

# FESTO BIONIC KANGROO



## Keywords

Kinematics,Pneumatic,Electrics  
Gesture Control using armband

## Input

Armband movement  
Motion Tracking

## Output

Movement and forward  
Jumping

## Technology

Sensors  
Motors  
Storage battery  
Valve  
Integrated Compressor

# Description

With the Bionic Kangaroo  
Festo has technologically produced a  
Unique way a Kangaroo moves.  
Like its natural model it can  
Recover energy when jumping,  
Store it and efficiently use it for next jump  
It complete this process in six phases.  
The person with a arm band controls its  
movement



**link**

[http://www.festo.com/cms/en\\_corp/13704.htm](http://www.festo.com/cms/en_corp/13704.htm)

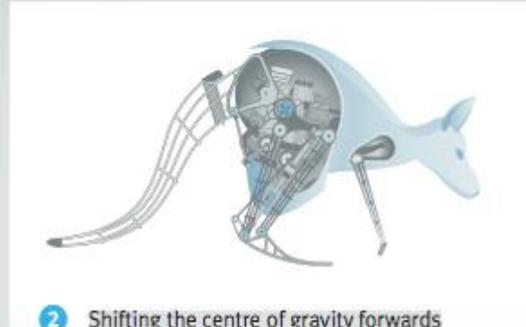


# Festo Bionic Kangaroo Cycle

## Take-off phase



1 Pretensioning the elastic spring element

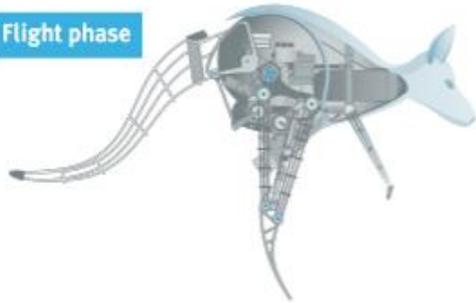


2 Shifting the centre of gravity forwards

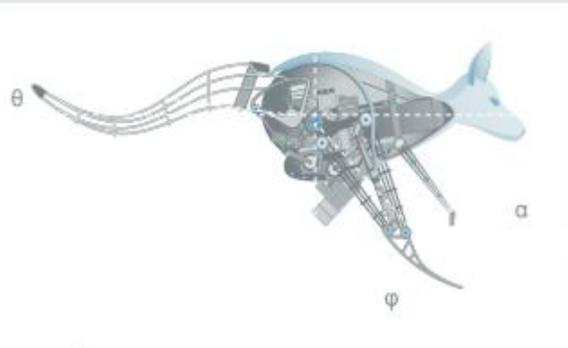


3 Switching the valves on for take-off

## Flight phase



4 Evaluation of the sensor values by the control system



5 Pulling the legs forward and lifting the tail

## Landing phase



6 Landing and deflecting for the next jump

# Festo Bionic Kangaroo Structure

