



The Deltex Medical **CardioQ-EDM+™** is a fluid management and cardiac output monitoring system to measure both flow and pressure combined. The CardioQ-EDM+ combines minimally invasive esophageal Doppler monitoring (EDM) flow based technology for intervention management of fluids and drugs with a PPWA system. Patients can be continuously monitored for extended periods between intervention and calibration episodes.

CardioQ-EDM+ provides the simplest calibration system for a PPWA (Pulse Pressure Wave Analysis) algorithm at no additional cost. The CardioQ-EDM+ is designed for intensive care and high risk surgical applications.

The CardioQ-EDM+ standard Doppler parameters:

Accuracy/Tolerance

Data acquisition is dependent upon probe positioning and patient anatomy and physiology, therefore, interpretation depends less on absolute values than on comparative measurements.

For a correctly aligned probe the resolution of velocity measurement is 0.5% of the nominal full-scale value of the selected range. The timing resolution is 6ms, which is the interval at which FFTs are performed and the screen is updated. However, by averaging the calculation over several heartbeats, the perceived resolution may be improved.

Trend data is stored with fixed ranges and the accuracy of the displayed value will be better than $\pm 1\%$ of the displayed on-screen range marker value.

Parameter	
CO	Cardiac Output
CI	Cardiac Index
SV	Stroke Volume
SVI	Stroke Volume Index
SD	Stroke Distance
SDV	Stroke Distance Variation
SVV	Stroke Volume Variation
PV	Peak Velocity
FTc	Flow Time Corrected
FTp	Flow Time to Peak
MA	Mean Acceleration
MD	Minute Distance
HR	Heart Rate
SVR	Systemic Vascular Resistance
SVRI	Systemic Vascular Resistance Index
DO₂	Delivered Oxygen
DO₂I	Delivered Oxygen Index

The CardioQ-EDM+ pressure-based parameters:

Parameter	
CO	Cardiac Output
CI	Cardiac Index
SV	Stroke Volume
SVI	Stroke Volume Index
PPV	Pulse Pressure Variation
SVV	Stroke Volume Variation
SVR	Systemic Vascular Resistance
SVRI	Systemic Vascular Resistance Index
MAP	Mean Arterial Pressure
HR	Heart Rate
DO₂	Delivered Oxygen
DO₂I	Delivered Oxygen Index

The CardioQ-EDM+ provides information associated with cardiac function by means of a 4.02 MHz continuous wave directional Doppler signal. It displays blood flow velocities up to 250cm/s.

The CardioQ-EDM+ connects to hospital patient monitoring systems, slaving the ABP signal and providing a range of PPWA parameters.

CardioQ-EDM+ offers continuous and graphical trending and the capability to create a Starling curve for patient optimisation using a Stroke Volume Optimization algorithm using Flow Monitoring Mode and to the Doppler flow Results can be used to calibrate and then continuously Monitor Cardiac Output parameters using Pressure Monitoring Mode.

Hardware Specification

Classification:	Class 1 Type BF
Display:	10.4"LCD TFT 800 x 600 SVGA LCD
USB:	1 x USB 2.0 port
Ethernet:	1 x 100/10BaseT (Future use)
Serial Port:	1 x RS232 port
Operating Mode:	4.02 MHz CW
ABP Input:	Doppler 1 x 3.5mm Stereo Jack socket

Physical Characteristics

H / W / L	30 cm / 45cm / 22cm
Weight:	5.0 Kg

Accessories

Patient Interface	An interconnecting lead between probe and monitor
Cable (PIC):	
ABP interface Cables:	Cables providing the option to slave ABP signals from existing Anesthetic Monitors

Electrical Specification

Power Requirements:	100-240 V AC (~) 60-80 VA 50 / 60 Hz
Fuses:	2 x 1.6A(T) 250v
Operating Environment	
Temperature Range:	0°C to 40°C
Ingress Protection:	IP20
Humidity:	5% to 90%, non-condensing
Transport and Storage Temperature:	-20°C to 60°C (-4°F to 140°F)

Order code

Product Number:	9051-7166 CardioQ-EDM+ UK
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Deltex Medical reserves the right to modify these specifications without notice.

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