

The Schwarzer Cardiotek **evolution natal** represents the next generation of hemodynamic measuring systems for pediatrics.

The system includes a **high-fidelity-amplifier** for vital sign measurements that can be performed with ease through the **Smart Keyboard**, a dedicated element that facilitates the access to key functionalities.



## Features Overview

### 'Zero footprint' design

As hospitals strive towards the most efficient and cost effective use models, many interventional lab spaces are expanding the range of procedures performed in the available lab spaces. This often requires new equipment, which may lead both the procedure and control rooms becoming cluttered working environments. **evolution natal** 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 is placed 'out of the way' in the server room, freeing up leg space in the control room, contributing to a more comfortable and efficient work environment.

### Special Features evolution natal

- Freely configurable measuring points
- Flexibility in programming multiple levels in the intelligent keyboard
- Configurable measurements and calculations specifically for paediatric needs
- Optional: PedCath connection
- Flexible to adapt to difficult anatomies and changing changing needs

### 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.

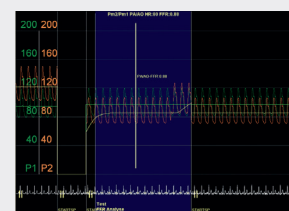
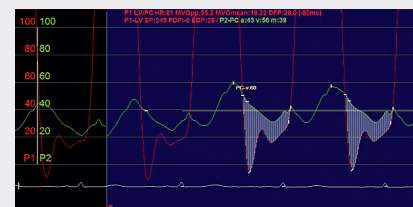
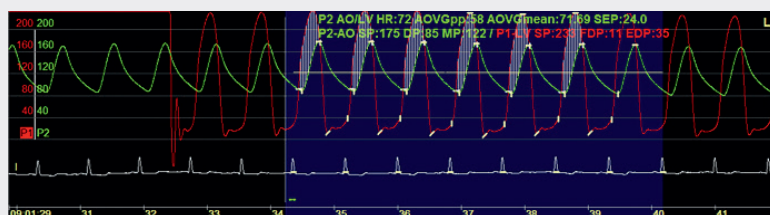
### Comprehensive Calculations

The evolution software can calculate 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. Pressure waveforms are reliably overlayed, even during an arrhythmia, enabling a smooth 'pullback' analysis.

### Standardized Interfaces

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

### Examples of signals



## Technical Data

### IT components



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

### 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

Size 240 x 125 x 52 (mm)  
Weight 920g



#### Surface ECGs

Number of Inputs 10  
Sampling rate 500 Hz  
Leads I, II, III, aVL, aVR, aVF V1-V6  
QRS amplitude 0.15 ... 10mV

#### Invasive blood pressure

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

#### Analog Outputs

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

#### Options

##### Cardiac Output

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

##### SpO2

Resolution 0 -100% measurement range  
1%

##### NiBP

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

##### Standards

EN 60601-1:2006 + A1:2013  
EN IEC 60601-2-27:2014  
EN IEC 60601-2-34:2014

##### Patient safety

Protection Class II, Applied Parts Type CF (according to IEC 60601-1)

##### Certification

evolution natal is a combination of CE certified medical devices to form a medical system in accordance with Art. 22 MDR.

Note: Content may be subject to change