

Niryo One Mechanical Specifications

11/09/2018



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1. Niryo One

1.1 Overview

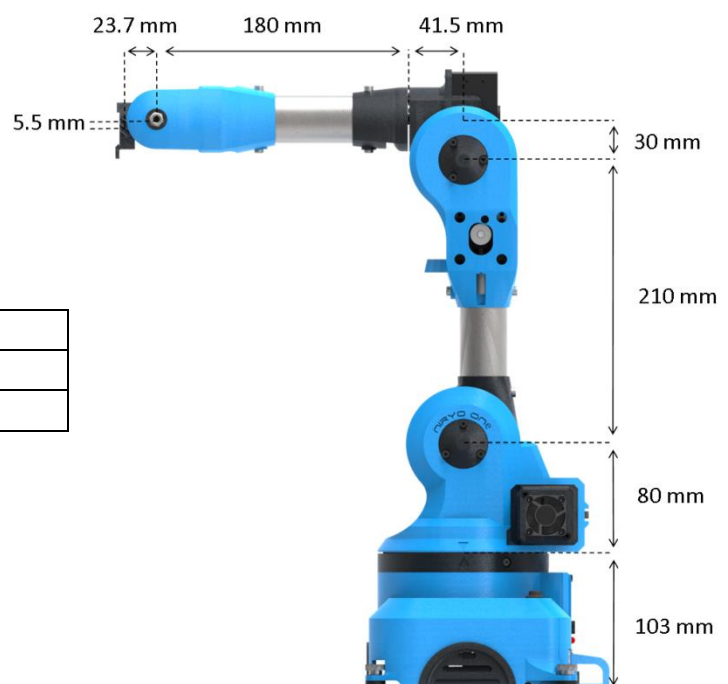
Niryo One is a 6-axis robotic arm. That means 6 degrees of freedom for the robot.

The robot can be broken down into 7 parts:

1 - Base	Orange
2 - Shoulder	Yellow
3 - Arm	Green
4 - Elbow	Turquoise
5 - Forearm	Blue
6 - Wrist	Purple
7 - Hand	Red



1.2 Dimensions

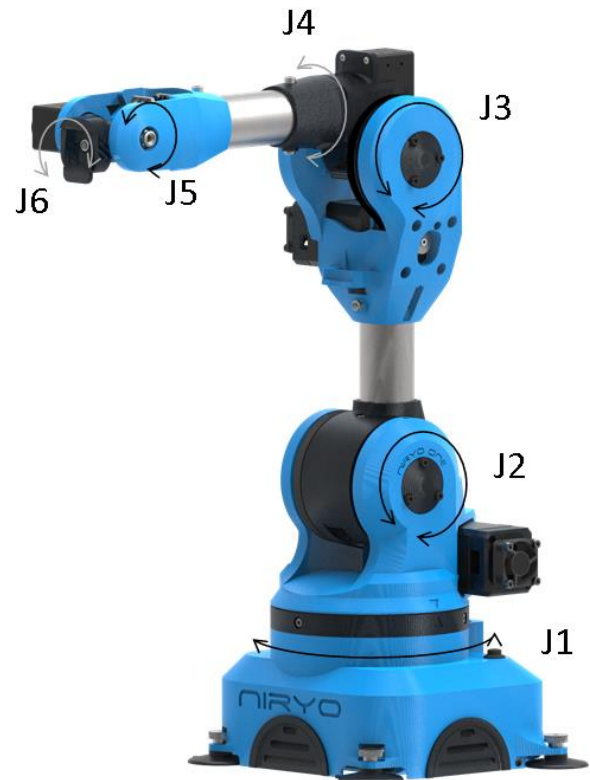


Degrees of Freedom	6
Weight	3,3 kg
Reach	440 mm

1.3 Max rotation

Max angle for each rotation:

	Min	Max
J1	-175°	175°
J2	-90°	36.7°
J3	-80°	90°
J4	-175°	175°
J5	-100°	110°
J6	-147.5°	147.5°

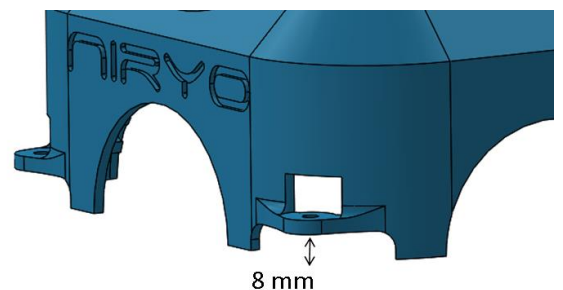
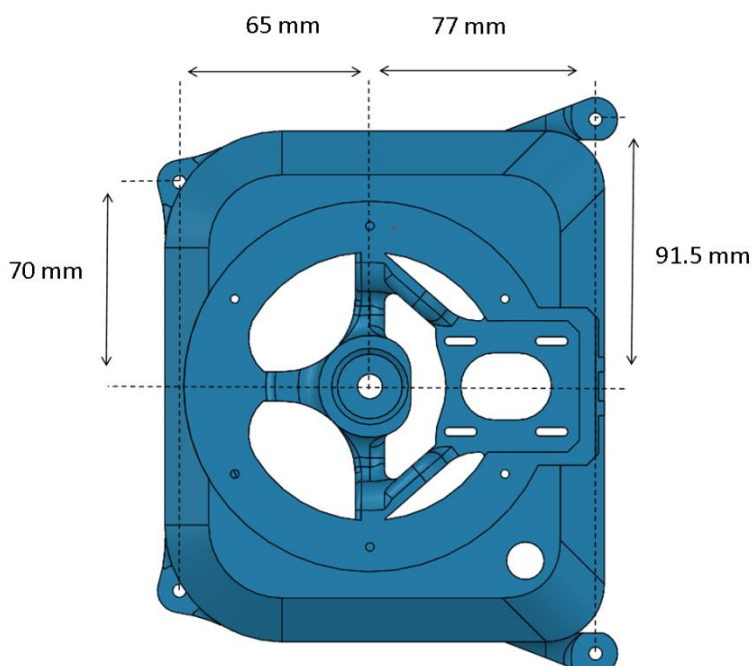


1.4 Integration

Niryo One is delivered with 4 suction cups and rubber feet.

However for a more intensive use, which requires better repeatability/accuracy, fixing Niryo One will be necessary.

Here are the dimensions of the 4 slots to fix **M5 screws**.



2. Tools

2.1 Overview

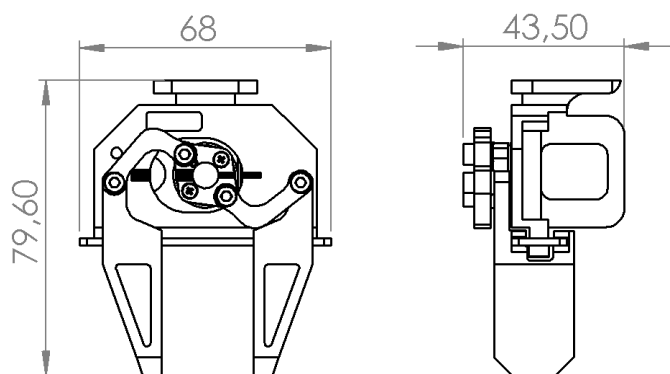
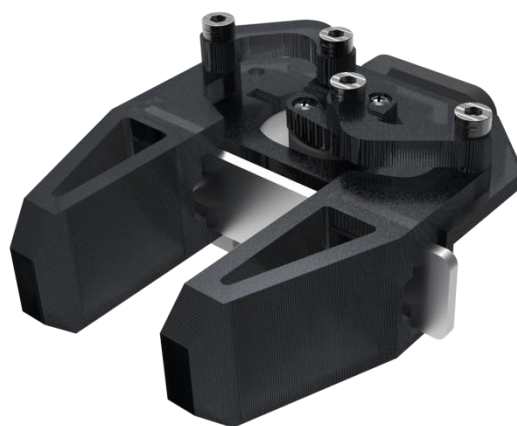
5 different kinds of tools are available for Niryo One:

- 3 x Grippers
- 1 x Vacuum Pump
- 1 x Electro magnet

2.2 Specification

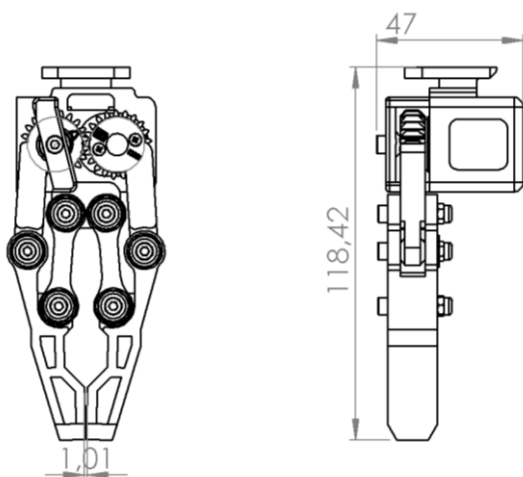
2.2.1 Gripper 1

Weight	70 g
Length (gripper closed)	80 mm
Max opening width	27 mm
Picking distance from end effector base	60 mm

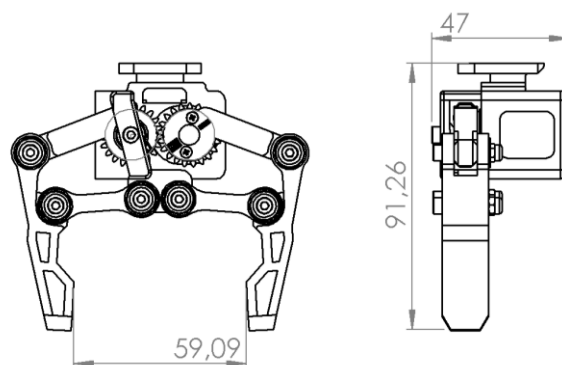


2.2.2 Gripper 2

Weight	86 g
Length (gripper closed)	120 mm
Max opening width	60 mm
Picking distance from end effector base	80 mm



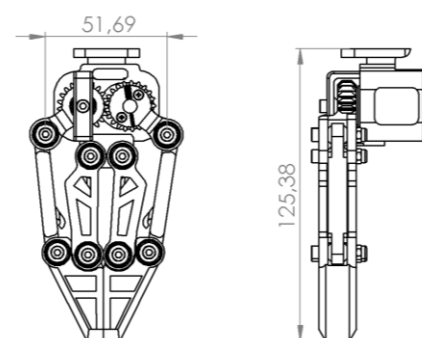
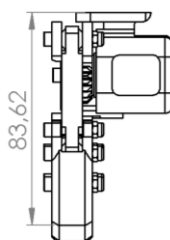
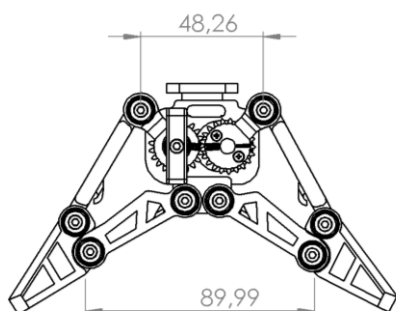
G2 Close



G2 Open

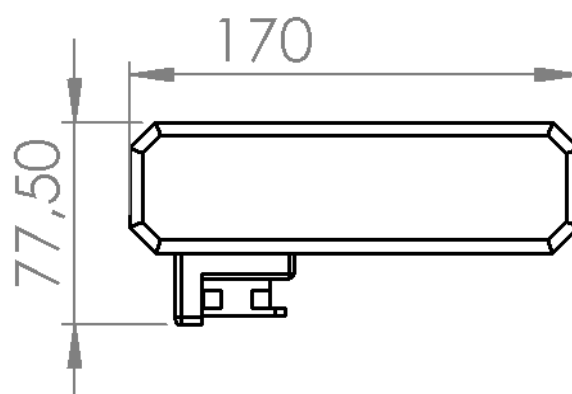
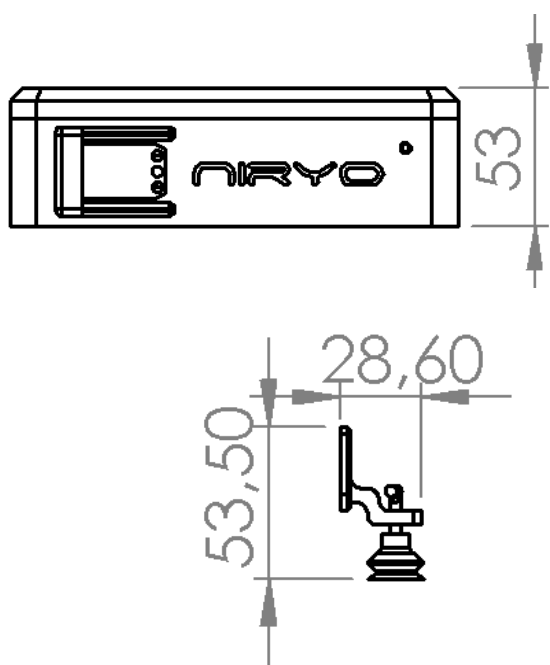
2.2.3 Gripper 3

Weight	105 g
Length (gripper closed)	125 mm
Max opening width	90 mm
Picking distance from end effector base	85 mm



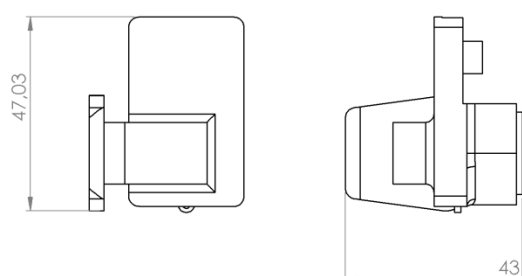
2.2.4 Vacuum Pump

Weight (on the end effector tool)	5 g
Length (box)	125 mm
Suction cup diameter	20 mm
Picking distance from end effector base	20 mm
Max weight lifted	350 g



2.2.5 Electro Magnet

Weight (on the end effector tool)	43 g
Operating current/voltage	200 mA/5V
Picking distance from end effector base	25 mm
Max weight lifted	500 g



2.3 Integration

Each tool was designed with the same mechanical connector.

To design a new tool, follow the mechanical dimension for the support:

