (x2) IM-02-0-03 ALUMINIUM TRACK
- C - (x6) HEX TAPPING SCREW Ø3,5x13
- D - (x6) WASHER_4.3x8x0.75



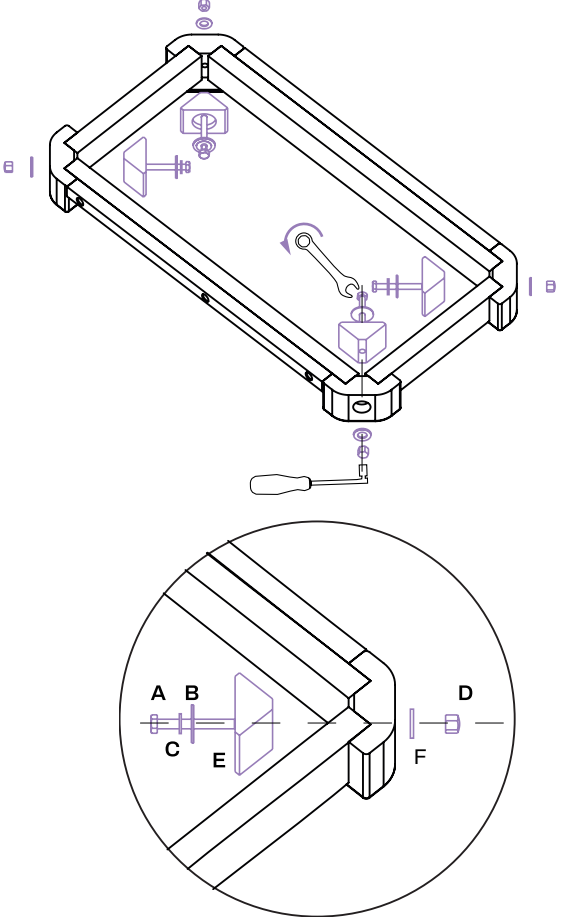
2 Pre-mount the laths on the ext joints to create the frame.

- A - (x4) IM-02-0-04 JOINT EXT



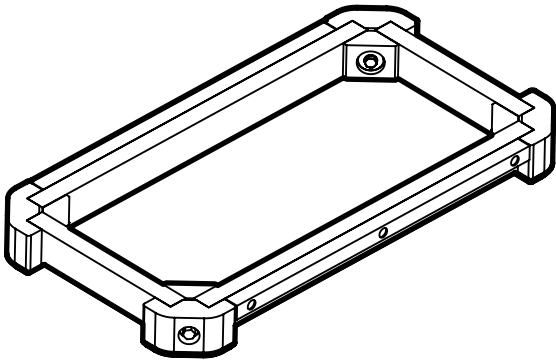
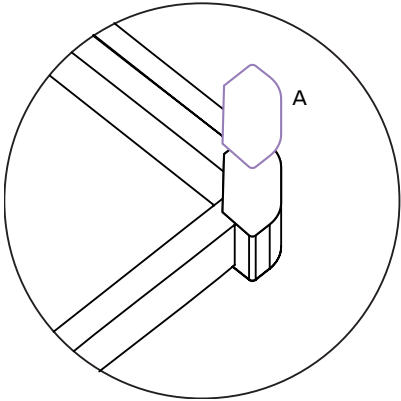
3 Mount the int joints to the ext ones and close them by holding the blind nut in place, using a ratchet wrench, and tightening the screw with a hexagonal spanner.

- A - (x4) HEXAGONAL HEAD SCREW-M6x50
- B - (x4) WASHER_6x24x1,5
- C - (x4) WASHER_6x12x1
- D - (x4) HEXAGONAL BLIND NUT M6
- E - (x4) IM-02-0-05 JOINT INT
- F - (x4) WASHER_6x18x1,5



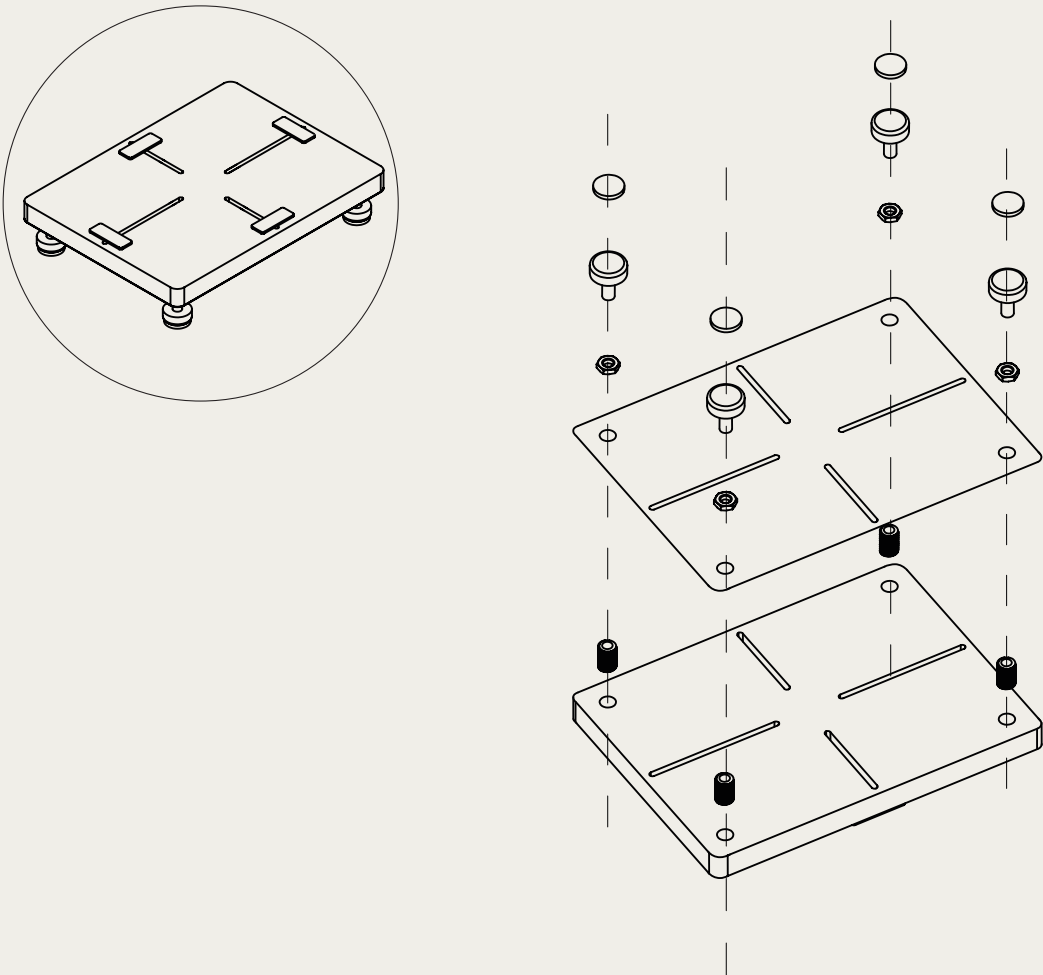
4 Stick the suction cups onto the back of each external joint.

- A - (x4) IM-02-0-06 SUCTION CUPS



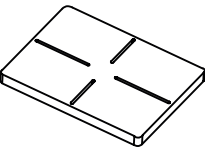









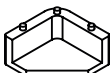
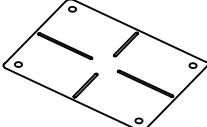

IM-03-0-00; IM-03-0-00_A

Matrix Holder



IM-03-0-00; IM-03-0-00_A

Matrix Holder

				
IM-03-0-01 PLATE Mat.: beech wood qty:1	IM-03-0-02 SLIDER Mat.: PLA qty:4	LOW HEX NUT-M8 qty:4	Ø20-FELT PAD qty:4	THREADED INSERT M8 qty:4
				
ADJUSTABLE SUPPORT X001X3VDHZ_M8 qty:4	IM-03-0-05 SLIDER_A Mat.: PLA qty:4	IM-03-0-08 MAGNETIC SLIDER Mat.: PLA qty:4	MAGNET 15x27x6 Mat.: magnet qty:4	IM-03-0-06_A UPPER CORNERS JOINT Mat.: PLA qty:4
				
IM-03-0-07_A LOWER CORNERS JOINT Mat.: PLA qty:4	IM-03-0-04 FERROUS SHEET Mat.: Ferrous sheet qty:1	Ø25-FELT PAD qty:4		



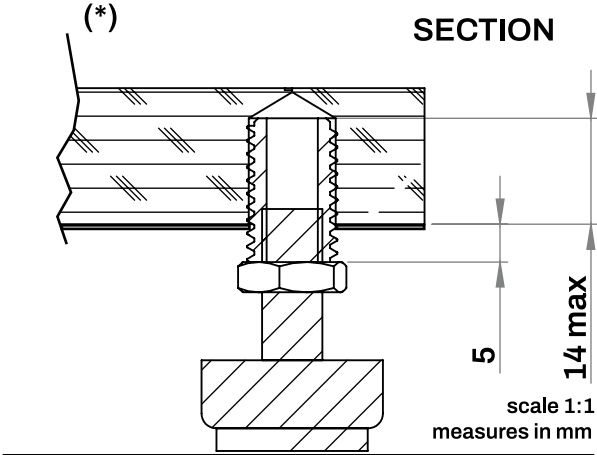
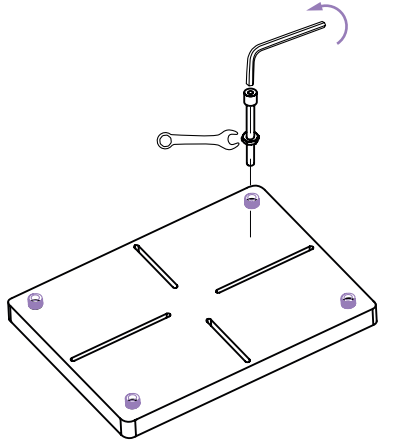
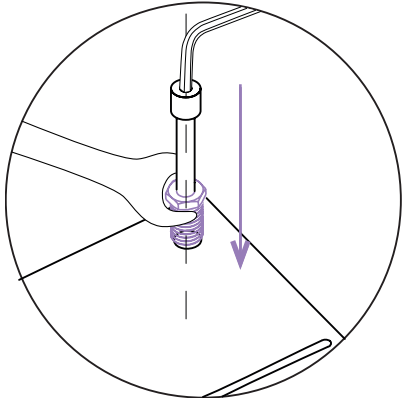
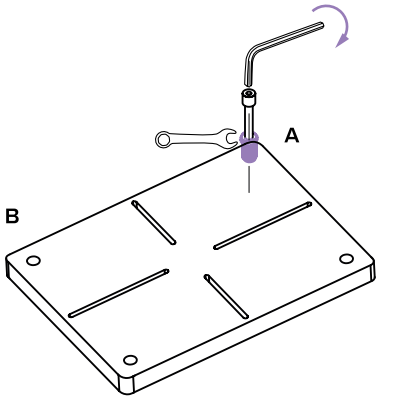
Spanner n°13



Hex key

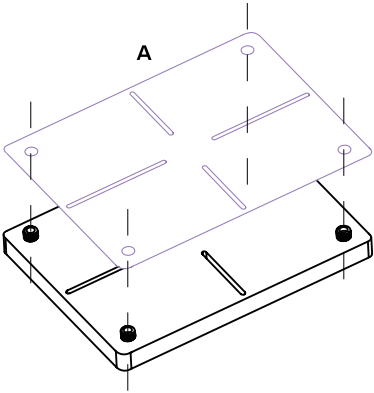
1 On the board, insert the threaded inserts into the holes with the help of an M8 hexagon head screw and a nut. The insert must be screwed in all the way to the bottom of the blind hole, making sure that 5 mm is left out. (*)

A - (x4) THREADED INSERT M8
B - (x1) IM-03-0-01 PLATE



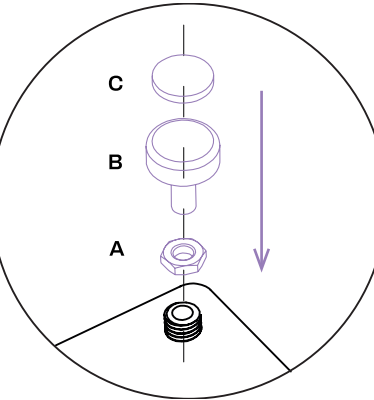
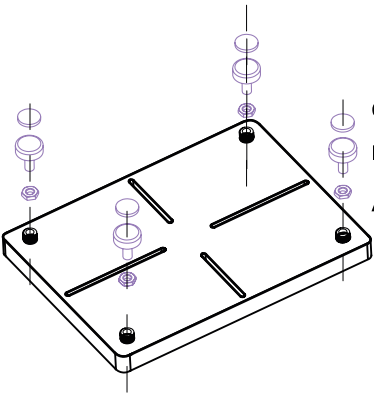
3 Stick the ferrous sheet onto the matrix holder using the adhesive side.

A - (x1) IM-03-0-04 FERROUS SHEET

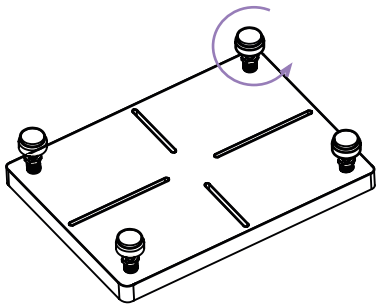


4 Screw an hexagonal nut onto each feet. Then glue a rubber felt pad onto the base of each foot. Each foot, fitted with a nut, must be screwed into each threaded insert.

A - (x4) HEX NUT-M8
B - (x4) ADJUSTABLE SUPPORT X001X3VDHZ_M8
C - (x4) Ø20-FELT PAD

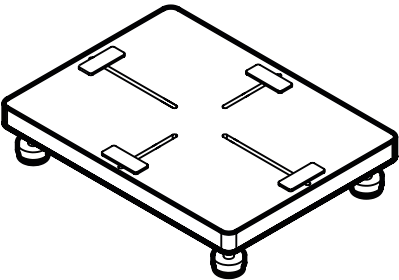
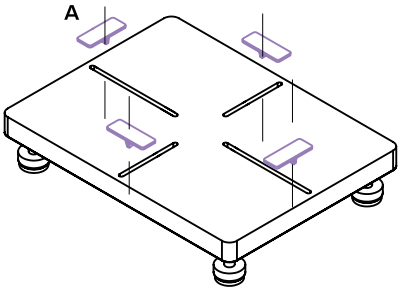


5 Finally, you can screw these pieces together, adjusting them according to the matrix to be printed.

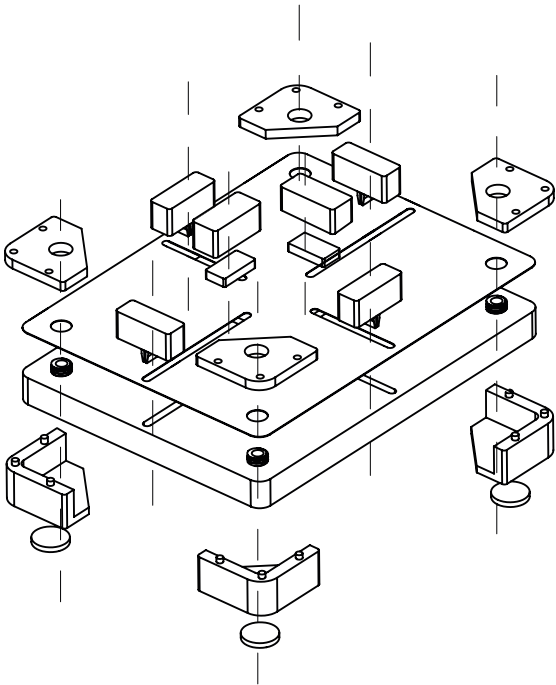


6 Insert the 4 sliders into the carvings.

A - (x4) IM-03-0-02 SLIDER

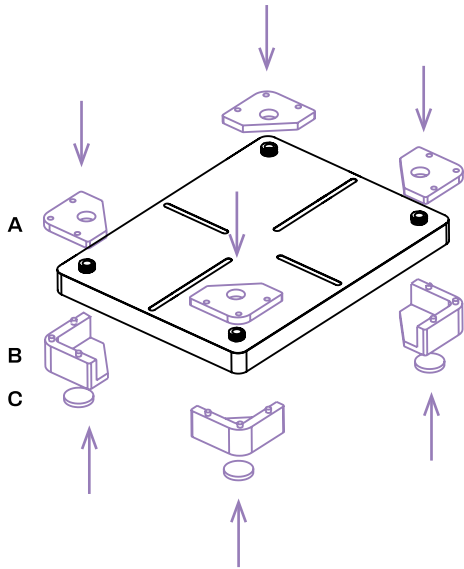
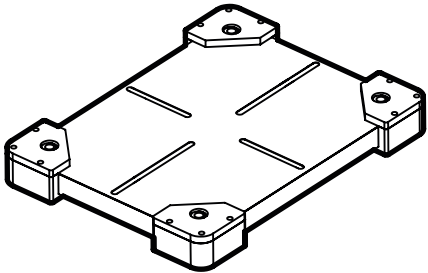


Note: The following steps consist of assembling the components to adapt the matrix holder to printing with movable type. Before proceeding, unscrew the feet.



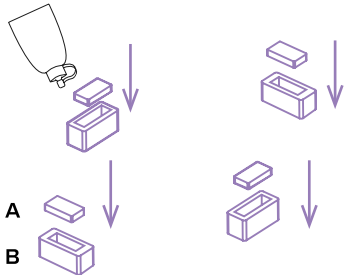
7 Assemble the upper and lower corner joints on the matrix holder, and stick the felt pads onto the latter. Each upper corner joint must be centred on the insert.

A - (x4) IM-03-0-06_A UPPER CORNERS JOINT
B - (x4) IM-03-0-07_A LOWER CORNERS JOINT
C - (x4) Ø20-FELT PAD



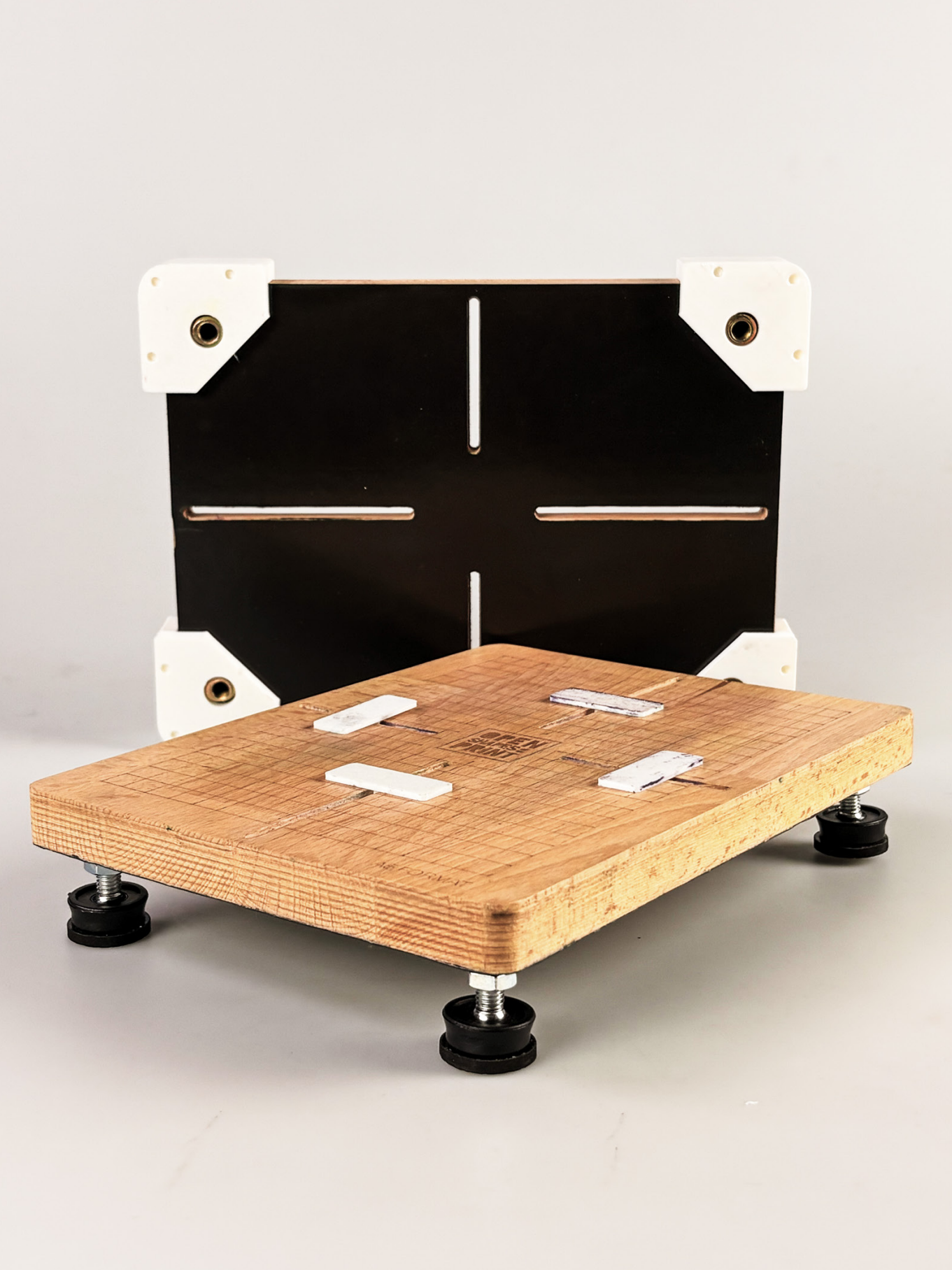
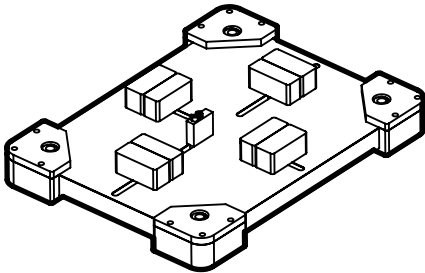
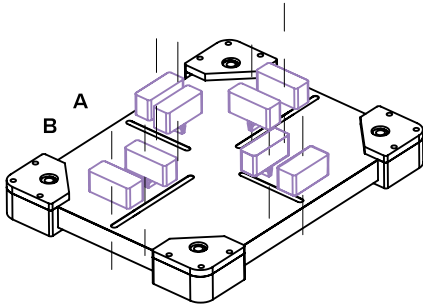
9 Insert the magnets into each magnet slider, add some glue.

- A - (x4) MAGNET 15x27x6
- B - (x4) IM-03-0-08_A MAGNET SLIDER



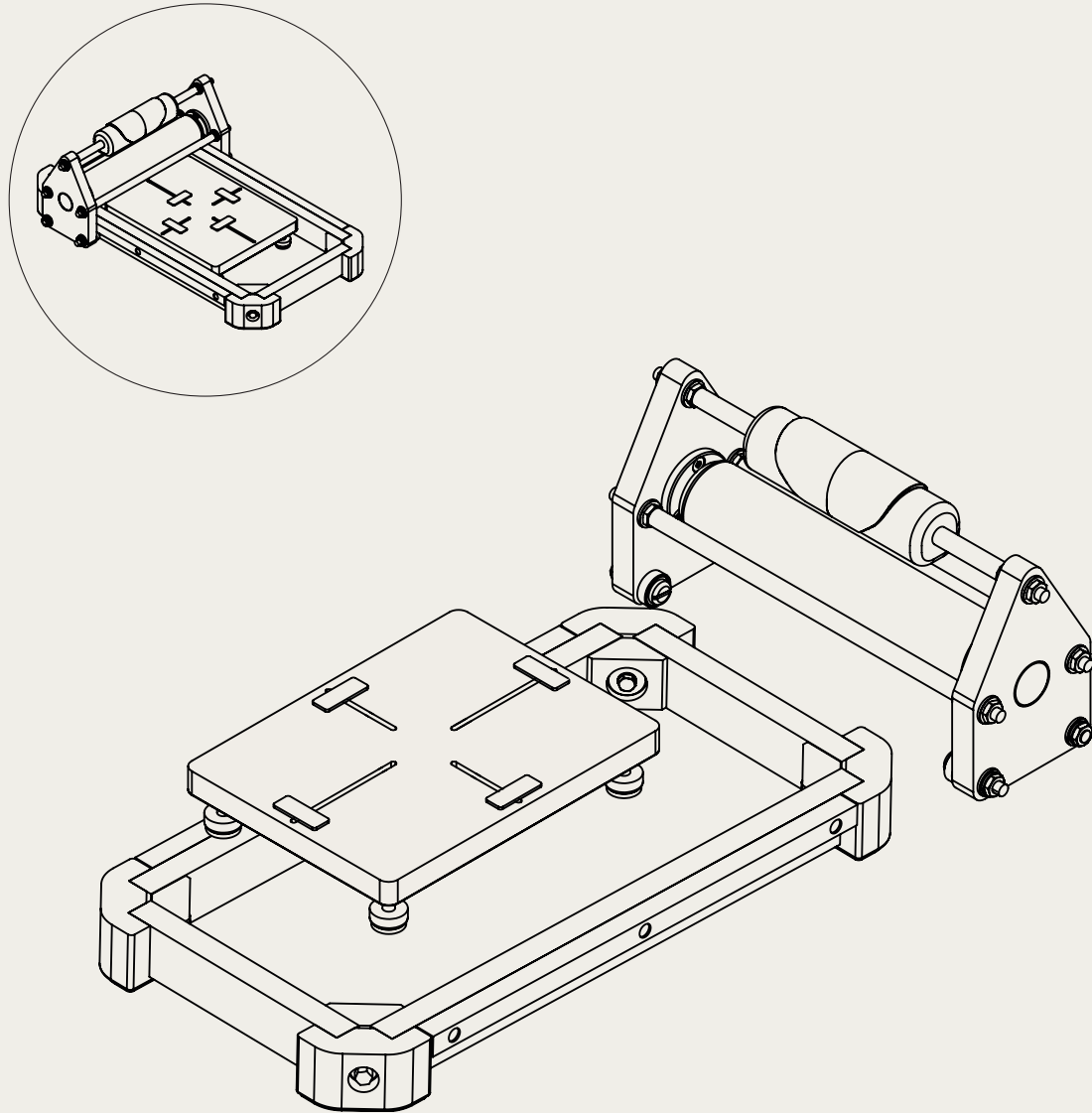
10 And finally insert the sliders into the carvings and attach the magnetic sliders to the plane.

- A - (x4) IM-03-0-05_A SLIDER
- B - (x4) IM-03-0-08_A MAGNET SLIDER



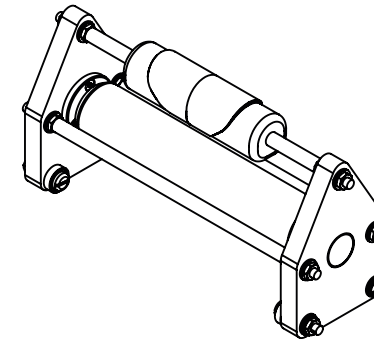
IM-01-0-00; IM-02-0-00; IM-03-0-00

Printing press assembly

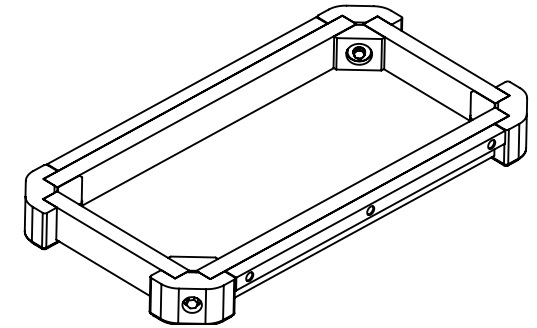


IM-01-0-00; IM-02-0-00; IM-03-0-00

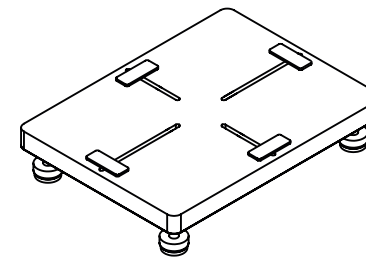
Printing press assembly



IM-01-0-00
Cart



IM-02-0-00
Frame



IM-03-0-00
Matrix holder

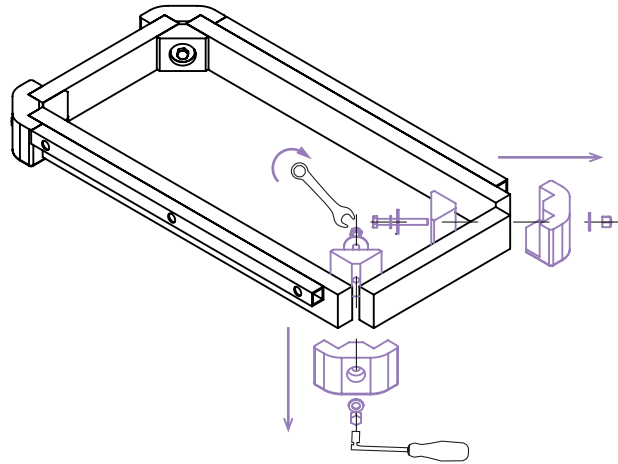


Spanner n°11

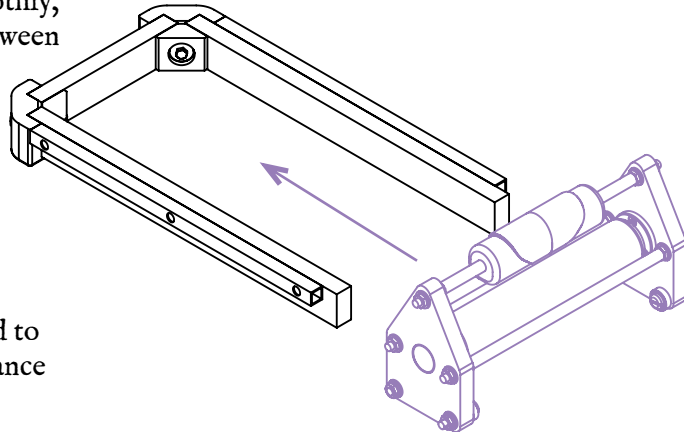


Ratchet wrench

- 1 To assemble the printing press, start with the frame, on which it is necessary to disassemble two of the joints on the short side.

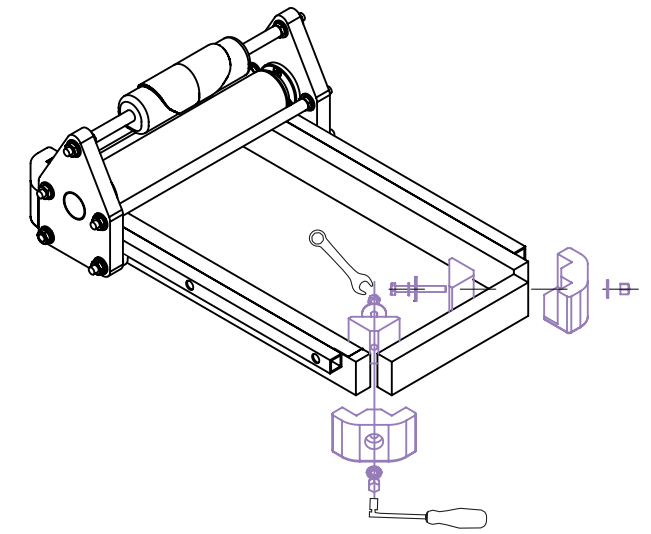


- 2 Insert the cart on the frame by using the laths released by the joints, following the guide provided by the aluminium square tube. Check that the cart fits easily and the roller slides smoothly, otherwise increase the distance between the sides by unscrewing the bolts.



tip: The same steps can be executed to disassemble the press (for maintenance or transport).

- 3 Finally, assemble the joints again.



- 3 Adding the matrix holder completes the press. The suction cups on the back of the joints allow it to be fixed to the table, but if necessary, use a clamp to secure it.

