

Tower filming system

The tower filming system is a combination of a camera and a controlled environment in which large numbers of small animals, such as zebrafish larvae or *Drosophila*, can be reliably tracked. Up to 96 animals can be tracked simultaneously, each in their own well of a well plate. The system allows for perfect tracking in both light and dark settings.

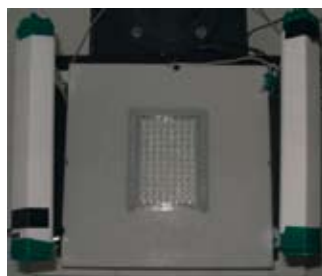
Benefits

- Provides a robust and reliable view of large numbers of small animals.
- Fixed position of the well plate: no additional set-up time when a new batch of animals is introduced.
- Stable camera mount prevents the image to move.
- Fulfills the requirements for reliable tracking in both light and dark settings.
- Prevents shadowing on the sides of the wells that are off-centre.



Features

The tower filming system consists of a light box with infrared (IR) light and visible light sources, a holder for different sized well plates (6, 12, 24, 48, and 96 wells), and a rigid stand with a low-noise IR-sensitive camera positioned above the holder.



Technical specifications

Tower structure:	□	■	rigid steel support with flexible bellows
Dimensions of full system (L x W x H):	□	■	590 x 400 x 1900 mm (= 23.2" x 15.7" x 74.8")
Light box structure:	□	■	IR and visible light box with holder for well plates
Dimensions of light box (L x W x H):	□	■	300 x 270 x 110 mm (= 11.8" x 10.6" x 4.3")
Holder on top of light box:	□	■	suitable for 6-, 12-, 24-, 48-, and 96 well plates
Camera:	□	■	dedicated high resolution IR-sensitive camera, PAL or NTSC
Lenses:	□	■	50 mm (2") lens and IR pass-filter

- The dedicated light box with diffuser provides constant IR illumination, while visible light can be provided when required (for instance as part of the circadian rhythm).
- The rigid stand contains a blackout bellows that can be pulled down to eliminate light from external sources.

These components together fulfill the requirements for reliable tracking in the dark. The rigid stand ensures that both the camera and well plate are always in the exact same position, even if the system is mounted on a floor that distorts as people move around it.



Applications

- Zebrafish larvae activity monitoring
- *Drosophila* activity monitoring

Product number

- Tower filming system ZTFS-0001

Compatible products

- EthoVision XT
- EthoVision 3.1

Additional documentation

- Application note: How to use EthoVision XT with medeka and zebrafish behavioral tests