

### BACKGROUND

Behavioural neuroscience benefits tremendously from the ability to study awake animals which are able to move while still under head-fixed conditions. In general, linear treadmills require relatively little effort in animal training yet open wide possibilities in combination with additional methods such as virtual reality or external stimuli.

The PhenoSys SpeedBelt is designed for stand-alone use or for the integration with our JetBall virtual reality systems. It is particularly compact to allow the easy combination with electrophysiology, advanced imaging as well as optogenetic methods.

### Design Considerations

- Compact design for flexible integration
- Solid ground for the animal
- User friendliness for belt exchange and cleaning
- Mechanically compatible with PhenoSys JetBall holder and operant units
- Easy to synchronize with recording equipment

### Benefits

- Natural movements
- Accurate measurement of speed and distance
- Minimum training requirements

### Linear treadmill for easy integration with advanced microscopy and electrophysiology



PhenoSys SpeedBelt – Linear treadmill



PhenoSys SpeedBelt on JetBall base with JetBall operant devices

### APPLICATIONS

- Voluntary running behavior
- Behavioral tasks employing navigation, cognition, learning, or memory
- Coupling with virtual reality for the study of brain functions
- Habituation and training for PhenoSys JetBall experiments

### KEY FUNCTIONS

- Effortless motion by low friction support and ball bearings
- Reliable optical speed sensor with USB output
- Analog output for speed (BNC 0-5V)
- Adjustable height, tilt, and belt tension

### OPTIONS

- Custom stands
- Replacement belts (consumable)
- Add-on to JetBall Virtual Reality Systems