



Acumen IQ™ Sensor with Transpulmonary Thermodilution (TPTD)

Acumen IQ™ Sensor with TPTD

The Acumen IQ™ (AIQ) Sensor with TPTD expands the application of thermodilution technology through transpulmonary thermodilution. It can measure and derive key elements of oxygen delivery such as cardiac output and volumetric variables. In addition, lung water measurements are available that can assist the clinician in treating patients with lung injury and cardiac failure.

Transpulmonary thermodilution cardiac output uses the same principles as right heart thermodilution except the thermal bolus is injected into the central venous system and moves across the right heart, lungs, left heart and out into the arterial tree where the thermal change is measured over time by an embedded thermistor on a catheter inserted into the femoral artery.

Continuous cardiac output using the Acumen IQ™ Sensor with TPTD

Acumen IQ™ Sensor technology uses a calibrated arterial pressure based cardiac output (APCO) for its continuous cardiac output calculation. This pulse contour analysis is calibrated against the measured TPTD cardiac output and uses similar wave shaped variables to maintain the accuracy between calibrations as the FloTrac™ Algorithm. The transpulmonary thermodilution algorithm adjusts the calculated continuous cardiac output display by a percent change based on its proprietary algorithm against the measured cardiac output.

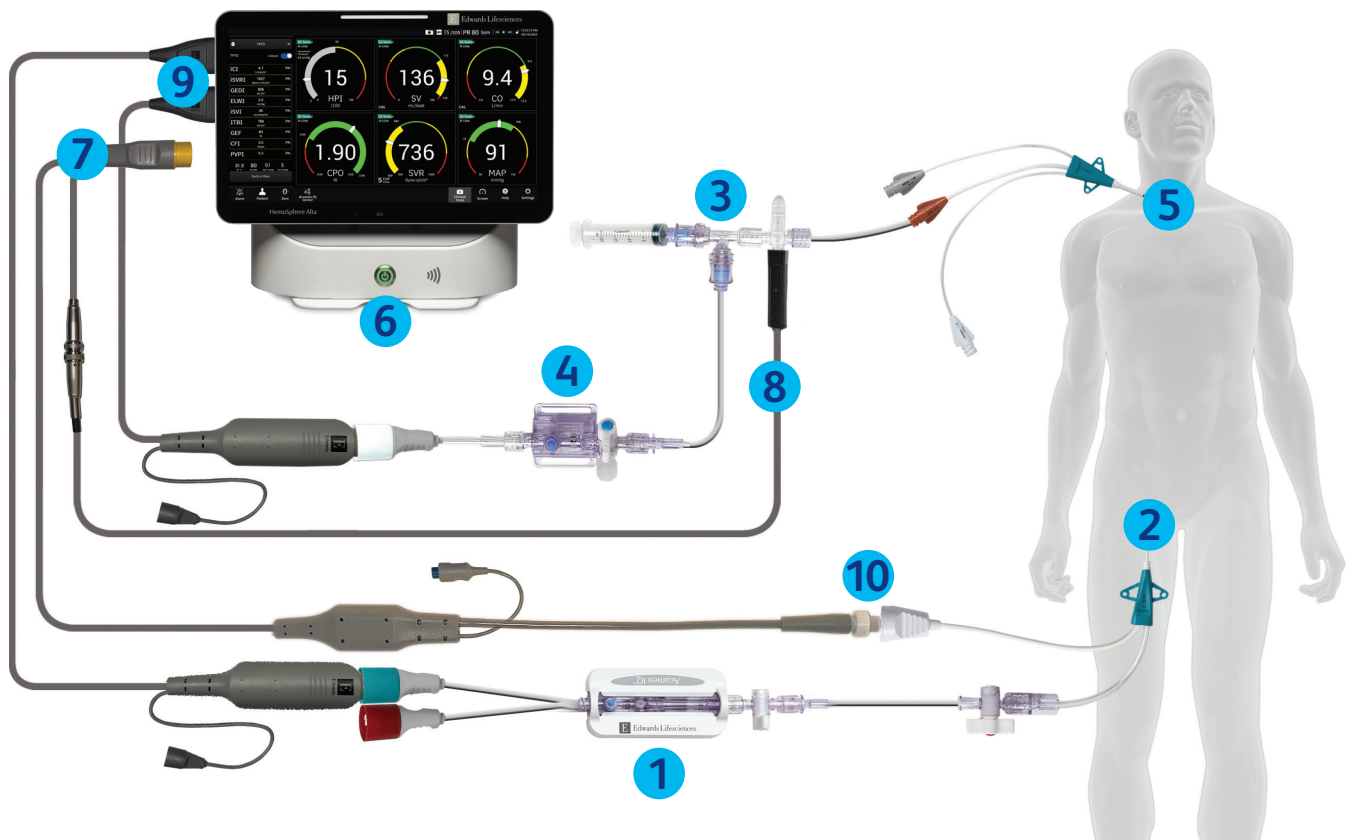


Figure 1

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|----------------------------------|---|
| 1 Acumen IQ™ Sensor | 6 HemoSphere Alta™ Monitor |
| 2 TPTD femoral arterial catheter | 7 Swan-Ganz™ Patient Cable |
| 3 TPTD thermistor manifold | 8 In-line injectable temperature probe |
| 4 TruWave™ Pressure Transducer | 9 Pressure cable |
| 5 Central venous catheter | 10 Femoral catheter thermistor connection |

The continuum of care of patient with Acumen IQ™ Sensor + TPTD kit

Acumen IQ™ Sensor in OR



Guideline-driven
hemodynamics,
minimally invasive



Predict hypotension
before it happens



OR-ready personalized
hemodynamic
optimization

Acumen IQ™ Sensor in ICU



Continuity of care,
powered by ESICM
guidelines



Early, reliable
hypotension prediction
in ICU



Smarter ICU decisions
through advanced
hemodynamics

Acumen IQ™ Sensor +TPTD in ICU



Seamless escalation
to gold-standard
fluid management



Precision hemodynamic
intelligence for critically
ill patients



Advanced
multiparameter
insights for precise
hemodynamics

Acumen IQ™ sensor with TPTD is now available on the BD hemodynamic platform, Hemosphere Alta™



Acumen IQ™ Sensor with TPTD allows for the intermittent measurement of:

- Cardiac function index (CFI)
- Cardiac output (iCO)
- Cardiac index (iCI)
- Extravascular lung water (EVLW)
- Extravascular lung water index (ELWI)
- Global ejection fraction (GEF)
- Global end-diastolic volume (GEDV)
- Global end-diastolic volume index (GEDI)
- Intrathoracic blood volume (ITBV)
- Intrathoracic blood volume index (ITBI)
- Pulmonary vascular permeability index (PVPI)
- Stroke volume (iSV)
- Stroke volume index (iSVI)
- Systemic vascular resistance (iSVR)
- Systemic vascular resistance index (iSVRI)

The following product codes are available for Acumen IQ™ Sensor with TPTD

Product Code	Description	Pack size
TPTDALL5F5	TPTD kit 5F + Acumen IQ™ Sensor	5
TPTDALL4F5	TPTD kit 4F + Acumen IQ™ Sensor	5
TPTD5F5	TPTD kit 5F	5
TPTD5F1	TPTD kit 5F	Single
TPTD4F5	TPTD kit 4F	5
TPTD4F1	TPTD kit 4F	Single

Validation of Transpulmonary Thermodilution Technology

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