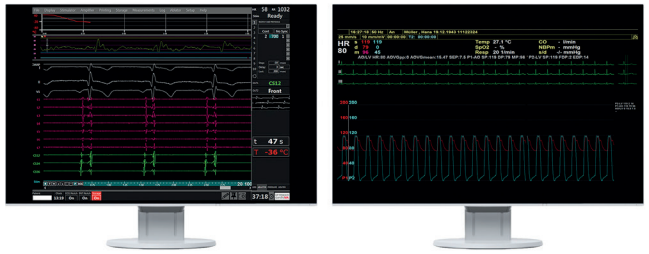
evolution duo

schwarzer cardiotek
SMART. PRECISE. RELIABLE.

The Schwarzer Cardiotek **evolution** duo combines two systems in one in a next generation heart catherterization lab. It adds the EP-TRACER for the electrophysiology to the hemodynamic system. The modular design provides an efficient, space-saving workstation that provides outstanding signal quality.

The new system incorporates two streamlined amplifiers - one with vital sign measurements -, a continuously operating PC (24/7) and the Smart Keyboard.



Features Overview

Hemodynamics

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 draging for curve segment definition and automatic measurement.
- Additional digital layers enable expanded functionality and more measurement sites can be defined.

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.

Vital signs measurement

IBP, ECG, NIBP, SpO2, CO can be measured depending on option.

Standardized Interfaces

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

Electrophysiology

EP-TRACER amplifiers offer the connection of either 20, 52 or 84 intracardiac channels. The brilliant signal quality supports you throughout the EP procedure.

Integrated stimulator

The EP-TRACER incorporates a built-in 2-channel stimulator within its compact design. Stimulation protocols are easily customized and accessed.

Measurement and evaluation

The software allows you to view, store and analyze both surface and intracardiac ECG signals. Special display modes, such as the triggered mode or partitioned screen mode, are designed for the optimal display of data from various examination types. The connection of any commonly used radiofrequency ablator allows for treatment of arrhythmias. Stimulation and ablation events are automatically recorded, allowing for a more efficient and effective way of working.

‘Zero footprint‘ design

evolution duo is designed with the modern, modular cathlab in mind. The streamlined amplifier can be mounted at or under the patient table leaving the patient area uncluttered and unobstructed, while the PC can be placed ‚out of the way‘ in a third room, freeing up leg space in the control room, contributing to a more comfortable and effecient work environment.

We support installations with all major imaging solution providers

Whatever imaging solution you choose, choose **evolution**

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Qualitätsmanagementsystem
EN ISO 13485:2016
Richtlinie 93/42/EWG Anhang II

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IT components

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

Options

- Vital signs for Cardiac Output, NiBP, SpO_2

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	2 outputs
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
Amplification factor	0.1-25
Current leakage	< 50 µA
Back-up stimulations mode	60 beats per min at Out1-Out2 simultaneously; current = 8mA (Out1), current = 4mA (Out2), pulse amplitude = 2msec
Stimulator	Current 0 - 25.5mA (customizable) Minimum increment 0.1 mA Maximum output-voltage: 20 V

Options - Hemo

Cardiac Output	
Sampling rate	250 Hz
Resolution	0.01 l/min
Measurement method	Thermodilution
SpO2	0 -100% measurement range
Resolution	1%
NiBP	
SYS	25 to 290 mmHg
DIA	15 to 250 mmHg
Resolution	1 mmHg
Standards	IEC 60601-1 :2015 IEC 60601-2-27:2014 IEC 60601-2-34:2014 for further applied standards see accompanying papers

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