

RB-Ftr-40

Mecanum Wheel 4 Pack (w/ Metal Hubs)



Description

What can they do?

The four Mecanum wheels are each connected to a separate motor with independent control. The robot can move forward, backward and turn just like it would with four regular wheels. The configuration of rollers at 45° also allows the robot to translate sideways, and through a combination of movements, drive in any direction - even while spinning.

How do they work?

Adjacent corners of the robot use mirrored wheels so that they can freely roll outward from the center. This splits the force into two vectors, one forward/backward and one right/left. When the wheels on one side are spun in opposite directions, the forward and backward vectors cancel out while both sideways vectors add up. Doing the reverse with the other two wheels results in four added sideways vectors.

How do I drive?

Control can be accomplished with a microcontroller or simply using an R/C transmitter! You can use two channel mixers, a 4-channel Mecanum drive mixer, or your own programmed PCB.

The guys over at Robot Logic have put together an R/C Mixer for Mecanum Wheels. Now control your omni-directional robot with just 3 channels of your transmitter! The right stick is used for translation left/right/forward/back while the left stick is used to spin the robot. This gives you a super simple method of driving your robot! Combine this with a heading-lock gyro (common in R/C helicopters) for rock-solid operation.

Specifications

- Hub plate material: Anodized 6061 Aluminum

- Roller material: EPDM 50-60D(A) Rubber
- Outside wheel diameter: 54mm (2.125")
- Wheel width at widest point: 34mm (1.3125")
- Customizable mount bore: 3mm (0.118") - Can be drilled to any size up to 6mm (0.25")
- Weight: 60grams (2.12oz) per wheel
- Capacity: 0.5-13kg (1-30lb) robot

Load Specifications

Testing a 1.36kg (3lb) Mecanum robot pushing against another unpowered robot equipped with Lite Flite wheels:

- Pushing Forward, the Mecanum robot easily moves 66% of its own weight and can slowly push 100%.
- Pushing Sideways, the Mecanum robot can easily move 33% of its own weight and can slowly push 66%