

## Scooter

Mobility device, usually with 3 or 4 wheels. There is a seat for the user. It is directed by a tiller that controls the direction of the front wheels. The device consists of one or two motors that drive either the back or front wheels. The device is battery operated. A typical mobility scooter uses regenerative braking, sometimes referred to as an electro-mechanical dynamic scooter brake. The device can be disassembled for transporting. Scooters can disengage the motors to free the wheel.

Wheels on scooters can be of different sizes. Larger and pneumatic wheels make it easier to traverse rough terrain. Some scooters incorporate suspension components for a smoother ride. Seats can incorporate headrests as well as armrests. Control displays presenting scooter information.

- Product Classification
  - APL (WHO Assistive Product Priority List): 49 (Wheelchairs, electrically powered)
  - ISO 9999:2022: 122303 (Electrically powered wheelchairs with manual direct steering)

- Possible configuration variants

None specified.

- Possible accessories or optional components

- Adjustable tiller to suit user's needs.
- Electronic speed control to reduce speed around turns.
- Hand brakes.
- Brake lights.
- Baskets.
- Smartphone holder.
- Seat elevator mechanisms.
- Windscreen.
- Seat swivel (to facilitate transfers).
- Flip up armrests (to facilitate transfers).
- Seat belts.
- Puncture-proof tires.
- Bumpers.
- Rear-view mirrors.
- Rain covers.

- Product goals

*Activities or functions the product is mainly intended to support, according to WHO ICF Classification:*

- Moving around using equipment [\[d465\]](#).

- Indicated impairments

*Difficulties the product is mainly intended to address, according to the WHO ICF Classification:*

- Walking [\[d450\]](#).
- Blood pressure functions [\[b420\]](#).
- Respiration functions [\[b440\]](#).
- Heart functions [\[b410\]](#).

- Contraindicated impairments

*Difficulties for which the product may be inappropriate:*

- Cognitive difficulty that may impact safe use and wayfinding.

- Difficulty in transferring independently to a seating position.
  - Need for significant postural support in seating.
  - Need for adequate pressure relief when seated.
  - Progressive condition likely to compromise the ability to sit and drive safely and comfortably within a short period of time.
- **Indicated environments**  
*Specific environments in which the product should be used:*  
 None specified.
- **Contraindicated environments**  
*Environments in which the product may be inappropriate:*
  - Small indoor spaces (due to its relatively large turning radius, the product is not ideal for small environments).
  - Adverse weather conditions (such as excessive rainfall or snow, which may affect the performance of power packs)
  - Steep or sloping terrain.
  - Terrains with many curbs and ramps (the low ground clearance of the wheelbase means it is difficult to maneuver a scooter).
- **Other indicated factors**  
*Other factors or situations the product is intended to address:*
  - Use by elderly people with moderate outdoor mobility limitations.
- **Other contraindicated factors**  
*Other factors or situations in which the product may be inappropriate:*  
 None specified.
- **Points to be considered in product selection**
  - The physical abilities of the user to operate a scooter, particularly a tiller.
  - The need to navigate curbs, footpaths, tram and railway crossings, street crossings, etc.
  - The need for portability of the scooter, e.g. ability to disassemble.
  - Seat requirements, e.g. headrest, swivel, height, etc.
  - The need for armrests, e.g. adjustable height, foldable.
  - Need for 3 or 4 wheels.
  - Wheels, e.g. size, pneumatic.
  - Controls, e.g. T bar handle, power gauge, and horn.
  - The need for brakes.
  - Load capacity.
  - Maximum speed.
  - Maximum range.
  - Type of charger, e.g. separate or integral.
  - Need for suspension.
  - Due to their relatively large turning radius, scooters are not ideal for home or small indoor environments.
- **Points to be considered in product fitting**
  - Maximum speed of scooter e.g. user's ability to handle speed of scooter.
  - Seat features, e.g. headrest, armrests, swivel.
  - Capacity of scooter, e.g. weight of user.
- **Points to be considered in product use**
  - Batteries must be maintained and charged.
  - Ease of disassembly for transport.
  - Turning radius of scooter is appropriate for environment.
- **Points to be considered in product maintenance / follow-up**
  - Batteries must be maintained.

- Check tires regularly, e.g. inflation.
- Keep moving parts lubricated.
- Scooters should regularly be serviced by a professional, e.g. control module, castors and steering, scooter frame, batteries, motors, final drive, charger, accessories.
- Scooter should be kept clean.
- Repair seat upholstery.
- Examples of products available on the market
  - Live product search in the EASTIN website <https://www.eastin.eu/en/searches/products/list?iso=122303>

## Source

*This Fact Sheet was compiled in 2021 by an international team of experts, to provide the initial knowledge base for a project ("An online system to assist the selection of assistive product") supported by the World Health Organization in 2020-2021 within the GATE Initiative (Global collaboration on Assistive Product). Fact Sheets were compiled for each of the 50 types of products included in the WHO APL (Assistive Product Priority List).*

*The team was composed of Renzo Andrich (Italy, group leader), Natasha Layton (Australia), Stefan von Prondzinski (Italy), Jerry Weisman (USA), Silvana Contepomi (Argentina) and Hasan Minto (Pakistan).*

*The project led to a prototype online tool called ASPREX (ASsistive PProduct EXplorer). At the end of the project, it was transferred to a WHO collaborating center (the Global Disability Hub in the UK), in view of possible future developments.*