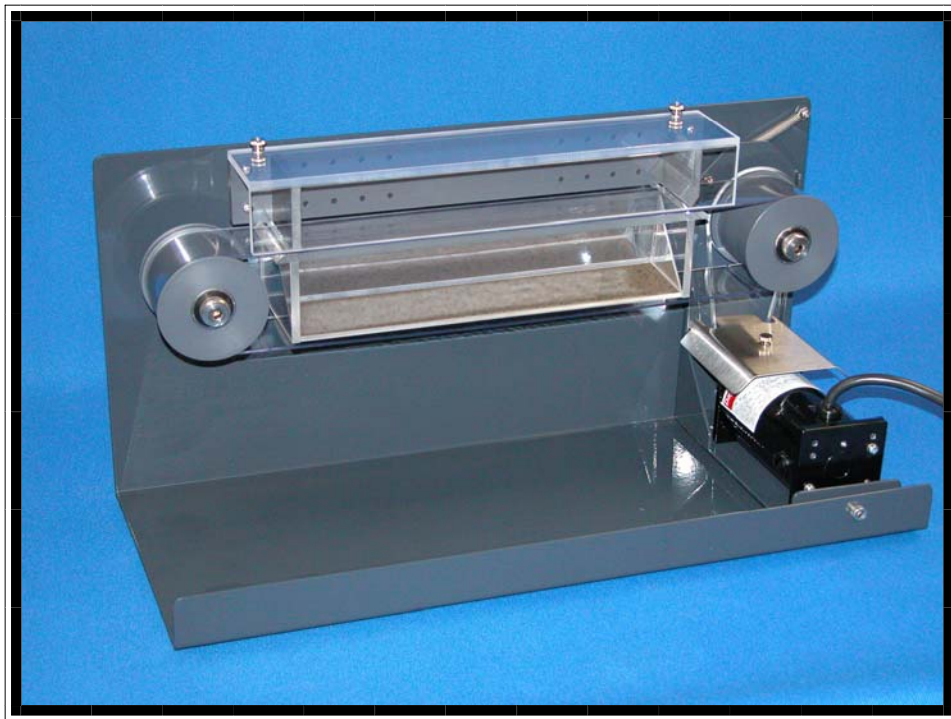


Gait Analysis Treadmill

for
Mice

Provides unobstructed view of foot contact location on tread surface



Single Lane Gait Analysis Treadmill model ExerGait for Mice

Columbus Instruments is pleased to offer the latest edition to our line of quality treadmill products: model **ExerGait**. This unique, single lane, treadmill for mice provides an unobstructed view of animal foot location on a clear tread belt. Observation of foot location is facilitated by a mirror located beneath the belt. An appropriately placed camera and accompanying video tracking system provide a complete system for the accurate assessment of gait performance under user adjustable speed and inclination.



C o l u m b u s I n s t r u m e n t s

Toll Free [US]: (800) 669-5011 Tel: (614) 276-0861 Fax: (614) 276-0529

Email: sales@colinst.com WebSite: www.colinst.com

Features of ExerGait

Crystal Clear Running Surface

ExerGait's belt is constructed of a crystal clear, easily cleaned, material bonded to create an endless loop. The belt seam is minimized so as to not cause artifact in the tracking system. The belt is the only material in the optical pathway from foot-pad to camera lens, minimizing obfuscation of the foot-pad / belt contact point.

Sensory Indication of Rear Wall Proximity

ExerGait incorporates a "bumper" along the bottom edge of the rear wall. The bumper is located at a height that contacts the animal before harm is brought about by unintended full contact with the rear wall. Animals respond to the bumper and relocate accordingly.

Adjustable Lane length

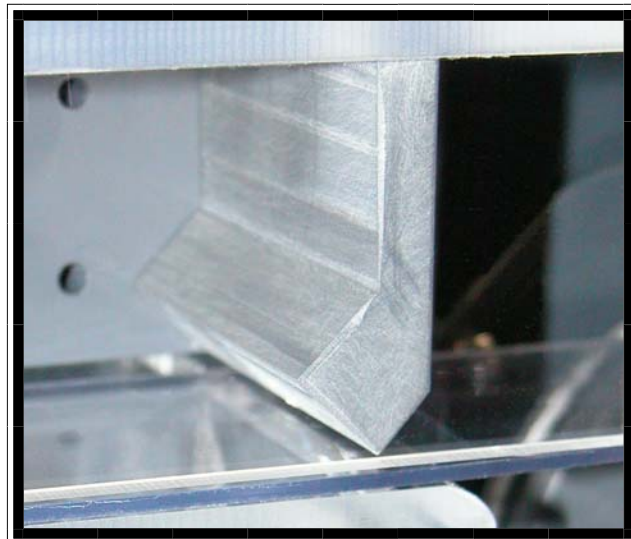
ExerGait provides user adjustable front and rear walls. Wall location may be adjusted to create an active lane length of 4.5" (11.4 cm) to 10.5" (26.6 cm). Restricting the animal to a confined area assists with video set-up as well as eliciting consistent cadence.

High Torque Motor With Speed Control

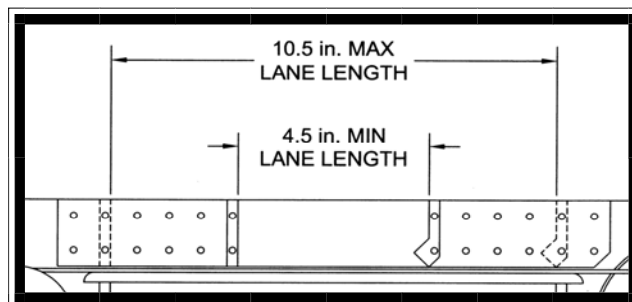
ExerGait incorporates a motor that develops high torque. High torque insures smooth operation at low speed. Consistent tread speed is maintained by a velocity feedback mechanism that compares actual tread speed with the requested setpoint. The controller makes continuous, automatic, adjustments as needed to maintain the required speed.

Easy Maintenance

The belt on which the animal runs can be removed/ replaced without the need for tools. Should the belt become worn or scratched, it can be replaced in under one minute. An automatic tension system assures correct pulley-to-belt contact without the need for user adjustment. A secondary drive belt can also be changed without tools and does not require adjustment. All materials that contact the animal can be easily cleaned.



Rear Wall Bumper



Adjustable Lane Length



High-Torque Motor



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ExerGait Treadmill Description

ExerGait is an open treadmill in which a clear belt measuring 2" (51 mm) in width that provides the running surface for a single mouse. Suspended over the surface of the belt is one clear wall (as viewed from the front of the device) that creates a running lane width of 1.5" (38 mm). The running lane length available for animal access is adjustable from 4.5" (11.4 cm) to 10.5" (26.6 cm). The running lane provides 1.75" (44 mm) of inside height. Alternative dimensions (for accommodation of other species) are available upon special request.

The incline of **ExerGait** is fixed at horizontal but can be externally tilted for either uphill or downhill running. Treadspeed is adjustable over the range of 6 to 100 meters per minute with a resolution of 0.1 meters per minute.

The animal contacts PVC and Lexan materials when placed within the treadmill. The front sidewall is manufactured from clear Lexan to facilitate observation of the animal from an elevation perspective. The back sidewall is manufactured from gray PVC and provides a suitable contrasting backdrop for black and white mice. ExerGait is fabricated on a rigid steel frame that has been powder-coated to resist corrosion.

Physical Specifications:

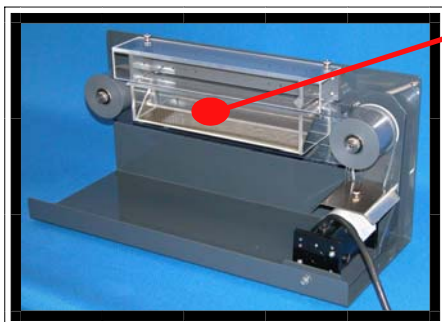
Overall Height: 10" (25.4 cm)
Overall Width: 20.25" (51.4 cm) (left to right)
Overall Depth: 9" (22.9 cm) (front to back)
Weight: 21 lbs (9.5 kg)

Electrical Specifications:

ExerGait is available in 115VAC/60Hz & 230VAC/50Hz configurations.
Power Consumption: 200 watts

Ordering Information:

1020 ExerGait Gait Analysis Treadmill for Mouse



TreadScan by Clever Systems Inc.

Columbus Instruments is pleased to announce a cooperative effort with Clever Systems Incorporated. Their product, TreadScan, is a complimentary adjunct to ExerGait that provides a complete video capture and gait analysis system. TreadScan includes a high speed camera, video capture board and specialized software for operation under Windows XP.

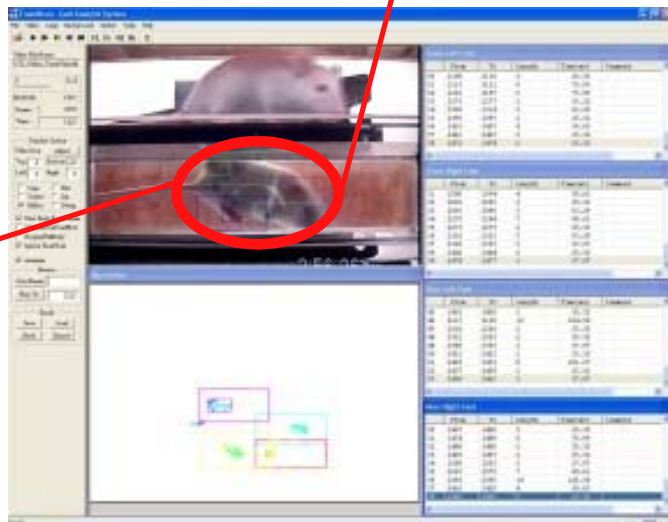
TreadScan tracks foot-pad location of all four paws as the animal traverses the clear belt of ExerGait. Foot-pad location is assigned an XY coordinate pair up to 80 times per second. Analysis of foot-pad motion provides stance time (time of foot-pad / tread belt contact) and swing time for each step. Future developments will include break time (time of foot-pad / tread belt contact to application of maximum contact) and propel time (time from application of maximum contact to foot-pad lift off) as well as stride length and cadence.

Additional details on TreadScan may be obtained by contacting:

Clever Systems Incorporated

11480 Sunset Hills Road
Suite 210W
Reston, VA 20190
Tel: (703) 787-6946
Fax: (703) 757-7467
<http://www.cleversysinc.com>

View of foot-pads as seen from reflection in mirror of ExerGait



TreadScan by Clever Systems Incorporated

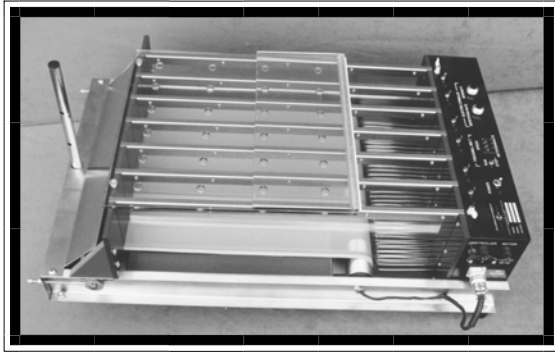


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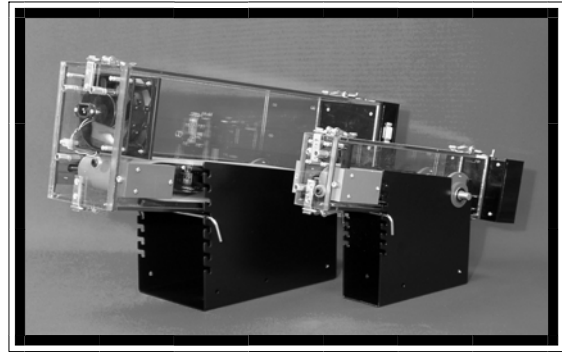
Other Treadmills from Columbus Instruments ...



Exer-3/6 Multi-Lane Treadmill

Exer-3/6 is an open treadmill in which a common belt measuring 15" (38.1 cm) in width provides the running surface for a number of animals. Suspended over the surface of the belt are a series of dividing walls that create a lane for each animal. When employed with rats, the treadmill provides three lanes, each 4.825" (12.25 cm) in width. Six lanes for mice can be accommodated in the same space providing a lane width of 2.25" (5.7 cm). The lane length is the same for each configuration: 18" (45.7 cm) as measured from the top of each roller. Each lane provides 5" (12.7 cm) of inside height. Alternative lane widths (for accommodation of other species) are available upon special request.

The incline of **Exer-3/6** is adjustable in 5° increments from -20° to +25°. "Downhill" running is supported by way of a special adapter. Treadspeed is adjustable over the range of 10 to 70 meters per minute with a resolution of 0.1 meters per minute.



Modular Treadmill

Modular Treadmill encloses each animal within a chamber that houses the exercise belt, associated pulleys, and optional stimuli. The chamber can be fashioned for free-air ventilation or can be made air-tight by way of suitable end caps for the enclosure. **Modular Treadmills** are designed for integration with Columbus Instruments' **Oxymax** line of calorimeters for the measurement of VO_2 , VCO_2 , RER, Heat and other metabolic parameters. **Modular Treadmills** are available in two standard sizes: Rat and Mouse. A rat treadmill provides 5.25" (13.3 cm) of headroom and 5.5" (14 cm) of width within the enclosure. The length of the running surface is 14.5" (36.8 cm) as measured from the top of each roller. The volume of the enclosure is approximately 980 cu inches (16 liters). A mouse treadmill provides 1.75" (4.4 cm) of headroom and 2" (5 cm) of width within the enclosure. The length of the running surface is 10" (25.4 cm) as measured from the top of each roller. The volume of the enclosure is approximately 120 cu inches (2 liters).

<http://www.colinst.com>

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