

## Large Motor:

The ev3 large motor is known for its strength and precision. And here are its key specifications:

- Rotation speed: the large motor operates at a speed of 160-170 RPM
- Torque: it has a running torque of 20 N/cm (approximately 30 oz/in) and a stall torque of 40 N/cm (approximately 30 oz/in). this means it can handle significant loads, making it ideal for tasks requiring more power.
- Tacho feedback: the motor includes a built-in rotation sensor that provides tacho feedback to one degree of accuracy. This feature allows for precise control of the motor's position and speed, which is crucial for tasks that require exact movements.
- Auto-ID: the motor is automatically identified by the ev3 software, simplifying the programming process.
- We connected two large motor in one axel which is connected to a series of gears with a ratio of 40/24
- This series of gears is connected to a differential connected to two wheels.

## Medium Motor:

The ev3 medium motor is designed for speed and agility. Here are its key specifications:

- Rotation Speed: the medium motor runs at higher speed of 240-250 RPM. This makes it suitable for applications where quick movements are necessary.
- Torque: it has a running torque of 8 N/cm and a stall torque of 12 N/cm. while it is less powerful than the large motor, its higher speed makes it ideal for tasks that require rapid, less force movements.
- Tacho Feedback: like the large motor, the medium motor also includes a built-in rotation sensor with tacho feedback to one degree of accuracy.
- Auto-ID: This motor is also automatically identified by the ev3 software.

Both motors can be used in a variety of robotics applications, from simple machines to complex robots. The precise control offered by the tacho feedback makes them suitable for tasks that require accurate positioning, such as robotic arms or automated vehicles. The Auto-ID feature simplifies the programming process, allowing users to focus more on the design and functionality of their robots rather than the technical details of motor control.