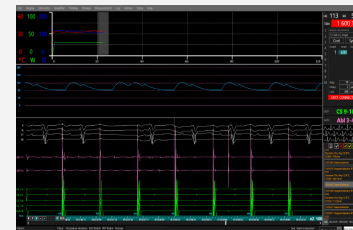
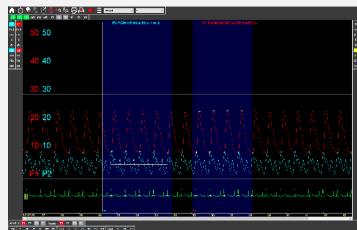


evolution duo – the next-generation solution for heart catheterization labs. This all-in-one solution seamlessly integrates the EP-TRACER for electrophysiology with a powerful hemodynamic system. Designed for efficiency and performance, its modular setup delivers exceptional signal quality while saving valuable space.

With two advanced amplifiers, a continuously operating PC (24/7), and the innovative Smart Keyboard, the evolution duo provides a perfect workstation for precise, efficient and user-friendly cardiac procedures.



Features Overview

Hemodynamics

Comprehensive Calculations

Pressure gradients, cardiac output, vascular resistance, valve opening areas, systemic and pulmonary flows with shunt calculation, body surface and more. Curve segments may be automatically or manually measured as desired.

Intuitive Operation

- Combining the benefits of a digital display with the haptic feedback of a traditional keyboard, the Smart Keyboard offers an intuitive user interface to support a streamlined workflow.
- Commonly used functions, such as record, zero pressure, and measurement positions are all available via intuitive icons and a single key press.
- The Smart Keyboard enhances the systems intuitive software GUI and simple mouse controlled features, such as clicking and dragging for curve segment definition and automatic measurement.
- Additional digital layers enable expanded functionality and more measurement sites can be defined.

Vital signs measurement

IBP, ECG, NIBP, SpO2, CO can be measured.

Standardized Interfaces

- Patient data to X-ray modality via DICOM WLM
- Transfer of dose information from X-ray via DICOM MPPS

Electrophysiology

Measurement and analysis

The EP-TRACER software enables you to view, store, and analyze both surface and intracardiac ECG signals. It features specialized display modes, such as triggered mode and partitioned screen mode, optimized for presenting data from different types of examinations. The system seamlessly connects with commonly used radiofrequency ablation or cryoablation consoles, enabling arrhythmia treatment. The EP-TRACER can be combined with the most common PFA equipment on the market. Stimulation and ablation events are automatically recorded, enhancing workflow efficiency. It also supports connection to most common 3D Mapping systems.

Amplifier

The EP-TRACER amplifier stands out in the market for its compact design, offering models with 20, 52, or 84 intracardiac channels, an integrated stimulator, 12 surface ECG channels, and 6 auxiliary channels (IBP). The brilliant signal quality supports you throughout the EP procedure, and its reduced format allows for a convenient positioning within the lab.

Integrated stimulator

The EP-TRACER includes an integrated 2-channel stimulator, which minimizes the need for excess cabling and therefore reduces interference with physiological signals and external systems. The stimulator controls are conveniently integrated into the same user interface and peripherals as the EP recorder software. Multiple stimulation protocols can be stored and customized.

‘Zero footprint’ design

The evolution duo is built for today’s modular cath labs. Its compact amplifier can be mounted on or beneath the patient table, keeping the patient area clear and organized. Meanwhile, the PC can be positioned in a separate room, freeing up space in the control room and creating a more comfortable and efficient work environment.



We support installations with all major imaging solution providers

IT components

- 2 x 24" TFT monitors
- disinfectable keyboard
- disinfectable mouse
- 19" PC (64bit, Windows 10 IoT)



Options

- Vital signs for Cardiac Output, NiBP, SpO₂

Smart Keyboard



- 4,3 inch LCD display
- 15 transparent keys with full haptic feedback
- coms via single cable
- configurable key assignment*

*Note: editing of the digital layers may only be performed by Schwarzer Cardiotek personnel or an approved affiliate.

Integrable Amplifier - Hemo/EP

Size 240 x 125 x 52 / 265 x 200 x 65, 110 x 290 x 260 (mm)
Weight 920g / ca. 800g, 2,2 - 3,8 kg

Classification according to European Medical Device Directive(93/42/EEC):

Class IIb

Electrical safety

Safety class I

Patient safety

Applied Parts Type CF (according to IEC 60601-1)

Surface ECGs - Hemo/EP

Sampling rate 1000 Hz
Leads I, II, III, aVL, aVR, aVF V1-V6
QRS amplitude 0.15 ... 10mV

Invasive blood pressure - Hemo

Number of inputs 4 channels
Sampling rate 500 Hz
Display scales 10, 25, 50, 100, 200, 400 mmHg

Analog Outputs - Hemo

Signal range +/- 5 V
QRS trigger 1 - 25V; max delay 35 ms

Intracardiac ECG

Number of channels 20/52/84
Input mode bipolar or unipolar
Sampling rate 1000 Hz

Current leakage

< 50 µA

Back-up stimulations mode

60 beats per min at Out1-Out2
current = 8mA (Out1), current = 4mA (Out2),
pulse amplitude = 2msec
Current 0.5 - 25.5mA (customizable)
Minimum increment 0.1 mA

Stimulator

Options - Hemo

Cardiac Output

Sampling rate 250 Hz
Resolution 0.01 l/min
Measurement method Thermodilution

SpO₂

Resolution 0 -100% measurement range

NiBP

SYS 25 to 290 mmHg
DIA 15 to 250 mmHg
Resolution 1 mmHg

Standards

EN 60601-1:2006 + A1:2013
EN 60601-2-27:2014
EN 60601-2-34:2014
EN ISO 14971:2019
for further applied standards see accompanying papers