

Assembly guide:

Standard gripper



Version 1.1

Date: 17-10-2024



Revision:

REV	Date	Description
1	26-7-2024	First release
1.1	17-10-2024	<ul style="list-style-type: none">• Updated the assembly instructions• Created new parts:<ul style="list-style-type: none">○ STANDARD_GRIPPER_10• Updated parts:<ul style="list-style-type: none">○ STANDARD_GRIPPER_03○ STANDARD_GRIPPER_04○ STANDARD_GRIPPER_07



Index

1: Introduction	4
2: Print files	5
3: BOM	9
4: Assembly instructions	11



1: Introduction

This document will describe how to assemble the standard gripper for the robot arm Miko-1. Because this is the first version of Miko-1, there might be some imperfections. We will try to resolve these as soon as possible. We apologize for any inconvenience you may encounter. If you find any mistakes in this document, please let us know by emailing info@mikobots.com.

Using the robot is at your own risk.

To ensure the safe operation of the robot arm, you need to have sufficient knowledge of electronics. If you are unsure how to proceed, please do not attempt it and ask a professional.

All measurements in this document are in millimeters (mm) or specified otherwise.

2: Print files

In this chapter you will find all the parts that you need to print, for the standard gripper. We recommend using PETG filament because it has a higher glass transition temperature than PLA and is still easy to print.

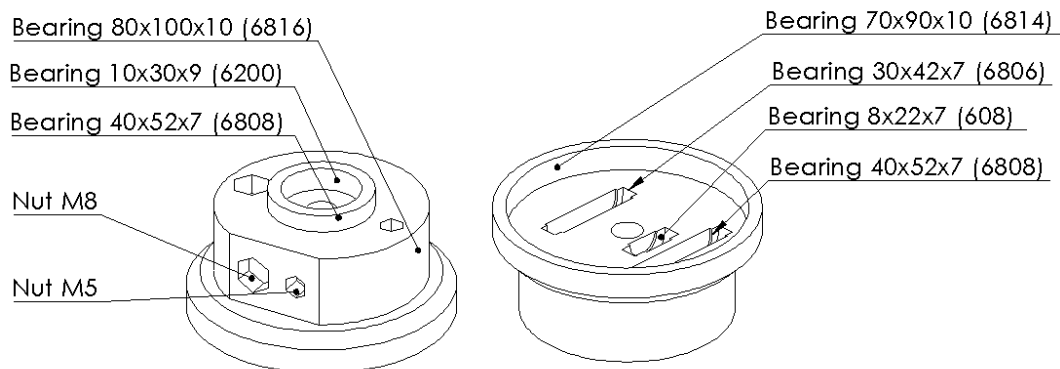
The general print settings that we have used for the parts are:

- Layer height: 0.2mm
- Walls: 3
- Infill: 20%

The tolerances used are as tight possible to achieve the best results. This means that sometimes you may need to use a little bit of force to assemble some parts. The given tolerance for certain parts, such as bearings, depends on the layer direction of the part. We have created a test part to check if your printer can print the parts with the given tolerances. If you encounter problems with the tolerance of any part, please let us know.

We will also release parts with larger tolerances if needed, as we want to ensure that almost every printer can print this robot arm.

If you want access to the 3D files you will have to buy the digital files, or a kit.





Art. name: STANDARD_GRIPPER_01

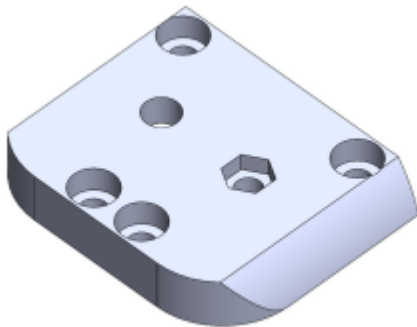
Revision: 000

Quantity: 1

Infill: 20%

Walls: 2

Comments:



Art. name: STANDARD_GRIPPER_02

Revision: 000

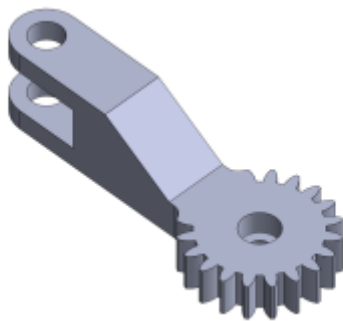
Quantity: 1

Infill: 20%

Walls: 2

Comments:

Not needed if you are using the CAM



Art. name: STANDARD_GRIPPER_03

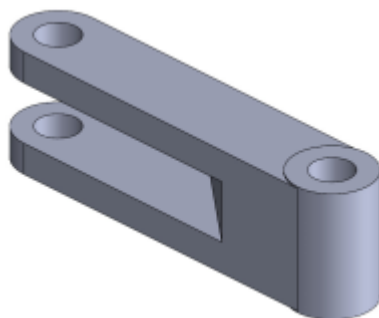
Revision: 001

Quantity: 1

Infill: 20%

Walls: 2

Comments:



Art. name: STANDARD_GRIPPER_04

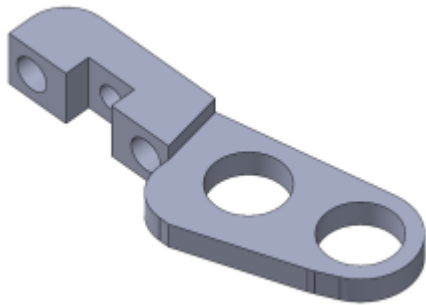
Revision: 001

Quantity: 2

Infill: 20%

Walls: 2

Comments:



Art. name: STANDARD_GRIPPER_05

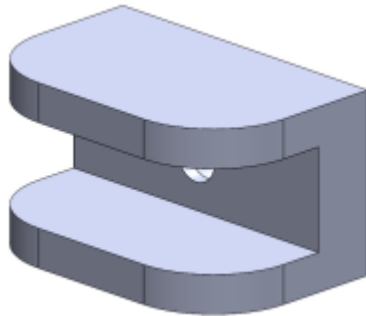
Revision: 000

Quantity: 2

Infill: 20%

Walls: 2

Comments:



Art. name: STANDARD_GRIPPER_06

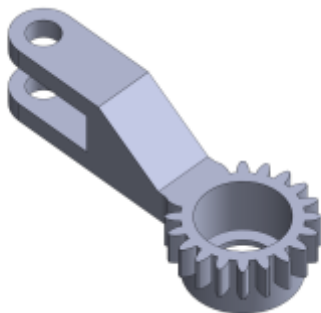
Revision: 000

Quantity: 2

Infill: 20%

Walls: 2

Comments:



Art. name: STANDARD_GRIPPER_07

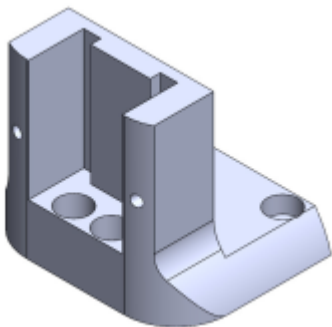
Revision: 001

Quantity: 1

Infill: 20%

Walls: 2

Comments:



Art. name: STANDARD_GRIPPER_08

Revision: 000

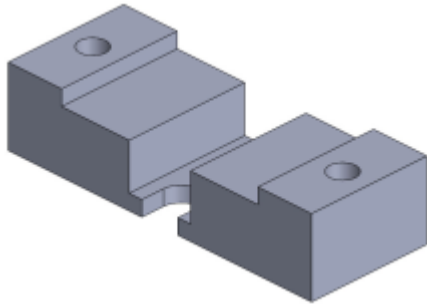
Quantity: 1

Infill: 20%

Walls: 2

Comments:

Only needed if you are using the CAM



Art. name: STANDARD_GRIPPER_09

Revision: 001

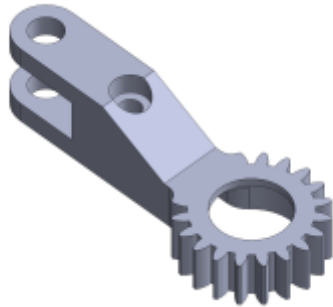
Quantity: 1

Infill: 20%

Walls: 2

Comments:

Only needed if you are using the CAM



Art. name: STANDARD_GRIPPER_10

Revision: 000

Quantity: 1

Infill: 20%

Walls: 2

Comments:



3: BOM

In this chapter, you will find all the parts that you need to buy for the standard gripper. If you see any mistakes or have any questions, you can email us at info@mikobots.com or ask the question in the Discord server. We have tried to provide a link to a shop for each component, but these links could change or become invalid. We will try to update the links regularly.

Please remember that you are solely responsible for ensuring the parts meet the safety requirements for your country.

Before ordering the parts, it's recommended to first read the whole document.



Bearings

Name	QTY.	Description	shop
BEARING_01	5	Bearing 5x14x5 (605)	Link

Electronics

Name	QTY.	Description	shop
ELECTRONICS_006	1	Servo 20kg 180deg	Link

Fasteners

Name	QTY.	Description	shop
DIN 912 M3x10	5	Hexagon socket Head Cap Screws M3x10	
DIN 912 M4x25	2	Hexagon socket Head Cap Screws M4x25	
DIN 912 M5x20	5	Hexagon socket Head Cap Screws M5x20	
DIN 912 M5x35	4	Hexagon socket Head Cap Screws M5x35	
DIN 125 M3	1	Washer M3	
DIN 125 M5	8	Washer M5	
ISO 4032 M3	4	Hexagon regular nut M3	
ISO 4032 M4	6	Hexagon regular nut M4	
ISO 4032 M5	7	Hexagon regular nut M5	

Springs

Name	QTY.	Description	shop
SPRING_01	4	Spring OD=5,5 L=15 WD=0.6	Link

Important note

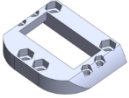
- It is your own responsibility to ensure that the components meet the safety requirements in your country.
 - For extra grip you could glue a piece of rubber or timing belt on the fingers
-



4: Assembly instructions

The instructions are written with care to include every step of the assembly process. This chapter is not completely finished yet, and we will try to make some steps clearer for easier assembling.

Step 1:

Items	QTY	Description
STANDARD_GRIPPER_01	1	
ELECTRONICS_006	1	Servo 20kg 180deg
DIN 912 M3 x 10	4	Hexagon socket Head Cap Screws M3x10
ISO 4032 M3	4	Hexagon regular nut M3

Instruction:

Remove the back of the servo, to mount the servo to the 3d printed part.



Step 2:

Items	QTY	Description
STANDARD_GRIPPER_05	2	
BEARING_01	4	Bearing 5x14x5 (605)



Instruction:



Step 3:

Items	QTY	Description
STANDARD_GRIPPER_03	1	
STANDARD_GRIPPER_10	1	
DIN 912 M3 x 10	1	Hexagon socket Head Cap Screws M3x10



Instruction:

Mount the STANDARD_GRIPPER_10 to the aluminum arm of the servo using the M3x10 bolt. If you don't have this arm with the servo, you can use the STANDARD_GRIPPER_03 part instead and skip this step.



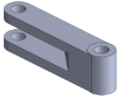
Step 4:

Items	QTY	Description
DIN 912 M5 x 20	1	Hexagon socket Head Cap Screws M5x20
DIN 125 M5	2	Washer M5
ISO 4032 M5	1	Hexagon regular nut M5

Instruction:




Step 5:

Items	QTY	Description
STANDARD_GRIPPER_04		
DIN 912 M5 x 20	1	Hexagon socket Head Cap Screws M5x20
DIN 125 M5	2	Washer M5
ISO 4032 M5	1	Hexagon regular nut M5

Instruction:



Step 6:

Items	QTY	Description
STANDARD_GRIPPER_07	1	
BEARING_01	1	Bearing 5x14x5 (605)

Instruction:



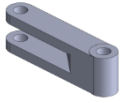
Step 7:

Items	QTY	Description
DIN 912 M5 x 20	1	Hexagon socket Head Cap Screws M5x20
DIN 125 M5	2	Washer M5
ISO 4032 M5	1	Hexagon regular nut M5

Instruction:



Step 8:

Items	QTY	Description
STANDARD_GRIPPER_04	2	
DIN 912 M5 x 20	1	Hexagon socket Head Cap Screws M5x20
DIN 125 M5	2	Washer M5
ISO 4032 M5	1	Hexagon regular nut M5

Instruction:



Step 9:

Items	QTY	Description
-------	-----	-------------

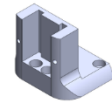
Instruction:

Use the M3 bolt delivered with servo, to mount the arm to the servo.



Step 10:

Items	QTY	Description
STANDARD_GRIPPER_08	1	
DIN 912 M5 x 20	1	Hexagon socket Head Cap Screws M5x20
ISO 4032 M5	1	Hexagon regular nut M5



Instruction:



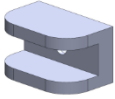
Step 11:

Items	QTY	Description
DIN 912 M5 x 35	2	Hexagon socket Head Cap Screws M5x35
ISO 4032 M5	2	Hexagon regular nut M5

Instruction:



Step 12:

Items	QTY	Description
STANDARD_GRIPPER_06	2	
DIN 912 M4 x 25	2	Hexagon socket Head Cap Screws M4x25
ISO 4032 M4	2	Hexagon regular nut M4

Instruction:



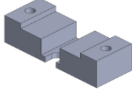
Step 13:

Items	QTY	Description
ISO 4032 M4	4	Hexagon regular nut M4
SPRING_01	4	Spring OD=5,5 L=15 WD=0.6

Instruction:



Step 14:

Items	QTY	Description
STANDARD_GRIPPER_09	1	

Instruction:

The M3 x 25 bolts and the M3 nuts are part of the vision kit

