

Linear Hydraulic Artificial Knee Joint

Introduction

Linear Hydraulic Artificial Knee Joint relates to a body powered prosthesis which provides automatic flexion and extension of the artificial leg. This provides an improved means of hydraulic mechanism which has three chambers: One is below the piston, second is above the piston and the third is the surge tank. The surge tank also carries a mechanism which controls the action of the knee joint. Design of artificial knee joint is made in such a way that it provides swing phase and stance phase stability to the user.

Technical Features

The variants of Electronic knee are developed with gait speed variability. The prototypes were developed and tested on above knee patients. The variants are:

- Mechanical with valve control.
- Electronic knee joint with remote control.
- Electronic knee joint with three sensors (Electrogoniometer, force sensitive resistor and accelerometer).

Applications

- Device assists persons involved in activities requiring a high level of stance stability.
- Linear Hydraulic Artificial Knee Joint relates to a body powered prosthesis which provides automatic flexion and extension of the artificial leg.

Status

Clinical trials done; Patent filed and technology transferred to M/s Punjab Motors, Yamunanagar.



Field Prototype of Linear Hydraulic Artificial Knee Joint

