

Vertical shock absorbers



Description

Lower limb amputees benefit from shock absorption and reduction or rotational forces generated by the foot. Transfemoral amputees are especially sensitive to these forces as they lack the muscular shock absorbers surrounding the knee.

The vertical shock absorber is a modular unit usually installed just above knee or incorporated into the foot and ankle. Its purpose is to reduce the amount of force transferred from the foot to the socket. It does this by compressing and/or rotating under load.

Advantages

- Reduces forces transmitted to the socket.
- Improves comfort and lowers skin abrasion.
- Simulates natural twisting of sound leg over the foot.

Disadvantages

- Only one level of shock absorption can be set.
- Significantly heavier than feet with otherwise similar function.
- Generally intolerant of immersion in water.

- Lowers the energy return of dynamic response feet.
- May have an upper weight limit.
- Higher cost.