

Making Physiology Happen

High throughput and rapid compound screening. The ZS-200 provides a compact, easy-to-use and non-invasive solution for investigation of cardiac side effects of a vast number of molecules.

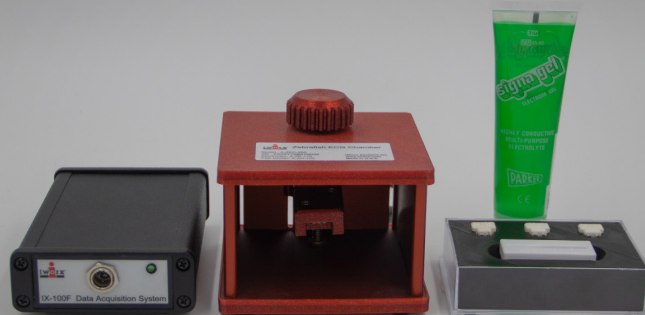
In cardiovascular drug discovery, Zebrafish are used to model such processes as thrombosis, collateral vessel development, inflammation, cardiomyopathy, and cardiac regeneration.

The iWorx ZS-200 Zebrafish ECG Recording and Analysis System provides an ideal way to use this cost-effective model for high throughput, rapid screening of compounds. The LS-30ECG LabScribe3 ECG Analysis Module provides an array of analysis options including ST and QT segment shortening and prolongation which are a key indicator of cardiac function.

iWorx Zebrafish ECG System Includes:

- High throughput for safety pharmacology
- Cost-effective, simple method for rapid, consecutive measurements
- Small footprint increases data flow and helps go/no go decision making

iWorx Zebrafish ECG System



System Components:

- IX-100F Recorder (5 in. x 4 in. x 2 in.) optimized for recording microvolt ECG signals from Zebrafish. The System has a system noise of about 1 microVolts with the electrodes shorted. Zebrafish ECG is between 30 – 200 microVolts, providing adequate signal-to-noise ratio for analysis of the different components of the ECG signal.
- A-ZEC-200 Zebrafish ECG Recording Chamber. The Zebrafish chamber has been optimized for recording ECG from Zebrafish that are between 1” to 2” in length. The chamber (4 in. x 2 in. x 3 in.) consists of the following components:
 - Aluminum enclosure that is grounded to reduce 60 Hz noise.
 - Fish pedestal with a machined cavity to make it easy to place the fish on its back.
 - Ag/AgCl electrodes (1.5 mm Diameter) are used for recording the ECG from the surface of the Zebrafish. The electrodes are placed 0.175” (4.45mm) apart.
 - A thumb screw with a swivel mechanism to position the electrode on the fish.
 - Replaceable electrode holder with AgAgCl electrodes.
 - Shielded electrode cables used to carry the small ECG signal from the fish to the recorder. This reduces the 60 Hz noise that is picked up by the system.
- iWorx LabScribe ECG Analysis Software

iWorx ECG Recording from Zebrafish



LabScribe Software:

iWorx LabScribe ECG Software Module is a powerful and user-friendly tool intended to automate the analysis of ECG data from a variety of species. Specific analysis templates are included to accurately delineate PQRST onset, durations and amplitudes. Custom templates can also be created based on unique ECG profiles and saved to a library for future use. Other features include beat averaging, beat classification and outlier removal based on abnormal R-R intervals, heart rate, noise and activity, as well as the ability easily extract source data and average data as images or text files.

The LabScribe ECG Software Module includes a comprehensive list of 24 calculations including R-R, PR, QT, QR and QTc intervals, QRS, T, P and TP durations, P, Q, R, S, T amplitudes and ST elevation. The software module is plug and play compatible with all iWorx data acquisition and analysis systems. A separate ASCII Text Import Module is also available that enables import of ECG data in text format that was recorded by any other acquisition program.

IX-100F:

The iWorx IX-100F Data Acquisition System is a single channel recorder that provides a cost-effective, high performance solution for dedicated applications such as Zebrafish ECG Studies.

The recorder features:

- High resolution/low noise
- Optimized for zebrafish ECG recording

Recorder Specifications:

- Biopotential Channels: 1
- High Pass Filter: 0.5Hz
- Low Pass Filter: 500 Hz
- Input Range: +250 mV
- Resolution: 16 Bit
- Sampling Speed: 100 kHz
- Connector: Mini XLR
- Power: USB
- Enclosure: Plastic
- Dimensions: 5"W x 3.4"L x 1.25"H
- Interface: USB