

Omni wheel (Holonomic wheel)

Omni-directional wheels are unique as they are able to roll freely in two directions. It has rollers mounted along its circumference. It can either roll like a normal wheel or roll sideways using the rollers. Its rubber rollers offers great gripping. It is suited for use in robotic, trolleys, transfer conveyor, shipping carts, luggage.



Benefits:

- Omni direction movement and rotation
- Easily direction control and tracking
- Make turning fast
- Precision placement— no offset movement
- Require no lubrication or field maintenance.
- Unique fixed orientation
- Simple & stable mounting options
- Direct tracking & directional control
- Superior load stability

Applications:

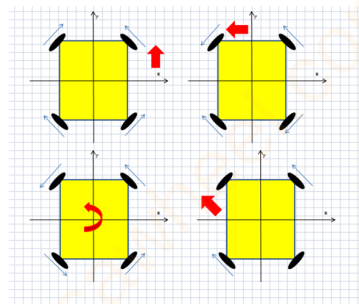
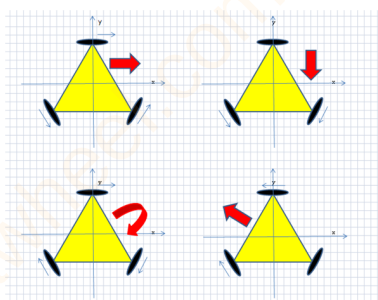
- Material handling equipment
- Shopping carts and luggage
- Freezer duty trolleys and carts
- Conveyor transfers pipe rollers and other inverted applications
- Ball transfer table alternatives
- Robotics
- Mobile furniture



Single plate or double plate:

Single plate omni wheels have a single plate of passive rollers. Dual plate omni wheels have two plates of passive rollers that are rotated slightly with respect to each other. Dual plate omni wheels have the advantage of no "dead area" between rollers. That is, when a dual plate omni wheel is rolling, the two plates continuously take turns bearing the load, resulting in smoother motion when compared to single plate omni wheels. When used in a holonomic drive-train, the distance between the floor contact points of any wheel pair changes each time a dual plate omni wheel switches plates while turning. This can cause jerky motion while the base is rotating. For this reason, some prefer single plate omni wheels, which do not have this problem.

Co-effect of Omni Wheels:



Omni Wheels:



100mm Plastic Omni wheel



127mm Aluminum Omni wheel



152mm Aluminum Omni wheel



203mm Aluminum Omni wheel



100mm Plastic Omni Castor

Accessories



Central Bearing is necessary to mount a omni wheel to a trolley , conveyor or a cart whereas a omni wheel is employed as a passive wheel.

Hub is used to connected a omni wheel to a motor. While a omni wheel is play its part as a drive wheel. Most of case, omni wheels can be used as a drive wheel in a mobile robot or a small transfer vehicle.

Specifications:

P/N	Description	Wheel Dia	Axial Width	No. of rollers	Body material	Net weight (G)	Load Capacity (KG)
14050	100mm Single Plastic Omni Wheel	100mm	19mm	9	Plastic	127	20
14042	100mm Single Plastic Omni Wheel /w Roller Bearing	100mm	19mm	9	Plastic	142	20
MO111	100mm Double Plastic Omni Wheel	100mm	30mm	18	Plastic	290	40
MO110	100mm Double Plastic Omni Wheel /w Roller Bearing	100mm	30mm	18	Plastic	320	40
14057	100mm Single Aluminum Omni Wheel	100mm	9mm	9	Aluminum	150	15
14055	100mm Single Aluminum Omni Wheel /w Roller Bearing	100mm	9mm	9	Aluminum	165	15
14056	100mm Double Aluminum Omni Wheel	100mm	30mm	18	Aluminum	320	30
MO112	100mm Double Aluminum Omni Wheel /w Roller Bearing	100mm	30mm	18	Aluminum	335	30
14072	127mm Single Aluminum Omni Wheel	127mm	9mm	11	Aluminum	220	15
14074	127mm Single Aluminum Omni Wheel /w Roller Bearing	127mm	9mm	11	Aluminum	230	15
MO118	127mm Double Aluminum Omni Wheel	127mm	29mm	22	Aluminum	460	30
MO119	127mm Double Aluminum Omni Wheel /w Roller Bearing	127mm	29mm	22	Aluminum	480	30
14086	152mm Single Aluminum Omni Wheel	152mm	9mm	14	Aluminum	275	15
14084	152mm Single Aluminum Omni Wheel /w Roller Bearing	152mm	9mm	14	Aluminum	280	15
MO124	152mm Double Aluminum Omni Wheel	152mm	29mm	28	Aluminum	600	30
MO123	152mm Double Aluminum Omni Wheel /w Roller Bearing	152mm	29mm	28	Aluminum	630	30
MO125	152mm Double Aluminum Omni Wheel	203mm		36	Aluminum	1300	50
MO126	152mm Double Aluminum Omni Wheel /w Roller Bearing	203mm		36	Aluminum	1300	50
14102	100mm Omni Wheel Castor	100mm	60mm	18	Aluminum +	650	40

Lay Out of 100mm Plastic Omni Wheel

